ARGENTINA
Rosario Metropolitan Area Infrastructure Project
(P101421)

DISCLOSURE OF ENVIRONMENTAL AND SOCIAL ASSESSMENTS PACKAGE

January 24th, 2008
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SECTION A

Project description and Summary of Environmental and Social Issues

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I. Project Description

1. The proposed project will produce improvements to the rail and highway accesses to the City of Rosario, Argentina, a major port for the trans-shipment of grain and other rural products. The project would not only improve the efficiency of Rosario's transport network, but also reduce congestion and pollution within the urban core. The project includes the construction of an entirely new railway ring of approximately 85 km of extension in mostly sparsely populated areas of the Rosario Metropolitan Region. Civil works on the roadways will largely follow existing rights-of-way except for some realignments and a single new 2 km segment. This is a Category A project.

2. The basic concept of the Project is based on the construction of a railway belt around the city of Rosario to deviate railway movements that have traditionally crossed the city, in order to reach the different port facilities in Rosario and adjacent zones. And, to increase the capacity of the existing outer road beltway turning it into a double-lane highway, to decongest the urban areas from growing road freight transport movements. The railway belt is intended to eliminate the railway tracks and facilities that currently cross the city of Rosario, releasing land in the urban area. It is expected that the Project will improve transport flows, eliminate traffic congestion in the affected areas, and enable an increase in the share of traffic transported to the port facilities by the railway.

3. The proposed Project has strategic relevance both from a national and a local standpoint. National significance is given by the fact that Rosario’s port system is the most important for grain movements in the country. In addition, the solution to the challenges Rosario has in terms of railway accesses will become a benchmark for cities facing similar problems, and the technical options adopted will set an important trend for the development of the country’s railway network. On the other hand, many of the benefits the Project encompasses highlight the Project’s importance from a local perspective and its nature beyond a traditional transport project. The reduction of traffic congestion as well as infrastructure and urban improvements in the city of Rosario (represented mainly by the release of railway facilities and tracks for urban use) will substantially enhance quality of life at the local level. Furthermore, the Project is perceived as essential for promoting economic development in the area, which is largely dependent on the provision of transport services for agro export activities, which are predominant in the region.

4. With a view to increasing efficiency of the transport system as a whole, the Project will be considered within the context of a wider logistics network that includes the hinterland, the road and railway networks, the terminals and their accesses, and the navigable waterway. In this sense, a set of mechanisms to identify and measure inefficiencies within the network will be developed as a complement to the physical infrastructure investments.

5. Finally, the Program will engage a broad range of stakeholders from the metropolitan area of Rosario to reach consensus on the urban issues, reduce the level of resistance from sectors not directly benefiting from it, and to build ownership at the local level.
6. In order to achieve the objectives outlined above, the Project would have the following components:

**Component 1 – Reorganization of Railway Accesses.** This component’s objective would be to significantly improve efficiency of railway transportation to and from Rosario’s port facilities; and would consist of two subcomponents: (i) Sub-component 1 – Railway Infrastructure Ring: would finance the construction of a railway ring, approximately 85 kilometres long, which would intercept the tracks that currently reach (and cross) the city in a radial structure. This would minimize the interference of the railway in the urban area and would divert railway traffic to port facilities in the north and south of the Rosario port system. The required investments would be made in phases. (ii) Sub-component 2 – Institutional Design: this subcomponent would finance studies and technical assistance to define and support the design of the institution that destined to manage the new railway infrastructure.

**Component 2 – Reorganization of Road Accesses.** This component would aim to organize land transport accesses to port facilities located in the urban area of Rosario, reduce traffic congestion and decrease the rate of accidents in the city. It would consist of three subcomponents: (i) Sub-component 1 – Rosario City Beltway: would consist of works to double the capacity of the existing roadway formed by Ruta Nacional (RN) 16 and RN A-012 on the section comprised between Ruta Provincial (RP) 21 in the south and RN 11 in the north, except for the section that already has two-lanes and the stretch along Ricardo, which will require a special bypass. The works comprise approximately 64 km for additional lanes and 2 km for new alignments, with multiple road and railway crossings at different grades. (ii) Sub Component 2 – Road Accesses to Port Facilities: would consist of works to widen: RP 21 (from Arroyo Seco to Villa Gobernador Gómez), RP 10 (from Rosario/Santa Fe Highway to RN 11), and RN 11 (from San Lorenzo to RP 91) for a total of approximately 28 km. This would also include various road and railway crossings, bridges, and pavement or re-pavement of many public roads for access to port facilities, for a total of approximately 90 km. (iii) Sub Component 3 – Bypass Roads to improve traffic flows and to help decongest urban centers and access roads to port facilities.

**Component 3 – Strengthening of Project’s Impacts.** This component’s objective would be to support the urban aspects of the Project, with a focus in the achievement of a wide consensus around it to ensure a smooth implementation and maximize positive impacts. This component would consist of the following subcomponents: (i) Sub-component 1 – Strategic Planning for Rosario’s Metropolitan Area; which would support the establishment of a Strategic Plan outlining the guiding principles for long term urban management, in line with infrastructure development, (ii) Sub-component 2 – Urban works, which will consist of a package of small urban works agreed upon with Municipalities in the Metropolitan Area; (iii) Sub-component 3 – Monitoring and Evaluation of the Project, which would consist of studies for establishing baselines and monitoring tools to assess the Project’s progress and impact.

**Component 4 – Transport Efficiency and Logistics.** This component’s objective would be to develop and implement measures to improve efficiency in the logistics chain—starting from the producer and ending in the port—in order to strengthen the new infrastructure’s impact. It would include the following subcomponents: (i) Sub-component 1 – Cost Measurement and Monitoring: would develop measurement and monitoring tools for the area’s logistics chain in order to inform decision making; (ii) Sub-component 2 – Support for Development of Policy,
Regulation and Initiatives to Improve Efficiency: would comprise studies and technical assistance for the design of policies, regulation and initiatives oriented to improve the functioning of markets and of processes related to the logistics chain. (iii) Sub-component 3 – Investment in Logistics Platforms: would include the required studies and works to establish a logistics platform.

7. **Consultation and disclosure process.** The identification of project components has been based on a participatory process. Project preparation has involved several consultations, which were initiated before Bank involvement at the outset of Project conceptualization. An initial consultation process was carried out between June 3, 2004 and April 18, 2005. Initial consultations as well as ongoing participatory processes have involved: (a) Meetings with local governments (municipalities) officials, including their technical advisors on transport and urban design issues; (b) focus group discussions with users, transport unions (private rail operators, truck drivers, etc.), the Rosario Chamber of Commerce, local and regional universities, and NGOs; (c) workshops and public audiences involving all the above-mentioned stakeholders. Representatives of these key stakeholders have been involved in detailed discussions formulating ideas on options to improve Project design and its impact on the urban development of the Rosario Metropolitan Region.

8. These public consultation processes have been aimed at enhancing social cohesion among key stakeholders, their understanding of the Project’s benefits, and strengthening their ownership. As a result of these participatory processes, so far, all key stakeholders have become vocal advocates of the Project.

9. The Project includes a Communication Strategy aimed at providing timely and clear information on the project, as well as at fostering community participation in all activities related to project preparation and implementation. The principles that guide the communication strategy include transparency, accountability, adequacy, adaptability, clarity, bilateralism, and credibility. The strategy employs different means of communication, including a project website, emailing, notes, workshops, periodic meetings, meetings with journalists, graphic pamphlets, mailboxes at different locations for comments and suggestions from affected communities, etc. The Project Preparation Unit includes a communication specialist who is currently developing and implementing the project’s communication strategy.

10. The individual Environmental Assessment reports were prepared prior to World Bank involvement in the project and therefore have not yet benefited from a comprehensive public consultation either at the TOR preparation level or during the preparation of draft reports. Both the World Bank and the project counterpart recognize this as an important gap in the consultation process. To address this gap, a detailed strategic communications and consultation plan is being developed for the project.
II. Environmental Aspects

11. **General.** The project has been categorized as environmental risk category A, in accordance with the Bank’s Operational Policy OP4.01. This categorization has been chosen due to the potentially significant environmental impacts of opening new rail rights-of-way (ROW) and to the expansion of roadways in both rural and urban areas. Most impacts will derive from the creation of new ROWs and many significant, region-wide or precedent-setting impacts are envisioned. Most of the current and future traffic consists of long-distance trucks and trains and very little incremental local traffic is expected. Land use changes are expected in the areas with new ROWs as well as improved flow of goods to the Port facilities after the new railroad and new roads are in place. Though short-term in nature, there are a number of potential construction related impacts which will need to be carefully managed.

12. **Project environmental setting and baseline conditions.** From an environmental perspective, the project area is not considered to be highly sensitive. The area of the project is currently heavily developed with residential land-use, cattle ranching and high-value crops such as soy and corn. There are no known natural habitats or critical natural habitats along the existing or proposed right-of-way. However, there still remain some small patches of native vegetation, especially in rivers and creek crossings that still harbor some native species albeit without any significant biodiversity value.

13. Although there is no evidence of paleontological or archeological resources along the project area there is always the potential in large civil works projects to encounter unknown sites of cultural or historical importance. To address such possibilities, a chance finds management approach will be considered. During appraisal, the Bank will ensure that the findings and recommendations of the physical cultural resources components of the EIA reports, including the physical cultural resources management plan, are adequately reflected in project design.

14. The project has the potential for significant social impact and has the potential to be locally controversial. Land acquisition will be required for certain sub-projects. There are no indigenous peoples in the area of influence of the project though there are vulnerable groups that whose needs will be taken into account. (Section III of this report for details on social aspects of the project).

15. **Environmental Assessment Process.** Twenty stand-alone Environmental Impact Assessments, one (1) Integrated Environmental Assessment, and information about twenty-nine (29) Executing Unit’s Official Proceedings (on environmental assessment and environmental management specifications) comprising 39 road works and 8 railway works have been undertaken by the Borrower prior to Bank’s involvement in project assessment. The reports have been produced by a Consultant team hired by the Executing Unit of the Project, and have been disclosed both at the Infoshop and at the Province of Santa Fe’s Ministry of Public Works office in Rosario (Buenos Aires 965, 1st Floor, Rosario, Argentina). The Borrower’s website has included the sub-projects (http://www.transporte.gov.ar/html/licita.htm) A summary of the findings of these EIA reports are presented in Section B of this report.

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1 Please refer to Section B of this package for documents prepared by the Borrower regarding environmental assessments.
16. During preparation missions, the World Bank has conducted an assessment of the available reports, within the framework of the Bank’s environmental and social safeguards, as part of a broader revision, covering four main areas: (a) analysis of environmental evaluation of projects that would be financed by the Bank during the first 18 months of project implementation; (b) assessment of compliance with the Bank environmental safeguards; (c) capacity assessment of the environmental management at the level of the Project Executing Unit, and review of existing mechanisms and tools to carry out environmental activities; (d) compliance with environmental legislation; and (e) public consultation. Neither the TOR of these reports nor the draft EIAs have been submitted to public consultation. The results of said assessment are in process and they will demonstrate if the existing measures in place fully comply with the Bank’s Safeguard Policies.

17. Anticipated environmental risks and benefits of the project. Successful implementation of the project will result in environmental benefits resulting from improved traffic flows and reduced congestion in residential and commercial neighborhoods. At the same time, because the project involves some large scale transportation civil works and construction activities, the project poses some potential adverse impacts. Adverse impacts can be expected during the construction phase of individual sub-projects as well as during the operational phase of the project. Construction related impacts include noise and dust management, management of waste material, management and disposal of hazardous materials such as fuels, oils, lubricants etc.

18. During operations potential impacts relate to impact on local traffic congestion, noise and possible impacts on air quality. Specific concerns have been raised about the potential of some sub-projects to influence local drainage and hydrological conditions over the long term. The project’s work should not aggravate existing hydrological conditions and flood in its area of influence but rather improve existing conditions. Special attention should be given in project design to the management of hydraulic and hydrological interactions along the new and existing right of way, posing special attention in those urban areas of Rosario surroundings, suffering from recurrent floods. In many cases, existing drainage works will be expanded in order to eliminate existing flow back-up conditions in some areas. The correct management measures for hydrological conditions should avoid any significant cumulative impact in the future.

19. The project will ensure the presence of by-passes where needed, especially in the rural areas where the railway ring will be built. The by-passes should intersect an important network of rural and local roads with an important traffic of people, local goods and machinery. The construction and/or restoration of such networks and the construction of safe crossing points will be part of the project proposal.

20. Analysis of Alternatives. The individual Environmental Impact Assessment reports include the alternative analysis for those works involving the creation of new ROWs. The principle alternatives considered vary from sub-project to sub-project but include the without project analysis and, where appropriate, consideration of alternative route alignments including an assessment of the environmental implications. Other site-specific design alternatives will be identified during the detailed community discussions which are being planned as part of the comprehensive community consultation and communication plan. This analysis has considered
as a principle a smaller intervention in the territorial structure, minimizing the effects on the population and the environmental alterations.

21. **Environmental Mitigation and Management Measures.** As noted, the impacts that can be anticipated are locally increased levels of noise, vibration, air pollution and traffic congestion, although the overall impact of the project will probably reduce the level of these impacts. It would also cause resettlement of populations, mainly in urban areas. New rail lines and widened highways could affect the access of local communities (urban and rural) to amenities and services. The construction of new roads and a new 80 km railway may have limited but permanent negative environmental impacts, which would be mitigated through Environmental Management Plans (EMPs).

22. Most of the impacts identified will be managed through sound engineering design and construction practices. In addition, the project would include significant environmental enhancement measures. Special measures should be implemented in those household that will now be located closer to roads as well as to the railway ring (because of the creation and expansion of the right of way) in order to reduce the impact of noise. These measures should also be included in the Resettlement Action Plan.

23. In particular, the potential impacts include: (i) re-routing of traffic during construction, (ii) disposal of construction waste; (iii) potential limitation in the access to housing and establishments during works; (iv) potential increase of accidents; (v) impact and potential interference on networks and adjacent infrastructure (phone lines, electricity wiring, water pipes and sewage mains, etc); and (vi) potential nuisance during construction (noise, dust, waste). Its potential impact on natural habitats is inexistent. As noted above, most of the region was converted long ago from its natural state to agricultural lands, urban and industrial uses as well as the extensive transportation network.

24. An overall Environmental and Social Management Plan (ESMP) is being prepared and an advanced draft will be completed prior to appraisal. This plan, to be included in the Environmental and Social Handbook of the project, develops the key contents to address all environmental and social issues identified along the right of way (ROW). The railway ring and most of the new road infrastructure will be located alongside the creation of new right of way and acquisition of additional land.

25. Construction contractors will be required to follow requirements specified in all relevant licenses and permits related to potential affects on nature resources, obligatory by the environmental authority. Contractors will be required to implement site-specific environmental management plans and establish suitable due diligence of sub-contractors. Contractors will be required to present a detailed program and a management plan to demonstrate compliance with all environmental licenses and permits not directly depending from DNV, DPV or CNRT.

26. **Implementation Arrangements.** The Plan Circunvalar Rosario will rely on the existing procedures and criteria to manage environmental and social impacts of the National Roads Directorate (Dirección Nacional de Vialidad, DNV), Provincial Roads Directorate (Dirección de Vialidad of the Province of Santa Fe, DPV), and National Transport Regulating Commission (Comisión Nacional Reguladora de Transporte, CNRT), under the coordination of a Project
Executing Unit. Based on the experience of the DNV and the DPV, these environmental and social specifications will be included as part of bidding documents of the project.

27. In the case of DNV, these procedures and criteria have been built as part of a close collaboration with the World Bank, and following the Bank guidelines to comply with environmental and social safeguards; and with the Bank’s Handbook on Roads and Environment, and the Environmental Evaluation and Management Manual (MEGA). In the case of DVP, there is previous experience in compliance with World Bank safeguards (P099051/AR- Santa Fe Road Infrastructure). This experience indicates that bidding documents require the development of Environmental Management Plans. Based on the experience of DNV and the DPV of Santa Fe, these environmental and social specifications will be included as part of bidding documents of the project.

28. Regarding railways, the CNRT will be in charge of management and supervision of railway sub-projects and works, but specific environmental management arrangements need to be defined before appraisal.

29. Before appraisal, the Borrower (by means of the Project Executing Unit) will define a management structure to include in a functional manner, and with clear responsibilities, the institutional system to deal with environmental issues during construction and supervision of works, involving the three agencies mentioned above.

30. Cumulative and Strategic Impact Assessment. A concern has been raised that the large number of individual EIAs that have been prepared do not account for any regional or cumulative impacts of the project. Nor do the proposed mitigation measures at the individual project level. To address this gap in understanding, the World Bank has requested an assessment of the cumulative impacts of individual sub-projects within the metropolitan region of Rosario has been requested to the Borrower, to be completed during the remaining project preparation process.

31. In addition, the Bank and the Borrower will agree on developing an overall Strategic Environmental Assessment during project implementation in order to mainstream and enhance environmental opportunities in the overall strategic planning of the Rosario Metropolitan Area.

32. Compliance with National Regulations and Procedures. The project will comply with law No. 11.717, which obliges to submit Environmental Impact Studies to be approved by the Environment Secretariat in Santa Fe province. In those works/sub-projects where EIA is not required under national or local regulations, the bidding documents for these works will consider standard environmental specifications to be contemplated during construction. In accordance with established procedures, most of the Environmental Impact Studies were analyzed by the Environmental Unit of the Provincial Road Directorate, which raised no objections, and by the State Secretariat of Environment and Sustainable Development, where it is pending approval. This required approval should be awarded before project appraisal.
III. Social Aspects

33. The Project is expected to improve the quality of life in the metropolitan area of Rosario by reducing traffic congestion and allowing the areas released by the Project (i.e. rail yards, warehousing) more productive uses, from an urban perspective. Some of the expected social benefits of the proposed Project include: savings in travel time for inhabitants of the Rosario Metropolitan area resulting from the reduction of interference of the railway with the road network; reduced vehicle operating costs; improvements in safety conditions, reduction of number of accidents at railway crossings; reduction in air and noise pollution arising from traffic congestion in the City of Rosario; enhancement of urban design and land-use patterns in the Rosario Metropolitan Area. The increased efficiency of Rosario's port and transportation network may well act as a stimulus to the local economy, creating more employment and business opportunities... The negative social impacts of the Project are associated with the resettlement of population, mainly in urban areas. New rail lines and widened highways could affect the access of local communities (urban and rural) to amenities and services.

34. Several studies and consultation activities are being undertaken during Project preparation to identify key social issues affecting the context of the proposed Project, in order to reduce social risks and to enhance the likely positive social impacts for different stakeholder groups, particularly the more vulnerable groups in the affected communities. The preparatory work has highlighted some of the social risks associated with the proposed Project and has enabled the Bank to incorporate risk-management measures into Project design. Social risks are mostly related to resettlement of population and expropriation of land. The Borrower's current preliminary assessments and estimates show that the rail loop and associated works would affect some 350 properties of which 280 are rural and 70 are urban, while the proposed expansion of roadways would affect 790 properties.

35. The ongoing social assessment includes the following activities:

- **A General Social Analysis** of the affected region including a stakeholder analysis, characterization of the local economy, description and analysis of livelihoods, principal forms of social organization of households, families, communities, and other social networks including religious and other organizations. Information on the values of aspirations of representative groups in the area. Attitudes towards development and expectations regarding the proposed project. Implications for gender roles will also be investigated and recommendations for action will be made.

- **Social Analysis focused in urban and suburban areas in the Rosario Metropolitan Region**: The Borrower is conducting a social analysis focused on assessing social opportunities and risks for the first phase of the proposed APL. This analysis is based on a process of interviews with different stakeholders such as, local leaders, elected officials, community representatives, civil-society organizations, transport companies, agricultural producers and exporters, truck drivers, etc.

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2 Working documents prepared by the Borrower regarding the social aspects of the project are available in Project files and the Infoshop.
drivers, road users, among others. As a result of these consultations the final design of the project will include a special component (Component 3), aimed at strengthening the Project’s positive impacts. The objective of this component is to support the urban enhancements of the Project, with a focus in the achievement of a wide consensus around it to ensure a smooth implementation and maximize positive impacts. The activities in this component would not only provide all stakeholders with an opportunity to actively participate in the planning process but also to benefit directly from works that would be financed under the project. This component would consist of the following subcomponents: Sub-component 1 – Strategic Planning for the Rosario Metropolitan Area; which would support the development of a Strategic Plan outlining the guiding principles for long term urban management, in line with infrastructure development; Sub-component 2 – Urban works, which will consist of a package of small urban works agreed upon with Municipalities in the Metropolitan Area; Sub-component 3 – Monitoring and Evaluation of the Project, which would consist of studies for establishing baselines and monitoring tools to assess the Project’s progress and impact.

✓ **Resettlement Policy Framework:** The Borrower has prepared a Resettlement Policy Framework (RPF), and is in the process of preparing a Resettlement Action Plan for works that would begin implementation during the first 18 months of Project implementation that will be submitted before Project Appraisal. The RPF describes the principles and approach to be followed in minimizing and mitigating negative social and economic impacts caused by the Project. The RPF contains the institutional and organizational mechanisms required to undertake the resettlement program. It also provides the bases for preparation of detailed and time-bound Resettlement Action Plans. The RAP will contain the details of census and baseline socio-economic surveys of the potentially affected population and provide details on the organization and implementation of the plan. The RAPs will include as well the Resettlement Policy Framework. For any future resettlement, no disbursement for project activities would be made until a necessary Resettlement Action Plan satisfactory to the Bank has been presented. This disbursement condition will be written into the Loan Agreement.

✓ **Group-based Development Opportunities:** The project will have indirect impacts on the population living in the vicinity of the road corridors. While many of these impacts are positive, some may be negative and will be mitigated. The positive impacts may include impacts on traffic safety, access to water and sanitation, access to common property resources (such as parks, riverside recreational areas, etc.), and impacts on non-motorized transport such as pedestrians and cyclists. Impacts related to a population’s cultural heritage (for example, in the case of old railway stations) will be addressed with particular care. Any historic landmarks or other material cultural sites that would be affected by implementation during the first 18 months would be subjected to analysis and an action plan will be presented prior to appraisal. Any future impacts on culturally important sites or landmarks would be subjected to analysis and addressed by specific action plans to be prepared, presented to the Bank for
approval prior to the commencement of works, and executed by the Project Implementation Unit during project implementation.

Objectives, Topics and Methodology of the Social Analysis

36. A participatory social assessment is being carried out by the Borrower as part of project preparation. This social assessment is aimed at identifying opportunities and constraints to achieve the social development objectives of the project, as well as to design an intervention strategy to reinforce the social impacts of the project, including recommendations that favor social inclusion; empower social actors; and identify social risks. As part of this assessment, the Borrower will design indicators for the monitoring of social aspects of the project, with its corresponding allocation of resources.

37. The social assessment will carefully consider five entry points: 1. sector stakeholders; 2. institutions, norms and behaviors; 3. social diversity and gender; 4. participation; and 5. social risks. The assessment methodology includes a review of relevant secondary sources, in-depth interviews, workshops with focus groups. As part of the field research interviews with provincial and municipal authorities, community leaders, railway concessionaires, truck drivers representatives, and direct beneficiaries will be completed before appraisal.

Social Risks

38. The main social risks to the project and generated by the project, with the proposed mitigation measures that were identified so far in the participative process are as follows:

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<th>Description of risk</th>
<th>Rating of risk</th>
<th>Mitigation measures</th>
<th>Rating of residual risk</th>
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<td>• The project will involve resettlement and land acquisition, which adds complexity to project implementation. Land acquisition processes could result in implementation delays.</td>
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<td>• The executing agency at the provincial level (Ministry of Public Works of the Province of Santa Fe) has already been executing the Santa Fe Road Infrastructure Project, which also involved resettlement issues and land acquisition processes. The staff that will be in charge of implementing the Resettlement Plan are very familiar with the WB safeguards policies. • Preparation of strong Resettlement Plan. • Early implementation of Communication Plan to build community support for the project. • Participatory processes during project preparation and implementation to strengthen consensus and support for the project amongst local communities. • At least two supervision missions in the first year, for close supervision of implementation of Resettlement Plan. • The final design of the phasing of project components and sub-components will take into consideration land acquisition and resettlement processes.</td>
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Resettlement Policy Framework

39. The project includes the construction of an 85 km railway ring passing through mostly sparsely populated areas of the Metropolitan Region. In addition, civil works on the roadways will largely follow existing right-of-ways except for some realignments and a new 2 km stretch. The potential negative environmental impacts of opening new right-of-way for the railway and the expansion of roadways in urban areas include the need to acquire land and resettle population in some cases. Most of the road infrastructure and the railway ring will be located in areas characterized by low density population and agricultural and livestock productive activities. Surveys and studies will ascertain the numbers of affected population and the types of impacts. The size of the affected properties and the areas that will be acquired during project implementation will be identified as part of the socio-economic census to be carried out by the Borrower before Appraisal.

40. The Resettlement Policy Framework (RPF) prepared by the Borrower and attached hereto, describes the principles and approach to be followed in minimizing and mitigating negative social and economic impacts caused by the project. It provides the basis for a detailed and time-bound Resettlement Action Plans (RAPs). The first RAP will cover the works to be executed in the first 18 months of project implementation and will be prepared by the Borrower in time for appraisal. The RAP will contain the details of census and baseline socio-economic surveys of the potentially affected population that are currently being undertaken by the Borrower. The RAP will also cover the institutional and organizational mechanisms required to undertake the resettlement program.

41. Consistent with Bank policy, the principles contained in the RPF meet the requirements of OP 4.12. The RPF addresses development-induced impacts caused by the project, and is not limited to physical relocation. It addresses different categories of social and economic impacts which require mitigation, including loss of assets and loss of livelihood or income opportunities. The main issues addressed in the RPF are as follows:

- **Information and Communication:** Stakeholders will be informed through mass media, a newsletter which will be distributed monthly, and other means. The project will also create an electronic address where stakeholders can send their questions and comments. Additionally, several “Community Points” will be established in different locations in the Rosario Metropolitan Area to maintain a direct dialogue with affected communities. Two social specialists will be assigned by the Province of Santa Fe and monitored by the project PIU to manage these Community Points.

- **Affected Groups:** The resettled population falls into roughly four categories, that merit differentiated considerations and treatment: (a) Poor (mostly urban) homeowners and renters; (b) Non-poor homeowners and renters; (c) Small farmers; (d) Large landowners. Through census surveys and other studies, the project will determine who among the affected population may be considered as vulnerable or at risk, and provide support mechanisms to such groups (poor families, women-headed households, children, etc.). These vulnerable...
groups will receive targeted support and special attention from the project, and be provided with more options and support mechanisms than those not considered vulnerable. Affected population will be counseled regarding risks and benefits involved so that they are able to make informed choices among the options provided.

- **Loss of Assets**: The project will compensate and replace lost assets at their replacement cost, defined as the amount required for the affected person to replace the lost assets through purchase in the open market. The entitlement unit for such assistance is the household or family.

- **Loss of House or Shelter**: Every effort will be made by the project to ensure that replacement housing is available before people are required to relocate. The project involves linear resettlement, where narrow strips of land and often only parts of structures are affected. Large population clusters are therefore not likely to be affected by the project. The preferred approach will be to assist people to move back and away from the corridor of impact, without having to move far away disrupting local networks and support mechanisms.

- **Loss of Livelihood or Income Opportunities**: In some cases, the displacement caused by the project may lead to loss of livelihood or income opportunities, either temporarily or permanently. In such cases, assistance will be given to the affected population to reestablish their livelihood and income, and to compensate for temporary losses. If the project impact leads to people being unable to continue with their previous occupation, the project will provide support and assistance through alternative employment strategies.

- **Land Acquisition and Compensation**: Through this program the land required by the project will be acquired and compensated. The method to valuate the properties will allow the replacement of the affected properties with other properties having similar characteristics.

- **Assistance for Socioeconomic Restoration**: This program will provide support for the families and businesses that will be physically displaced to restore their socioeconomic conditions to the level that existed prior to displacement.

- **Assistance for Partially Affected Properties**: This program is designed to assist owners of partially affected properties, to mitigate any problems related to safety, noise and privacy.

- **Grievance Mechanism**: A grievance mechanism has been designed to receive and respond to any grievance that could emerge during the implementation of the Plan.

42. According to the RPF, the **land acquisition process** will be governed by specific laws in the Province of Santa Fe. The Provincial laws provide that the expropriating entity is authorized to reach agreements (*Convenios de Avenimiento*) with affected landowners in connection with the expropriation of their land. In case an agreement cannot be reached, the expropriating entity initiates the judicial proceedings in the Province of Santa Fe’s courts to resolve the dispute over the amount of compensation to be paid. It should be noted that if the expropriation case goes to court, the expropriating entity shall, at the time of filing the complaint, deposit in “escrow” (*consignacion judicial*) with the court the amount of compensation offered to the affected landowner. The affected owners also have the possibility of addressing their claims to the

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3 See articles 28-30 of Provincial Law No. 4908 (as amended and restated), and articles 24, 25 and 28-34 of Provincial Law No. 7334-Expropriation law (as amended).
4 See articles 28 and 29 of Provincial Law No. 4908 (as amended and restated), and articles 35-50 of Provincial Law No. 7534, as amended).
The provincial ombudsman office ("Defensoria del Pueblo de la Provincia de Santa Fe"), which is an independent body that reports to the Provincial legislature. The Province of Santa Fe has a proven track record of reaching voluntary agreements for the acquisition of land. Statistical information about the outcome of previous processes of land acquisition shows that for works initiated between 2004 and 2006, there was a challenge to only four out of 455 plots of land (0.9% of total plots) about the amount of compensation offered by the Province of Santa Fe in the provincial courts.

43. The valuation methodology of affected land and improvements that will be followed by the Provincial Road Agency follows Bank compensation policies for land acquisition:

- According to article 17 of Provincial Law No. 7534, the amount of compensation ("indemnización") to be paid shall be equal to the objective value ("valor objetivo") of the land plus any direct and immediate damage caused by the expropriation of the affected land.

- Pursuant to the Provincial Law, the Provincial Road Agency is the entity in charge of carrying out the valuation of land affected to road projects. In order to carry out said mandate, the Provincial Road Agency may seek information/assistance from the Provincial Cadastre.

- Pursuant to article 25 of Provincial Law No. 2996 – "Valuation and Cadastre of Real Estate" (as amended), the valuation of real estate shall be based on objective background information ("antececedentes objetivos") which shall not take into account personal nor incidental factors. Moreover, article 25 of the same Law provides in part that the amount of compensation ("justiprecio") to be paid must be adjusted to the time in which payment is made.

- The following are the elements that the valuation of rural property shall take into account:

  (a) the soil configuration, the quality of the land and the underground water, the productivity of the land (including its subdivision, the intensity of its economic production compared with the predominant land production in the area, the real rent/income ("renta real") set in (private) contracts or public deeds or the

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5 The main mandate of the Ombudsman office is to protect the rights/interests of its citizens and the community against actions/omissions carried out by the public administration (including its agencies) which imply, inter alia, abusive, arbitrary, illegitimate, discriminatory and negligent practices in connection with the performance of its functions, or which might be perceived as a deviation of its power (see articles 1 and 22 of Provincial Law No. 10396). The Ombudsman’s office has successfully mediated in land acquisition cases in the past. Bank’s social specialists have met with the Ombudsman’s office and have found that it is characterized by professionalism and autonomy.

6 Please note that Court precedents indicate that the Argentine Supreme Court has historically rejected valuations of the objective value ("valor objetivo") which are not consistent with "market value" (see Marienhoff, Miguel S., Tratado de Derecho Administrativo, Tomo IV).

7 As amended.

8 See third paragraph of article 25 of Provincial Law No. 7534 (as amended), and article 3 of Provincial Law No. 12653.

9 See article 2 (a) (6) of Provincial Law 10921.
presumed income ("renta presunta") that takes into account statistical information on estimated production and the production average prices for a range period of not less than 5 years; and

(b) as supplemental background information, the owner's tax return, the current fiscal valuation, the average sales prices (since the last valuation) of similar land within the area, court rulings on expropriation cases, the valuations carried out by official mortgage financial institutions, the information that may be provided by the provincial tax authority, and the information reflected in the real estate registry, municipal cadastral registries (for urban and semi-urban land) and the Provincial Directorate of Cadastre and Mapping ("Dirección Provincial de Catastro y Cartografía").

Once the Provincial Road Agency obtains the price information mentioned above, and in order to determine the objective value ("valor objetivo"), the Provincial Road Agency also seeks information from: (a) banks, real estate agencies, cooperatives ("Cooperativas") and the municipality ("Comuna") with respect to the prevailing price per hectare; and (b) (i) real estate publications, and local and national newspapers with respect to physical improvements/fixtures; and (ii) inter alia, the Instituto Nacional de Tecnología Agropecuaria (INTA) with respect to the value of the crops.

Thereafter, and before making a final compensation offer ("valor objetivo") to the affected landowner, the Provincial Road Agency also takes into account a series of characteristics related to the affected land which increase the final price to be paid to the landowner by an amount which shall not exceed 30 percent of the amount of the land valuation issued by the Provincial Cadastre. The characteristics that the Provincial Road Agency takes into account include, inter alia, the location of the land (for example, the proximity of the land to trade centers is an important factor) and the expropriated surface (such as if the land has been affected in whole or in part).

Finally, the Provincial Road Agency notifies the affected owner of the expropriation and at the same time offers the owner the final compensation, as described above.

III. Next Steps

44. The Borrower will complete the social assessment in time for Project Appraisal. As part of project preparation the Borrower will submit to the Bank in preparation for appraisal an Environmental and Social Management Manual, which will include the Project Resettlement Framework and the Resettlement and Expropriation Plan for the works to be conducted in the first 18 months of project implementation. All these documents will be published both in-country and at the Bank's Infoshop before Appraisal, and will be part of the Project Operational Manual.

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10 See article 25 of Provincial Law No. 2996 and article 29 of Provincial Law 4908, as amended and restated.
IV. Compliance with World Bank Policies

45. The project is expected to comply fully with all applicable World Bank safeguard policies. The World Bank project team has requested additional information and work in some key areas to improve the overall quality of proposed mitigation and management measures. It is expected that the client will be able to fulfill all the requirements in a timely manner.

Safeguard policies triggered

<table>
<thead>
<tr>
<th>Safeguard Policies Triggered by the Project</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environmental Assessment (OP/BP 4.01)</td>
<td>[X]</td>
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<tr>
<td>Natural Habitats (OP/BP 4.04)</td>
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<td>Pest Management (OP 4.09)</td>
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<td>Physical Cultural Resources (OP/BP 4.11)</td>
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<td>Involuntary Resettlement (OP/BP 4.12)</td>
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<td>Indigenous Peoples (OP/BP 4.10)</td>
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<tr>
<td>Forests (OP/BP 4.36)</td>
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<tr>
<td>Safety of Dams (OP/BP 4.37)</td>
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<td>[X]</td>
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<tr>
<td>Projects in Disputed Areas (OP/BP 7.60)</td>
<td>[ ]</td>
<td>[X]</td>
</tr>
<tr>
<td>Projects on International Waterways (OP/BP 7.50)*</td>
<td>[ ]</td>
<td>[X]</td>
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</tbody>
</table>

*OP 7.50: International Waterways During the course of project preparation a question was raised regarding the applicability of this policy. It was determined that the project would not affect either the water quality or the quantity of water flows so the project does not trigger OP 7.50.
SECTION B

P101421 – ARGENTINA – Rosario Metropolitan Area Infrastructure Project

Executive Summaries of Environmental Impact Assessment of Sub-projects

Prepared by:

UNIDAD EJECUTORA DEL REORDENAMIENTO DE ACCESOS FERROVIARIOS Y VIALES DE LA REGIÓN METROPOLITANA DE ROSARIO Y CORREDOR CIRCUNVALAR

based on the Environmental Impact Reports entrusted to

PBO&D INC
IATASA INGENIEROS CONSULTORES
ATEC INGENIEROS CONSULTORES S.A.
ing. CORNERO CONSULTORA S.A.

Buenos Aires, Argentina

DATE: 18 January, 2008
PROJECT: Access to the industrial port facilities in Timbúes. Access through Lucio Mansilla and Brigadier López Streets.

Name as per TOR of the consulting firm retained by the Secretariat of Transport: La Paloma between National Road No. 11 and Brigadier Gral. López Street. Brigadier López Street between National Road No. 11 and Terminals in Timbúes.


JUSTIFICATION: To avoid significant interferences and provide a safe and fluid circulation through the urban stretch of the area, access to the Industrial Port Facilities of Timbúes from National Road No. 11 in two sectors: one on the north and the other one on the south of the locality. Thus, the passage of a large flow of heavy-weight vehicles through the populated area is avoided; and the number of maneuvers at dangerous intersections is reduced, with no crossings at different levels being planned. Both access ways are located on what are currently Mansilla (on the north) and Brig. López (on the south) streets. These streets are perpendicular to each other and intersect beyond the urban area of Timbúes. From there on, the access ways will continue along B. López Street towards the new plants on the river's bank. This layout forms a sort of paved perimeter network around Timbúes and neighboring towns.

DESCRIPTION: The works described above have been divided into three sections.

Section 1: This section covers the main road from the beginning, station 0+000 m, up to station 3+000 m. This section does not include any crossings and the planned carriageway is rigid concrete pavement, 27 cm thick.

Section 2: This section covers the main road, that is, Brig. E. López Street, from station 3+000 m up to station 6+550 m; the section includes the intersection of the two Access Roads, North and South, and the Main Road. To avoid dangerous crossings, the layout of the junction will be that of a roundabout with four perpendicular branches: three are necessary for the works in question, and a fourth one is required to extend L.V. Mansilla street towards Vucetich street. A 27-cm-thick rigid, concrete pavement is planned for the main road while the access ways will have a 26 cm-thick pavement.

Section 3: Section 3 includes both North and South Access Ways, as mentioned, up to their joint intersection with the Main Road. These Access Ways connect with National Road No. 11, located south and north of Timbúes. These junctions are planned to be level crossings, and will be canalized, have slow and fast lanes, lighting and with all horizontal and vertical signaling, as required. On Mansilla Street, the additional lane will be extended to allow for a queue of up to 7 trucks. For safety JUSTIFICATION, unplanned Left-turns will be restricted (especially, northbound from National Road No. 11 up to López Street). A 26-cm-thick rigid concrete pavement is planned for this stretch.

LENGTH: this work comprises approximately 9,400 m along Brigadier E. López Street and 3,000 m along Lucio V. Mansilla Street.

EXECUTION SCHEDULE: the total time for the execution of all the works is twelve (12) calendar months.

OFFICIAL BUDGET: the budget for these works amounts to $ 27,464,719 as of February, 2007.
ENVIRONMENTAL IMPACT STUDIES: Due to the low complexity of the projected work, no EIA report was requested by the province. The bidding documents for these works consider environmental specifications to be contemplated during construction.

PROGRESS:
Executive Project: completed.
Bidding Documents: completed.

CONTRACTORS:
Executive Project: Consultora INCOCIV
Bidding Documents: Provincial Roads Directorate.

DESIGN APPROVAL: Provincial Roads Directorate.

WORKS INSPECTION: Provincial Roads Directorate.
**PROJECT:** Pavement of the streets Vucetich, Mansilla, Combate Punta Quebracho, Thorne and Antártida Argentina Puerto Gral. San Martín.

**Name as per TOR of the consulting firm retained by the Secretariat of Transport:** La Paloma between Brigadier Gral. López and Vucetich streets. Vucetich between América and Mansilla streets. Punta Quebracho from Vucetich to H. Irigoyen street. Coronel Thorne between Vucetich and H. Irigoyen streets. Antártida Argentina from Vucetich to H. Irigoyen. América from National Road No. 11 to Vucetich street.


**JUSTIFICATION:** The main purpose of these improvements in the existing layout consists in enabling access to heavy-weight traffic, under all weather conditions, to the port facilities and industrial plants located in the area, through the circulation streets that link the various plants to one another.

**DESCRIPTION:** The project consists in pavement works of the following streets:
- **Vucetich**, between Av. América and Mansilla streets. Length: 5,282 m.
- **Mansilla**, between Vucetich and Brigadier Gral. López streets. Length: 2,477 m.
- **Combate Punta Quebracho**, between Vucetich and Hipólito Yrigoyen streets. Length: 1,344 m.
- **Thorne**, between Vucetich and Hipólito Yrigoyen streets. Length: 1,327 m.
- **Antártida ARGENTINA**, between Vucetich and Hipólito Yrigoyen streets. Length: 1,311 m.

The layout of these streets goes along unimproved local roads. Considering Vucetich street as an axis, the remaining streets are linked to it perpendicularly. Pavement of Mansilla and Vucetich streets is planned to be constructed with 28-cm-thick simple, rigid concrete; and the pavement of the remaining streets will be made of 25.5-cm-thick concrete. In addition, improvement works are planned at the level crossing of the intersection of Av. Perón, using concrete floor tiles between its rails. The following are the main geometric characteristics of the cross section of the planned carriageway:
- The width of the simple concrete carriageway is 7.30 m
- The width of the common-soil shoulder is 3.00 m, on both sides of the street.
- Cross section with gage and 2% slope towards both sides.

The Project also includes the construction of drains, the installation of horizontal and vertical signage and protection or relocation of all existing utilities services in the area. As a result of the project, some sectors of private land will be affected in the stretch corresponding to the development of the horizontal curve intended to link the various streets, in order to include visibility triangles which are necessary for a safe circulation.

**LENGTH:** The total length of the streets to be paved is 11,740 m.

**EXECUTION SCHEDULE:** twelve (12) calendar months for the full completion of the works.

**OFFICIAL BUDGET:** amounting to $22,825,807 as of February, 2007.

**ENVIRONMENTAL IMPACT STUDIES:** All relevant Environmental Impact Studies for the works have been conducted. The Bidding Documents contain a section including Environmental Specifications for Public Road Works.
a. Diagnostic
The work is located in the Wet Pampas region, a region with a temperate, sub humid-humid climate and average annual rainfalls of 1000 mm concentrated in the summer-autumn cycle, without water- or wind-based erosion processes. There is no presence of native tree species in the zone, or known archeological sites. The work’s host environment is a flat plain, without permanent water courses, in a predominantly rural zone, but with a gradual appearance of industrial sites on the sides of the road. The paving of these streets and their interconnection with the streets that are currently in use will substantially improve the safety and fluidity of truck circulation, because it will provide for entrance and exit circuits between National Road No. 11 and the industrial and port facilities. The surface drainage will follow the natural slopes, with angles that minimize the risk of erosion and siltation. No environmental conditioners were detected leading to the development of significant project alternatives or variations.

b. Impacts
The most relevant negative impact will be of a temporary nature during the construction of the work and will be associated to the temporary presence of a worksite, noise and gas emissions due to the operation of construction machines, suspended particles, difficulties of access to the properties located in front of the road by their dwellers. During the construction period, access by non-regular users will rely on other alternative streets currently in use. The concrete will be manufactured outside the urban zone. There will be a negative impact as a result of soil borrowings to build the embankment, and for that reason the borrow area will be located in the rural area. The vegetal soil that needs to be removed and replaced with soil suitable for road uses will be employed to cover the slopes or will be deposited in depressions in the terrain.

c. Mitigation measures
The Mitigation Measures comprise supervision and control activities of compliance with the existing environmental regulation. In summary, regarding the comparatively relevant negative impacts mentioned above, for each case a series of measures are contemplated conducive to fostering environmental quality and safety at the worksite. The practices considered include, among others: water sprinkling with the required frequency to abate dust, measurement of noise levels at the work fronts. Regarding water courses: designing passage drains so as to avoid interfering with the normal water runoff, design ditches considering the runoff rate, contemplating the self cleaning and erosion of the bottom. Also contemplated is limiting soil movements and cleaning to the minimum essential width and, for the purpose of preventing erosion in the borrow areas, fostering their environmental restoration, and modeling the sharp slopes to promote their colonization by plant species. The bidding documents include environmental specifications for the construction stage which contemplate the Environmental Impact Study that was carried out. An environmental management plan will be prepared before the start of the works, contemplating mitigation measures in compliance with the existing environmental regulations, and fostering the use of the most appropriate construction technologies.

c. Alternatives
As for the analysis of alternatives, due to the characteristics of the project and its border conditions, added to the availability of space for its development within the road area, no major geometrical alternatives were considered that could modify the environmental assessment. The projected road zone width is the minimum compatible with the road
elements: carriageway, shoulders, ditches, etc. No environmental conditioners were detected leading to the development of significant project alternatives or variations.

d. Approvals
The Environmental Impact Study was analyzed by the Environmental Unit of the Provincial Road Directorate, which raised no objections, and by the State Secretariat of Environment and Sustainable Development, where it is pending approval.

PUBLIC CONSULTATION: A methodology has been developed to conduct public consultations and these will be carried out within the next few months, according to a defined work schedule.

RESETTLEMENT AND EXPROPRIATIONS: The geometrical design takes advantage of existing streets, the width of which needs to be expanded in order to include all the road elements. It is estimated that approximately 43 lots will be affected, which will be subject to the expropriation process.

PROGRESS:
Draft project: completed.
Bidding Documents: completed.

CONTRACTORS:
Draft Project and Bidding Documents: Consultants Parsons Brinckerhoff, Iatasa, Atec Ingenieros Consultores, Ing. Corner0 Consultora S.A., commissioned by the Argentine Government
Executive Project: The Constructor is responsible for the executive design.

DESIGN APPROVAL: Provincial Roads Directorate.

WORKS INSPECTION: Provincial Roads Directorate.

Name as per TOR of the consulting firm retained by the Secretariat of Transport: Repaving of América Street between National Road No. 11 and H. Irigoyen Street. Repaving of H. Irigoyen Street between Córdoba and Mansilla streets.


JUSTIFICATION: The purpose of the improvements in the existing layout, i.e. repaving, is to improve conditions for the circulation of heavy traffic in the access streets to the ports and industries located in the area and to provide such streets with a capacity in line with the requirements of circulating traffic.

DESCRIPTION: The draft project involves repaving works in América Street, from the junction with National Road No. 11 to the intersection with H. Yrigoyen Street, and in Hipólito Yrigoyen Street throughout the stretch extending from its junction with Córdoba Street (as the southern limit) to the northern end, at the access to the Port Terminal 6 (Mansilla Street). The road profile to be used throughout the entire América Street stretch is a 7.00 m wide double carriageway of asphaltic concrete with 2.00-meter dirt shoulders. For Hipólito Yrigoyen Street, the stretch between Córdoba and América is planned to be constructed with 0.22 m thick and 5.80 m wide concrete carriageway, with concrete curbs and ditches. On the Northern stretch, up to Mansilla Street, the application of a concrete lining on the existing asphalt pavement is planned. The draft project also includes executing the following works: horizontal and vertical signaling on posts and brackets.

LENGTH: The total length of the works is approximately 1,800 m on América Street and 6,100 m on H. Yrigoyen Street.

EXECUTION SCHEDULE: Completion of all the works has been planned within a period of twelve (12) calendar months.

OFFICIAL BUDGET: The amount of the works is approximately $9,400,000.

ENVIRONMENTAL IMPACT STUDIES: The works contemplate Environmental Impact Studies and the Bidding Documents include some sections considering the environmental requirements for the construction stage of the works.

a. Diagnostic
The work is located in the Wet Pampas region, a region with a temperate, sub humid-humid climate and average annual rainfalls of 1000 mm concentrated in the summer-autumn cycle, without water- or wind-based erosion processes. There are no native tree species in the zone, or known archeological sites. The work’s host environment is a flat zone, without permanent water courses, not prone to flooding, even considering the relative proximity of the San Lorenzo Creek to the work site, in a predominantly industrial zone.

b. Impact
The work project comprises the maintenance of a road infrastructure that is under a lot of demand and has been deteriorated by the ceaseless circulation of heavy loads. It will be of benefit to the users, by shortening their travel times and making traffic more fluid, and it will
reduce the risk of accidents, increasing safety. The most relevant negative impact will occur in a temporary manner during the construction of the work, creating difficulties for dwellers to gain access to their property: The construction work will produce frequent and unavoidable congestions in a road that is already congested, due to the transitory presence of a worksite. Moreover, there will be generation of noise, suspended particles and gas emissions, as a result of the operation of construction machinery. The concrete will be manufactured outside the urban zone. Silted ditches and obstructed drains will be rehabilitated and the road shoulders will be rebuilt.

c. Mitigation measures
The Mitigation Measures comprise supervision and control activities of compliance with the existing environmental regulation. In the case of the demolition activities, protection measures will be implemented. No environmental conditioners were detected leading to the development of significant project alternatives or variations. The bidding documents include environmental specifications for the construction stage which contemplate the Environmental Impact Study that was carried out. An environmental management plan will be prepared before the start of the works, contemplating mitigation measures in compliance with the existing environmental regulations, and fostering the use of the most appropriate construction technologies.

d. Approvals
The Environmental Impact Study was analyzed by the Environmental Unit of the Provincial Road Directorate, which raised no objections, and by the State Secretariat of Environment and Sustainable Development, where it is pending approval.

PUBLIC CONSULTATION: A methodology has been developed to conduct public consultations and these will be carried out within the next few months, according to a defined work schedule.

RESETTLEMENT AND EXPROPRIATIONS: No expropriations are required.

PROGRESS:
Draft project: Under review.
Bidding Documents: Under review.

CONTRACTORS:
Draft Project and Bidding Documents: Consultants Parsons Brinckerhoff, Iatasa, Atec Ingenieros Consultores, Ing. Cornero Consultora S.A., commissioned by the Argentine Government
Executive Project: The Constructor is responsible for the executive design.

DESIGN APPROVAL: Provincial Roads Directorate.

WORKS INSPECTION: Provincial Roads Directorate.
PROJECT: National Road No. 10. Stretch: AP 01 (Rosario - Santa Fe Highway) – National Road No. 11.

Name as per TOR of the consulting firm retained by the Secretariat of Transport: Expansion of the width of Provincial Road No. 10 between AP01 (Rosario- Santa Fe Highway) – National Road No. 11.


JUSTIFICATION: The main purpose of this improvement in the existing layout consists in generating a carriageway with sufficient capacity to accommodate the considerable volume of existing traffic, in particular, heavy vehicles moving cargo between the various access ways to the city and neighboring ports. Furthermore, another issue to be considered is that the road to be intervened represents the most important access way to Northern San Lorenzo and Puerto San Martín, from AP01 (Rosario-Santa Fe Highway) and from National Road A012 through the “Camino de la Cremería”, which causes frequent traffic congestions at certain times of the year.

DESCRIPTION: The work consists in the construction of the double-lane carriageway of Provincial Road No. 10 between the Rosario-Santa Fe Highway and the National Road. No 11, a bridge over the railroad tracks, one trumpet-shaped overpass and the corresponding road bridge. The profile of Provincial Road No. 10 consists in two 7.30 m wide carriageways, with different circulation directions, separated by a 1.6 m traffic island with an emerging 0.15 m curb on the inner side and an outer 2.50 m wide paved shoulder. It also includes two 7.0 m wide collector streets, with a continuous curb on the front side of the lots. The intersection referred above includes, both for the loop and for the ingoing and outgoing branches for access to the toll area, 5.00-meter wide concrete carriageways with an emerging curb on the inner side and an outer shoulder that is 1.50 m wide. The structural design defined for the referenced carriageways consists of a concrete layer, a soil-cement base and a lime-improved subgrade with thicknesses varying according to the street involved. The bridge over the access to the toll area has a clearance of 18.20 meters, while the overpass that spans the Railroad tracks and collector streets consists in 3 stretches of 20.20 meters each. Both Bridges are perpendicular to the road below. In addition, the works include tasks such as the construction of drains, fencing, installation of guard rails, horizontal and vertical signaling, relocation of aerial lines, lighting devices, relocation of a railroad level crossing, and mechanically leveled earth walls.

HYDRAULIC DESIGN: Drainage conditions are maintained as before the intervention. In station 0+425, concurrently with the railroad tracks, there is a water divide. Considering that the works projected develop in a west-to-east direction, drainages on the west of the referred divide will discharge water into the ditches of the Rosario-Santa Fe Highway, while the part of the works located on the east of the tracks will discharge water into the ditches of National Road No. 11.

LENGTH: The total length of the works covers 1,170 meters.

EXECUTION SCHEDULE: For the completion of all the works a period of eighteen (18) calendar months has been established.

OFFICIAL BUDGET: For the full performance of the works an official budget of $21,000,000 is available, according to prices as of August, 2006.
ENVIRONMENTAL IMPACT STUDIES: The Bidding Documents for these works consider environmental specifications to be contemplated during construction.

a. Diagnostic
The work is located in the Wet Pampas region, a region with a temperate, sub humid-humid climate and average annual rainfalls of 1000 mm concentrated in the summer-autumn cycle, without water- or wind-based erosion processes. There is no presence of relevant fauna communities, native forests or bushland in the zone, although there exist, in some sectors, planted forests. There are no native tree species in the zone, or known archeological sites. The host environment is a flat zone, with industrial uses on the sides of the road. There are high voltage electricity lines running parallel to the road. Superficial drainage will be through ditches, and the water flows will be channeled through the perpendicular roads towards the San Lorenzo Creek, with slopes designed to control erosion.

b. Impacts
The widening of the carriageway for each traffic direction will improve the quality of circulation and provide for safer overtaking. The construction of a unleveled crossing of the tracks of the Belgrano Railroad, an toll access exchanger, and the central barrier separating traffic traveling in opposite directions, will increase safety by eliminating maneuvers at level crossings. The presence of the central barrier makes it necessary to build collector roads to facilitate access to the adjoining properties. The most relevant negative impacts will occur temporarily during the construction of the work. These will relate to difficulties to access the property fronting the road, frequent and unavoidable congestions caused by the construction work in a road that is already congested and with few alternatives, and the transitory presence, of a worksite. The manufacturing of concrete will be carried out outside the urbanized zone. There will also be a negative permanent impact by borrowing soil to build the expansion of the current embankment, and for that reason it will be located in the rural area, and its environmental restoration will be fostered by colonizing with vegetation and smoothing the cut slopes.

c. Alternatives
It should be mentioned that the project will be developed on an existing route. This alternative implies a smaller intervention in the territorial structure, minimizing the effects on the population and the environmental alterations. The final embankment was designed as a widening of the existing one to reduce soil movements and maintain the existing road zone.

d. Mitigation measures
The Mitigation Measures comprise supervision and control activities in compliance with the existing environmental regulation. The practices considered include, among others: frequent water sprinkling to abate dust and an adequate management of the product of the pavement demolition. The bidding documents include environmental specifications for the construction stage which contemplate the Environmental Impact Study that was carried out. An environmental management plan will be prepared before the start of the works, contemplating mitigation measures in compliance with the existing environmental regulations, fostering the use of the most appropriate construction technologies.

e. Approvals
The Environmental Impact Study was analyzed by the Environmental Unit of the Provincial Road Directorate, which raised no objections, and by the State Secretariat of Environment and Sustainable Development, where it is pending approval.
PUBLIC CONSULTATION: A methodology has been developed to conduct public consultations and these will be carried out within the next few months, according to a defined work schedule.

RESETTLEMENT AND EXPROPRIATIONS: 2 plots will be affected and will have to be subject to expropriation proceedings.

PROGRESS:
Draft Project: Under review.
Bidding Documents: Under review.

CONTRACTORS:
Draft Project and Bidding Documents: Consultants Parsons Brinckerhoff - Iatasa Ingenieros Consultores - Atec Ingenieros Consultores S.A. - Ing. Correro Consultora S.A.
Executive Project: The Constructor is responsible for the executive design.

DESIGN APPROVAL: Provincial Roads Directorate.

WORKS INSPECTION: Provincial Roads Directorate.
PROJECT: Northern access to San Lorenzo for heavy traffic. Section: Extension of Provincial Road No. 10 between National Road No. 11 – Díaz Vélez Street and Bv. Mitre street.

Name as per TOR of the consulting firm retained by the Secretariat of Transport: Provincial Road No. 10 between National Road No. 11 and Díaz Vélez. Díaz Vélez, Gral. Mosconi and Bv. Mitre street.


JUSTIFICATION: The main purpose is to provide heavy-weight traffic with a fast and safe access to the port facilities and the industrial plants located in the northern area of San Lorenzo. At the same time, the flow of traffic towards these arteries will significantly relieve the adjacent stretches of National Road No. 11.

DESCRIPTION: These works call for the paving of the following streets: Provincial Road No. 10 from National Road No. 11 to Díaz Vélez street, Díaz Vélez street up to Bv. Mitre and Bv. Mitre from Díaz Vélez street up to Gral. López street located in the northern area of San Lorenzo, Province of Santa Fe. The structural profile to be used will consist in a 7.30 meter carriageway of simple concrete, with a soil-cement base and a lime-improved subgrade, and with an asphaltic concrete paved shoulder. The existing width of the stretches of Díaz Vélez and Bv. Mitre streets will be maintained and a continuous emerging curb of 0.15 m height will be constructed. In addition, the works include the construction of drains, fencing, a railroad level crossing and gas pipe protections.

HYDRAULIC DESIGN: Based on the proximity to the San Lorenzo Creek, the drains from these works will discharge into the stream. In the extension of Provincial Road No. 10, from west to east, the work extends along the banks of the San Lorenzo Creek. The model profile to be used includes a ditch on the right side of the road, which will discharge waters into the referred creek by means of transversal culverts. On the left side, the road will drain superficially to the same stream. On Díaz Vélez and Bv. Mitre, the drainage of the carriageways will be superficial, and will consist in a comprehensive ditch curb which will discharge water into transversal ditches to be finally captured by the San Lorenzo Creek.

LENGTH: The total length of the works covers 2,340 meters.

EXECUTION SCHEDULE: A period of twelve (12) calendar months has been established for the full completion of the works.

OFFICIAL BUDGET: For the full performance of the works an official budget of $ 5,770,000 is available.

ENVIRONMENTAL IMPACT STUDIES: The Bidding Documents for these works consider environmental specifications to be contemplated during the construction stage.

a. Diagnostic
The host environment of the work is a flat area close to the San Lorenzo creek, crossed by various superficial drains from the city of San Lorenzo. There is no presence of native tree species in the zone.
b. Impact
The work, which involve access ways for heavy traffic, is the alternative that more efficiently improves the flow of heavy traffic through the northern access to the city of San Lorenzo, thus avoiding the circulation of trucks in some stretches of National Road No. 11 and in the more consolidated urban areas, especially during the periods when the demand for grain transportation to the port terminals is high. The construction of this work will have a positive impact thanks to the reduction of traffic accidents and the improvement of the articulation of the on site networks. Due to the pavement of existing streets, the superficial drainage system will be improved, including the reconstruction of many existing drains, and the movements of the population near the worksite will be facilitated. As a comparatively relevant negative impact we can mention is the change of the area’s landscape as a result of the construction of the embankment planned under the project. In this sense, soil will be required for the preparation of the structural package, generating an impact on the borrow areas, which will be located in a rural region. Negative impacts of the works, of a temporary duration and concentrated location, are identified during the construction stage. Such impacts relate to changes in air quality, the level of noise, and linked to the installation and operation of the worksite, warehouse, the asphalt plant and other activities which are typical of the construction stage. In turn, access to the properties located on the sides of the road by their dwellers will become more difficult due to the temporary presence of a worksite.

c. Mitigation measures
The Mitigation Measures comprise supervision and control activities in compliance with the existing environmental regulation. The practices considered include, among others: frequent water sprinkling to abate dust, actions related to the activities in the borrow areas; furthermore, in order to cause the slightest possible landscape impact, the disposal and location of surplus soil will be subject to certain conditions, so as to ensure they adapt to the lay of the land and prevent the risk of erosion. Environmental restoration measures are also planned with respect to the borrow areas. An environmental management plan will be prepared before the start of the works, contemplating mitigation measures in compliance with the existing environmental regulations.

d. Alternatives
As for the analysis of alternatives, other work alternatives were rejected on the grounds that they involved comparative inefficiencies with regard to the road design, with a view to maximizing the flow of traffic under optimal road safety conditions.

e. Approvals
The Environmental Impact Study was analyzed by the Environmental Unit of the Provincial Road Directorate, which raised no objections, and by the State Secretariat of Environment and Sustainable Development, where it is pending approval.

PUBLIC CONSULTATION: A methodology has been developed to conduct public consultations and these will be carried out within the next few months, according to a defined work schedule.

RESETTLEMENT AND EXPROPRIATIONS: 1 plot will be affected, and will have to be subject to an expropriation process.

PROGRESS:
Draft Project: Under review.
Bidding Documents: Under review.
CONTRACTORS:

Draft Project and Bidding Documents: Consultant Parsons Brinckerhoff - Iatasa Ingenieros Consultores - Atec Ingenieros Consultores S.A. - Ing. Cornero Consultora S.A.

Executive Project: The Constructor is responsible for the executive design.

DESIGN APPROVAL: Provincial Roads Directorate.

WORKS INSPECTION: Provincial Roads Directorate.
PROJECT: National Road No. A-012 Conversion of the segment into a high-level unrestricted access highway (autovía) over the Mitre Railroad tracks. Segment: Connection with National Road No. 11 – Connection with AP 01 highway.

Name as per TOR of the consulting firm retained by the Secretariat of Transport: Double-lane carriageway of National Road No. A012 between National Road No. 11 and AP01 highway. Bridge over FCNCA Railroad.


JUSTIFICATION: This sector of the road carries all the heavy traffic from the western area of the region towards the ports and industries located in the northern area of the greater Rosario. Furthermore, the vehicles coming from the north and south and which access the city of San Lorenzo through the Rosario – Santa Fe highway also access this road.

DESCRIPTION: This project modifies National Road No. A-012 in the stretch from National Road No. 11 to AP01 Highway, which currently consists in a one-lane carriageway, 7,30 m wide, to convert it into a highway with two main lanes of 7,30 m width each, with a central simple concrete New Jersey-type raised island, to ensure the safe flow of all the intense traffic. As this sector of the road is densely urbanized, it was absolutely necessary to develop collector streets on both sides of the main carriageway, to serve the properties located in front of both sides of the road, which currently access directly road’s the single lane. Of great importance are the bridges to be built to cross the double track of the NCA Railroad at different levels. Two twin bridges will be constructed consisting in three segments each, to accommodate the main carriageways. The central stretch will pass over the track area almost entirely, and the two outer stretches will pass over the carriageways linking the collector streets on both sides, North and South, from the main central carriageways. The construction of the main carriageways is projected to be made using 0.25 m thick simple concrete, 7.30 m wide, while the collector streets will be made of simple concrete with comprehensive curbs. Furthermore, the works include the construction of a drainage system for the carriageways, with reinforced concrete pipes and a catch-basin with cast iron grids, horizontal and vertical signage of the carriageways and comprehensive lighting of the works.

LENGTH: The length of the works covers 1,600 m.

EXECUTION SCHEDULE: For the full completion of the works a period of eighteen (18) calendar months has been established.

OFFICIAL BUDGET: The official budget for the works amounts to $33,350,000.

ENVIRONMENTAL IMPACT STUDIES: The works contemplate no Environmental Impact Studies; however, the Bidding Documents include some sections considering the environmental requirements during the construction stage of the works due to the low complexity of the proposed sub-project.

PUBLIC CONSULTATION: A methodology has been developed to conduct public consultations and these will be carried out within the next few months, according to a defined work schedule.

RESETTLEMENT AND EXPROPRIATIONS: No expropriations are required.
PROGRESS:
Executive Project: completed.
Bidding Documents: completed.

CONTRACTORS:
Executive Project: Provincial Roads Directorate of Santa Fe.
Bidding Documents: Provincial Roads Directorate.

DESIGN APPROVAL: Provincial Roads Directorate.

WORKS INSPECTION: Provincial Roads Directorate.
PROJECT: National Road No. A012. Segment from AP01 – tracks of the FCNCA Railroad to Córdoba.

Name as per TOR of the consulting firm retained by the Secretariat of Transport: Double-lane carriageway of National Road No. A012 between National Road AP01 and National Road No. 9 West. Intersection of National Road A012 and Camino a la Cremería.


JUSTIFICATION: The main purpose of this improvement in the existing layout consists in providing these roads with an adequate capacity to accommodate the existing traffic, especially with respect to heavy traffic, which flows from the country’s agricultural production areas to the ports and industries in the Greater Rosario. In addition to this, it should be noted that this road acts as a ring for all the traffic circulating in one of the most important regions of the country.

DESCRIPTION: These works consist in the construction of a double-lane carriageway on National Road No. A012, from the junction with the F.C.N.C.A. Railroad up to the intersection with the Rosario - Santa Fe Highway. Concurrently with the double-lane carriageway of National Road No. A012, the following bridges will be constructed: over the Belgrano Railroad, intersection with National Road No. 34 at a different level, intersection with Camino de la Cremería at a different level (already built and completed by the Provincial Roads Directorate of the Province of Santa Fe) and over the Rosario – Santa Fe Highway.

The model profile to be used will be as follows:
- National Road No. A012 in rural areas: double-lane carriageway of 7.30 m width, made of asphaltic concrete with a central traffic island of 1.60 m; inner shoulders of 0.50 m and outer shoulders of 3.00 m; the carriageway will be paved in 2.50 m with asphaltic concrete. The central island includes 0.60 m of New Jersey-type guard rails.
- National Road No. A012 in the urban area: double-lane carriageway, 7.30 m wide, made of asphaltic concrete with a central traffic island of 1.60 m, concrete curbs and outer shoulders of 3.00 m; the carriageway will be paved in 2.50 m with asphaltic concrete.
- The concrete pavement will be 5.00 m wide in the loops and link branches, with asphaltic concrete shoulders 1.00 m wide; the carriageway will be paved in 0.50 m on the inside and 2.00 m on the outside, only paved in 1.50 m.

The works also includes the performance of the following tasks: drains, horizontal and vertical signage on posts and brackets and lighting. National Road No. A012 was undertaken with a multiple-lane approach, so as to cause the slightest possible problems to the properties located on the front of the road. There is no plan for the installation of New Jersey-type guard rails; however, the plan contemplates the maintenance of a central island interrupted at the intersection with the streets, thus allowing for access to the highway in both directions.

LENGTH: The total length of the works covers approximately 21,950 m.

EXECUTION SCHEDULE: Completion of all the works has been planned within a period of twenty-four (24) calendar months.

ESTUDIOS DE IMPACTO AMBIENTAL:

a. Diagnostic
The work is located in the Wet Pampas region, a region with a temperate, sub humid-humid climate and average annual rainfalls of 1000 mm concentrated in the summer-autumn cycle, without water- or wind-based erosion processes. There are no relevant fauna communities, or native forests or woods in the zone, although there are some planted forests in some sectors. There are no native tree species in the zone, or known archeological sites. The work’s host environment is a flat zone that is partially rural, but with industrial and residential properties gradually increasing on the sides of the road. Superficial drainage will be made through ditches, and the water flows will be channeled through the perpendicular roads towards existing canals, with slopes designed to control erosion.

b. Impacts
The widening of the carriageway for each traffic direction will improve the quality of circulation and provide for safer overtaking. The construction of an unleveled crossing of the tracks of the Belgrano Railroad, exchangers at unsafe intersections of National Road No. 34 and the Camino de la Cremeria, a new bridge over the Rosario-Santa Fe Highway, and the central barrier separating traffic traveling in opposite directions, will increase safety by eliminating maneuvers at level crossings. The presence of the central barrier will call for the construction of collector roads at an early stage, in order to facilitate access to the adjoining properties. The most relevant negative impacts will occur temporarily during the construction of the work. These will relate to difficulties to access the property fronting the road, frequent and unavoidable congestions caused by the construction work in a road whose only alternative, the Rosario Ring Avenue (Av. de Circunvalación) also has congestion problems, and by the transitory presence of a worksite. The asphalt will be manufactured outside the urban zone. There will also be a permanent negative impact by borrowing soil to build the expansion of the current embankment, and for the construction of bridges, branches and exchanger loops; for that reason, it will be located in a rural area, and its environmental restoration will be fostered by colonizing with species and smoothing the cut slopes. It should be mentioned that the project will be developed on an existing route.

c. Alternatives
This alternative implies a smaller intervention in the territorial structure, minimizing the effects on the population and environmental alterations. The final embankment was designed as a widening of the existing one, to reduce soil movements and the road zone expansion, except in the variant to the town of Ricardone, where a new road will be designed.

d. Mitigation measures
The Mitigation Measures comprise supervision and control activities in compliance with the existing environmental regulation. The practices considered include, among others: water sprinkling with the required frequency to abate dust, measurement of noise levels at the work fronts, construction of passage drains to avoid interference with the normal water runoff, limiting soil movements and cleaning to the minimum essential width. The bidding documents include environmental specifications for the construction stage which contemplate the Environmental Impact Study that was carried out. An environmental management plan will be prepared before the start of the works, contemplating mitigation measures in compliance with the existing environmental regulations, fostering the use of the most appropriate construction technologies.

e. Approvals
The Environmental Impact Study was analyzed by the Environmental Unit of the Provincial Road Directorate, which raised no objections, and by the State Secretariat of Environment and Sustainable Development, where it is pending approval.
PUBLIC CONSULTATION: A methodology has been developed to conduct public consultations and these will be carried out within the next few months, according to a defined work schedule.

RESETTLEMENT AND EXPROPRIATIONS: The relocation of wire fences is planned for the widening of the road zone, in order to provide space to build collector roads for access to properties fronting on the road. There will also be a need to acquire lands for the northern alternative to access the locality of Ricardone, which must be designed, for the construction of exchangers with National Road No. 34 and with the loops and branches of the Camino de la Cremería. Thus, it is estimated that approximately 109 fronting neighbors will be affected.

OFFICIAL BUDGET: The amount of the works is approximately $99,790,000 as of July, 2007.

ENVIRONMENTAL IMPACT STUDIES: The works contemplate Environmental Impact Studies and the Bidding Documents include some sections considering the environmental requirements during the construction stage of the works.

PROGRESS: 
Draft Project: Under review. 
Bidding Documents: Under review.

CONTRACTORS: 
Draft Project and Bidding Documents: Consultants Parsons Brinckerhoff - Iatasa Ingenieros Consultores - Atec Ingenieros Consultores S.A. - Ing. Cornero Consultora S.A. 
Executive Project: The Constructor is responsible for the executive design.

DESIGN APPROVAL: National Roads Directorate.

WORKS INSPECTION: Provincial Roads Directorate.
PROJECT: National Road No. 11. Stretch: Oroño street (San Lorenzo) – Provincial Road No. 91.

Name as per TOR of the consulting firm retained by the Secretariat of Transport: Intersection of National Road No. 11 with Provincial Road No. 10. Intersection of National Road No. 11 with Provincial Road No. 91. Double-lane carriageway of National Road No. 11 between San Lorenzo and Provincial Road No. 91. Expansion of the width of the Bridge over the Carcarañá River on National Road No. 11.


JUSTIFICATION: The purpose of the improvements in the existing layout, or repaving, is to improve the conditions for the circulation of heavy traffic in the access streets to the ports and industries located in the area and to provide such streets with a capacity in line with the requirements of circulating traffic.

DESCRIPTION: This Draft Project includes the design of a double-lane carriageway for National Road No. 11 on the above stretch, a roundabout-type level crossing in the intersection with Provincial Road No. 10, a bridge over the San Lorenzo Creek, improvements in the canalized intersections with Av. Córdoba, Access to Aldao and América Street, a bridge over the new railroad NCA Railroad route, a bridge over the existing Belgrano Railroad and the Projected Railroad Ring Corridor, a bridge over the Carcarañá River and a level crossing with Provincial Road No. 91 at the end of this segment.

The model profile to be used will be as follows:

- National Road No. 11 in rural areas: double-lane carriageway 7.30 m wide, made of asphaltic concrete with a central traffic island of 1.60 m, inner shoulders of 0.50 m and outer shoulders of 3.00 m; the carriageway will be paved in 2.50 m. The central traffic island includes a New Jersey-type guard rail.

- National Road No. 11 in the urban and suburban area: double-lane carriageway 7.00 m wide with a central traffic island of 1.60 m and concrete curbs and outer shoulders of 3.00 m, paved in 2.50 m.

- At the intersections, both canalized and roundabout, the carriageways will be of variable widths and have concrete pavement, with outer shoulders 2.50 m wide made of asphaltic concrete and comprehensive emerging curbs 0.15 m high on the inner side.

The draft project also includes the performance of the following works: drains, horizontal and vertical signage on posts and brackets, and relocation of services (if required), and lighting.

LENGTH: The total length of these works covers 12,600 m.

EXECUTION SCHEDULE: Completion of all the works has been planned within a period of twenty-four (24) calendar months.

OFFICIAL BUDGET: The official budget for the works amounts to $66,990,000.

ENVIRONMENTAL IMPACT STUDIES: The works contemplate Environmental Impact Studies and the Bidding Documents include some sections considering the environmental requirements during the construction stage of the works.

a. Diagnostic
The work is located in the Wet Pampas region, a region with a temperate, sub humid-humid climate and average annual rainfalls of 1000 mm concentrated in the summer-autumn cycle, without water- or wind-based erosion processes. The work’s host environment of this work is a partially rural area, and it crosses urban areas of San Lorenzo, Puerto Gral. San Martín, Timbues and La Ribera. There are no native tree species in the zone, or known archeological sites. There are no natural areas or protected animal species -declared or under study-, or endangered species. Parallel to the work’s layout there are historical and cultural monuments, a railroad station dating back to the end of the 19th Century belonging to the Belgrano Railroad, and a religious monument at the roundabout which links to Provincial Road No. 91. The existing layout is located in a flat land zone which is crossed by the San Lorenzo creek and the Carcarañá river. Superficial drainage will be through ditches towards existing canals and water courses, and the runoff clearance will be enhanced at the San Lorenzo creek by means of the construction of a new bridge with a 40-meter clearance. A new bridge will be built over the Carcarañá River, without intermediate pilings, in order to prevent damaging erosions on the riverbed. There are low and medium voltage lines running parallel to the road. There are also high voltage networks, as well as oil and gas pipelines and multi-purpose pipelines near the operating area, especially in the southern sector, where there is a significant industrial activity.

b. Impact

The construction of this work will have a positive impact associated with the employment of local labor during the construction stage, the doubling of the carriageway and the construction of unlevelled crossings; moreover, the improvements of the intersections with Córdoba, América, Brigadier López and Mansilla Streets will reduce congestion, provide for the reduction of traffic accidents and allow for a more comfortable drive as a result of the enhancement of the carriageway capacity, where traffic nowadays exceeds the actual capacity. This work is essential to provide for unlevelled crossings over the narrow and broad gauge tracks of the San Lorenzo-Cerana alternative and the Railroad Ring Corridor which will enter through Perón Avenue. The most relevant negative impacts will occur temporarily during the construction of the work. These will relate to difficulties to access the property fronting the road, frequent and unavoidable congestions caused by the construction work in a road that is already congested and with few alternatives, and the transitory presence of a worksite. The asphalt will be manufactured outside the area where the work will be located. There will also be a negative permanent impact by borrowing soil to build the expansion of the current embankment, and for that reason it will be located in the rural area, and its environmental restoration will be fostered by colonizing with species and smoothing the cut slopes. It should be mentioned that the project will be developed on an existing road.

c. Alternatives

This alternative involves a smaller intervention on the territorial structure, thus minimizing environmental alterations. The road zone width is the minimum compatible with the installation of all road elements (carriageway, shoulder lanes, drains, among others) and the safety of future traffic circulation. Collector roads will be constructed to provide access circuits for fronting properties located near Perón Ave.

d. Mitigation measures

The Mitigation Measures comprise supervision and control activities in compliance with the existing environmental regulation. The practices considered include, among others: frequent water sprinkling to abate dust and ensure safety in the work zone. As for the analysis of alternatives, it indicates that no environmental conditions were detected requiring the planning of significant variations or alternatives for this project. The bidding documents include
environmental specifications for the construction stage which contemplate the Environmental Impact Study that was carried out. An environmental management plan will be prepared before the start of the works, contemplating mitigation measures in compliance with the existing environmental regulations, fostering the use of the most appropriate construction technologies.

e. Approvals
The Environmental Impact Study was analyzed by the Environmental Unit of the Provincial Road Directorate, which raised no objections, and by the State Secretariat of Environment and Sustainable Development, where it is pending approval.

PUBLIC CONSULTATION: A methodology has been developed to conduct public consultations and these will be carried out within the next few months, according to a defined work schedule.

RESETTLEMENT AND EXPROPRIATIONS: 25 plots will be affected and will have to be subject to an expropriation process.

PROGRESS:
Draft Project: Under review.
Bidding Documents: Under review.

CONTRACTORS:
Draft Project and Bidding Documents: Consultants Parsons Brinckerhoff - Iatasa Ingenieros Consultores - Atec Ingenieros Consultores S.A. - Ing. Cornero Consultora S.A.
Executive Project: The Constructor is responsible for the executive design.

DESIGN APPROVAL: National Roads Directorate.

WORKS INSPECTION: Provincial Roads Directorate.

Name as per TOR of the consulting firm retained by the Secretariat of Transport: Bridge on Provincial Road No. 10 over the San Lorenzo Creek. New circuit from the western area of Ricardone for access to the port terminals of Pto. Gral. San Martin.


JUSTIFICATION: The main purpose of these works is to provide the large volume of heavy traffic coming from National Road A012 with a safe and fast access to the port terminals and industrial plants located in the northern area of Puerto General San Martin and Timbues. Simultaneously, the reconstruction of a bridge over the San Lorenzo Creek is planned; this bridge is currently closed as a result of the weather conditions of the recent months.

DESCRIPTION: The works will be performed in the area of Provincial Road No. 10 (not paved) from the Camino de la Cremeria for approximately 3 km northeast. From station 3+200, the layout of the road changes direction towards the north, parallel to the Railroad Ring Corridor for the following 2 Km.; at this spot, the road starts to diverge until crossing these tracks perpendicularly, at a different level. The road then continues in the north-east direction, and crosses the Rosario – Santa Fe Highway at a different level, by means of an existing bridge. At this stretch, the road also crosses the switching yard of the Belgrano Railroad at a different level in Timbues and National Road No. 11. Further ahead, a roundabout has been planned to allow for the interchange of traffic with the Brigadier Lopez Street and through this street with National Road No. 11. Finally, the layout of the road changes direction towards the east and continues through the road area of Antartica street. The limit of this project is Vucetich Street. For this carriageway a width of 7.30 meters has been planned, with 3.00 m shoulder; a structural package has been designed consisting of simple concrete pavement, with a soil-sand-cement base and a lime-improved subgrade. The bridge over the San Lorenzo Creek has two 20.00 meter clearances, the bridge projected for the Railroad Ring Corridor has a single clearance of 30.00 meters, while the bridge to be constructed over the (projected) switching yard of the Belgrano Railroad in Timbues and Provincial Road No. 11 is composed of 3 clearances that are 30.00 meters each. Furthermore, these works include the installation of horizontal and vertical signage, the construction of new drains and fences, flexible guard rails, gas pipe protection, conditioning and relocation of electricity lines, and forestation.

LENGTH: The total length of the works covers 17,000 meters.

EXECUTION SCHEDULE: For the completion of all the works a period of eighteen (18) calendar months has been established.

OFFICIAL BUDGET: For the full performance of the works an official budget of $39,763,083 is available, according to prices as of April, 2007.

ENVIRONMENTAL IMPACT STUDIES: The Bidding Documents for these works consider environmental specifications to be contemplated during the construction stage.

a. Diagnostic
The work is located in the Wet Pampas region, a region with a temperate, sub humid-humid climate and average annual rainfalls of 1000 mm concentrated in the summer-autumn cycle, without water- or wind-based erosion processes. In the zone there is no presence of relevant fauna communities, or native forests, although there are some planted species. There are native tree species on the banks of the San Lorenzo Creek. There are no known archeological sites. The work’s host environment is a flat plain, mainly rural, located near the urban areas of Timbues and Puerto Gral. San Martin. Superficial drainage will be through ditches, and water flows will be channeled towards the San Lorenzo Creek, and through perpendicular roads towards existing canals, with slopes designed to control erosion.

b. Impacts
This work will carry all heavy traffic heading from National Road No. A-012 to the industrial plants and port facilities located in Puerto Gral. San Martin and Timbues. Thus, congestion of the Provincial Road No. 10 will be reduced between the AP01 Highway and National Road No. 11, and on said National Road between Timbues and San Lorenzo. A reduction of accidents is expected on these roads, currently affected by congestion above their capacity; besides, vehicle circulation will be improved and sound pollution will decrease. There will also be a significant impact in the area as a result of the modification in vehicle circulation patterns, because new circuits will be in place. The most relevant negative impact will occur in a temporary manner during the construction of the work, creating difficulties for dwellers to gain access to their properties, and by the transitory presence of a worksite. The concrete will be manufactured outside the urban zone. Given that the work involves the construction of three bridges, one over the San Lorenzo creek, another one over the Railroad Ring and the third one over the (projected) switching yard of the Belgrano railroad in Timbues and National Road No. 11, these works will call for the use of soil for the construction of the structural package, thus causing an impact on the borrow areas. Said areas will be located in a rural zone, the environmental restoration of which will be fostered by colonizing with species and smoothing the cut slopes.

c. Alternatives
It should be mentioned that the Project will be developed using existing streets and will also affect private lands for the new layout. This alternative involves a smaller intervention on the territorial structure, thus minimizing environmental alterations. The road zone width is the minimum compatible with the installation of all road elements (carriageway, shoulder lanes, drains, among others) and the safety of future traffic circulation. As for the analysis of alternatives, it indicated that no environmental conditions were identified requiring the planning of significant variations or alternatives for this project

c. Mitigation
The Mitigation Measures, in general, comprise supervision and control activities in compliance with the existing environmental regulation. In summary, regarding the comparatively relevant negative impacts mentioned above, for each case a series of measures are contemplated conducive to fostering environmental quality and safety at the worksite. The practices considered include, among others: water sprinkling with the required frequency to abate dust, safety on the work zone, measurement of noise levels at the work fronts. Regarding water resources: all required measures will have to be adopted to prevent an increase of the risk of flooding due to the presence of temporary facilities, as a result of their incidence in the natural runoff. It should be noted that the works envisage the expansion of pipes and drains, which will contribute to the prevention and mitigation of such effects. The bidding documents include environmental specifications for the construction stage which contemplate the Environmental Impact Study that was carried out. An environmental management plan will be prepared before the start of the
works, contemplating mitigation measures in compliance with the existing environmental regulations, fostering the use of the most appropriate construction technologies.

d. Approvals
The Environmental Impact Study was analyzed by the Environmental Unit of the Provincial Road Directorate, which raised no objections, and by the State Secretariat of Environment and Sustainable Development, where it is pending approval.

PUBLIC CONSULTATION: A methodology has been developed to conduct public consultations and these will be carried out within the next few months, according to a defined work schedule.

RESETTLEMENT AND EXPROPRIATIONS: 36 plots will be affected and will have to be subject to an expropriation process.

PROGRESS:
Draft Project: Under review.
Bidding Documents: Under review.

CONTRACTORS:
Draft Project and Bidding Documents: Consultants Parsons Brinckerhoff - Iatasa Ingenieros Consultores - Atec Ingenieros Consultores S.A. - Ing. Cornero Consultora S.A.
Executive Project: The Constructor is responsible for the executive design.

DESIGN APPROVAL: Provincial Roads Directorate.

WORKS INSPECTION: Provincial Roads Directorate.

Name as per TOR of the consulting firm retained by the Secretariat of Transport: Intersection of National Road No. A 012 with National Road No. 9-West and Bridge over the NCA Railroad.


JUSTIFICATION: The purpose of these works in the existing layout, namely: the repaving and separation of the circulation at different levels, is to improve the safety conditions for the circulation of light and heavy traffic flowing towards the ports and industries in the area and headed for the Metropolitan Area of Rosario.

DESCRIPTION: This draft project includes the design of an intersection at a different level, thus elevating National Road No. 9 over National Road No. A-012, where the left turns are solved by means of three loops at different levels and four level branches. The fourth loop of the intersection at different level is planned for a future stage, since it provides for the least important turn over National Road No. 9. The geometric design contemplates the duplication of the carriageway on both roads, with a central traffic island of 1.60 m including 0.60 m of New Jersey-type guard rail and 0.50 m of inner shoulder and streets 7.30 m wide and outer shoulders of 3.00m. In addition, two Bridges will be constructed, one on National Road No. 9 to cross over National Road No. A-012, with two 22 m clearances and another one over the tracks of the NCA Railroad to Córdoba on the National Road No. A-012, with three clearances of 22 m each. Besides, the lighting and signage of all the works has been projected. The planned carriageway for both roads will be of asphaltic concrete 7.30 m wide in each direction, with inner shoulders of 0.50 m and outer shoulders of 3.00 m, paved in 2.50m.

LENGTH: The length of the works on National Road No. A-012 is 1,612m and the length of the works on National Road No. 9 is 1,600 m.

EXECUTION SCHEDULE: Completion of all the works has been planned within a period of eighteen (18) calendar months.

OFFICIAL BUDGET: These works amount to $32,620,000, as of May, 2006.

ENVIRONMENTAL IMPACT STUDIES: The works contemplate Environmental Impact Studies and the Bidding Documents include some sections considering the environmental requirements during the construction stage of the works.

a.Diagnostic
The work is located in the Wet Pampas region, a region with a temperate, sub humid-humid climate and average annual rainfalls of 1000 mm concentrated in the summer-autumn cycle, without water- or wind-based erosion processes. The zone does not comprise natural areas or protected animal species, and there are no zones of an exceptional character in the proximity of the works to be built. There are no historical or cultural monuments or heritage sites. The work’s host environment is a flat, urbanized zone, with industrial, commercial and residential properties on the sides of the road. Superficial drainage will be through ditches, and the water flows will be channeled through the perpendicular roads towards the existing canals, with slopes designed to control erosion. The work will be located in an intermediate zone between the basins of the Ludueña creek on the south, the San Lorenzo creek and tributaries of the Ibarluceoa on the north. There are no permanent surface water courses, nor artificial water storage areas.
b. Impacts
The widening of the carriageway for each traffic direction, together with the use of different levels at the intersections with National Road No. 9 and the trunk track of the NCA Railroad in the direction of Córdoba, will improve the quality of circulation at a junction where many accidents occur. National Road No. A-012 is a road where there is a predominance of increasing heavy traffic from March to June every year. The short distance of about 660 m between National Road No. 9 and the tracks of the NCA railroad led planners to design an unleveled crossing contemplating the separation of traffic traveling on National Road No. A-012 from local traffic, while allowing for access by users of the properties fronting the carriageway, maintaining the road communication between the population located on both sides of the road, and capable of preserving local use under any weather condition. The construction of a central barrier separating traffic traveling in opposite directions will increase safety by eliminating maneuvers between traffic streams flowing in opposite directions. The construction of collector roads will facilitate the movement of the owners of properties fronting the road from one side to the other of the locality of Roldán. The construction of this work will have a positive impact thanks to the reduction of traffic accidents, of sound pollution and the facilitation of a safer communication between both sides of the road. The most relevant negative impact will occur in a temporary manner during the construction of the work, creating difficulties for dwellers to gain access to their properties, and the level of noise generated will be higher. Frequent and unavoidable congestions will be caused by the construction work in a road that is already congested and has few alternatives, and by the transitory presence of a worksite. The concrete and asphalt will be manufactured outside the area of the urban zone. There will also be a permanent negative impact by borrowing soil to expand the width the current embankment, and for the construction of accesses to bridges, branches and exchanger loops; for that reason, it will be located in a rural area, and its environmental restoration will be fostered by colonizing with species and smoothing the cut slopes. It should be mentioned that the project will be developed on an existing layout. The lands required for the construction of the exchanger between National Road No. A-012 and National Road No. 9 will not be significantly modified by the modification of the geometric design. The final embankment was designed as a widening work with respect to the existing one, to reduce soil movements and the required expansion of the road zone, except in the alternative to the town of Ricardone, where a new road will be projected.

c. Alternatives
Different alternatives were comparatively assessed by means of a specially designed matrix, constituted by the interrelation and weighing of the project's actions and the environmental factors considered as most significant to make the subsequent choice; as a result, the proposed work design was selected as optimal.

d. Mitigation measures
The Mitigation Measures comprise supervision and control activities in compliance with the existing environmental regulation. In summary, regarding the comparatively relevant negative impacts mentioned above, for each case a series of measures are contemplated conducive to fostering environmental quality and safety at the worksite. The practices considered include, among others: water sprinkling with the required frequency to abate dust, measurement of noise levels at the work fronts, construction of passage drains to avoid interference with the normal water runoff, limiting soil movements and cleaning to the minimum essential width. As for the analysis of alternatives, these were considered in terms of their spatial location and the environmental, social and territorial transformation and/or alteration processes generated. The bidding documents include environmental specifications for the construction stage which contemplate the Environmental Impact Study that was carried out. An environmental management plan will be prepared before the start of the works, contemplating mitigation
measures in compliance with the existing environmental regulations, fostering the use of the most appropriate construction technologies.

d. Approvals
The Environmental Impact Study was analyzed by the Environmental Unit of the Provincial Road Directorate, which raised no objections, and by the State Secretariat of Environment and Sustainable Development, where it is pending approval.

PUBLIC CONSULTATION: A methodology has been developed to conduct public consultations and these will be carried out within the next few months, according to a defined work schedule.

RESETTLEMENT AND EXPROPRIATIONS: 120 plots will be affected and will have to be subject to an expropriation process.

PROGRESS:
Draft Project: Under review.
Bidding Documents: Under review.

CONTRACTORS:
Draft Project and Bidding Documents: Consultants Parsons Brinckerhoff - Iatasa Ingenieros Consultores - Atec Ingenieros Consultores S.A. - Ing. Cornero Consultora S.A.
Executive Project: The Constructor is responsible for the executive design.

DESIGN APPROVAL: National Roads Directorate.

WORKS INSPECTION: Provincial Roads Directorate.
PROJECT: Alternative to National Road No. 33 between Pérez and Rosario. Segment: Km 842,670 - Av. Uriburu (Rosario).

Name as per TOR of the consulting firm retained by the Secretariat of Transport: Alternative National Road No. 33 in Pérez, connection with Av. Uriburu.


JUSTIFICATION: The main purpose for these works consists in the construction of an alternative to a segment of the current National Road No. 33, where Pérez is located. This new option implies clear benefits as compared to the referred road, since the level railroad crossing is avoided at the start of the segment and it does not cross any urban areas, thus enabling a faster and safer circulation towards Rosario and the port areas through the Ring Avenue (Avenida de Circunvalación, A008).

DESCRIPTION: These works involve the construction of a new design for National Road No. 33 between Pérez, at the intersection with the NCA Railroad and the Rosario district limit. The end of the works will consist in the extension of the Avenida Uriburu in Rosario, and from where there is access to the double-lane carriageway of Avenida Circunvalación de Rosario (A008). The design to be built is still under study, but it should be noted that this new alternative for traffic will start at the referred place, known as "the death curve", and will continue towards the east, thus avoiding having to cross over the NCA Railroad tracks and the urban area of the city of Pérez. The works involve rural areas mainly, and contemplate the construction of a two-lane bidirectional carriageway between the start and Provincial Road No. 14, and two separate carriageways between Provincial Road No. 14 and Av. Uriburu. The construction of an interchange is planned at the intersection of Provincial Road No. 14, at a different level and with an elevated crossing of the new bypass. This project includes lighting for the entire stretch and a bridge with a 30.00 meter clearance. Similarly, at the crossing with the FC:ALL Railroad tracks, a bridge will be constructed with a single 30.00 meter clearance. An access road to Pérez is also contemplated; such access will use the current level crossing with the NCA Railroad by means of the design of a roundabout with lighting. Additionally, the works include the construction of drains, fences, installation of guard rails, horizontal and vertical signage, lighting, mechanically leveled earth walls, among other tasks.

HYDRAULIC DESIGN: The executive project will include hydrological studies and the corresponding hydraulic design.

LENGTH: The total length of the works covers 6,600 meters.

EXECUTION SCHEDULE: For the completion of all the works a period of eighteen (18) calendar months has been established.

OFFICIAL BUDGET: For the full performance of the works an official budget of $29,100,000.00 is available, according to June, 2006 prices.

ENVIRONMENTAL IMPACT STUDIES: The Bidding Documents for these works shall consider environmental specifications to be contemplated during the construction stage.

a. Diagnostic
The work is located in the Wet Pampas region, a region with a temperate, sub humid-humid climate and average annual rainfalls of 1000 mm concentrated in the summer-autumn cycle, without water- or wind-based erosion processes. The work’s host environment is a partially rural, flat zone; however, there is a gradually increasing presence of industrial and residential properties on the sides of the road. There are no native tree species in the zone, or known archeological sites. The existing layout is located in a flat land zone, which is not crossed by any permanent water course, and is slightly slanted in the western sector towards the Ludueña creek, with a gentle slope varying between 4 x 10^-4 and 2.3 x 10^-3 m/m, with low zones on which surface water accumulates. Superficial drainage will be through ditches towards the Santiago del Estero, Eastern and Uriburu Avenue canals.

b. Impacts
This work will improve the safety and the quality of traffic circulation, as a result of the increased carriageway capacity, the elimination of maneuvers which involve crossing from one carriageway to the one in the opposite direction, and by the elimination of railroad level crossings. The most relevant negative impact will occur in a temporary manner during the construction of the work, creating difficulties for dwellers to gain access to their properties, and will be caused by the transitory presence of a worksite. The concrete and asphalt will be manufactured outside the urban zone. There will also be a negative permanent impact by borrowing soil to build the expansion of the current embankment, and for that reason it will be located in the rural area, and its environmental restoration will be fostered by colonizing with species and smoothing the cut slopes. Three possible design alternatives are being analyzed by studying the effects measured on the basis of the number of plots, dwellings and people involved, until the most suitable layout is identified.

c. Mitigation measures
The Mitigation Measures comprise supervision and control activities in compliance with the existing environmental regulation. The bidding documents include environmental specifications for the construction stage which contemplate the Environmental Impact Study that was carried out. An environmental management plan will be prepared before the start of the works, contemplating mitigation measures in compliance with the existing environmental regulations, fostering the use of the most appropriate construction technologies.

d. Approvals
The Environmental Impact Study was analyzed by the Environmental Unit of the Provincial Road Directorate, which raised no objections, and by the State Secretariat of Environment and Sustainable Development, where it is pending approval.

PUBLIC CONSULTATION: A methodology has been developed to conduct public consultations and these will be carried out within the next few months, according to a defined work schedule.

RESETTLEMENT AND EXPROPRIATIONS: The design will be constructed using plots which are currently used for roads. Thus, it is estimated that approximately 45 neighbors will be affected on the sides of the road.
**PROGRESS:**
Executive Project: Not commenced.
Bidding Process: Not commenced.

**CONTRACTORS:**
Executive Project: Under procurement process (Consultora INCOCIV).
Bidding Documents: Under procurement process (Consultora INCOCIV).

**DESIGN APPROVAL:** Provincial Roads Directorate / DNV (National Roads Directorate).

**WORKS INSPECTION:** Provincial Roads Directorate.

**REMARKS:** The executive project has been subject to a bidding process called by the Provincial Roads Directorate. The project is currently under procurement with Incociv S.A.

Name as per TOR of the consulting firm retained by the Secretariat of Transport: Double-lane carriageway of Provincial Road No. 21 between V. G. Gálvez and Arroyo Seco. Intersection of Provincial Road No. 21 and access to Port Terminals of Pta. Alvear, Dreyfus S.R.L., Toepffer and Shell.


JUSTIFICATION: The main purpose of this improvement in the existing layout consists in the construction of a carriageway with sufficient capacity to accommodate the considerable volume of traffic, in particular, heavy traffic transporting cargo between the different access ways to the city and neighboring ports. Currently, the capacity of the referred artery is exceeded during a significant part of the year, because the vast majority of the port terminals and industrial plants of the above districts are located on this road.

DESCRIPTION: This work includes the extension of the existing carriageway of Provincial Road No. 21, between Rio Paraná Street (Villa Gobernador Gálvez) and Arroyo Seco, constructing two carriageways 7.30 m wide, with opposite directions. Two bridges will be constructed in the layout of the road, at the crossings over the Frias and Seco creeks, next to the existing bridges, so that one will be used for one traffic direction and, consequently, access to these bridges will be through separate carriageways and a brand new one will have to be constructed.

The geometric characteristics of the cross section of the carriageway are as follows:

- Width of the paved carriageway: 2 x 7.30 m
- Width of the shoulder: 3.00 m
- Width of the paved shoulder: 2.50 m
- Turning lanes on the access to the plants: 3.65 m

The structural design of the new pavement includes an asphaltic layer and base, a soil-sand-cement base, a soil-sand-lime sub-base, a soil-lime sub-base and a lime-improved subgrade. On the existing pavement tasks such as patching, removal of trails by means of milling, crack sealing, and installation of an asphalt rolling layer will be performed. At junctions and roundabouts, a simple concrete layer will be used, with a soil-cement base and a lime-improved subgrade. The bridge to be constructed over the Frias Creek will have a 30.00 meter clearance, while the bridge over the Seco creek will have three 15.00 meter clearances, and in both cases the bridges will be perpendicular to the channel axis. In addition, these works include, among others, the following tasks: horizontal and vertical signage, construction of new drains and fences, concrete New Jersey-type guard rails, conditioning and relocation of electricity lines, protection and relocation of gas pipes, removal and refurbishment of railroad level crossings, lighting, and forestation.
HYDRAULIC DESIGN: The current drainage directions will be maintained, and lateral drains will be reconstructed as required, thus appropriately profiling slopes and ditches. These drain the water lengthwise (in the urban area these will run through pipes) until discharging into channels located crosswise to the road axis and in the Frías and Seco creeks, which will finally discharge the water into the Paraná River. The construction of two new bridges over the referred creeks is planned, with hydraulic sections which are similar to the existing ones, in addition to the interventions (greater width or reconstruction) required in the drains, concurrently with the referred transversal channels.

LENGTH: The total length of the works covers 14,200 meters.

EXECUTION SCHEDULE: For the completion of all the works a period of eighteen (18) calendar months has been established.

OFFICIAL BUDGET: For the full performance of the works an official budget of $52,098,852 is available, according to prices as of May, 2006.

ENVIRONMENTAL IMPACT STUDIES: The Bidding Documents for these works consider environmental specifications to be contemplated during the construction stage.

a. Diagnostic
The work is located in the Wet Pampas region, a region with a temperate, sub humid-humid climate and average annual rainfalls of 1000 mm concentrated in the summer-autumn cycle, without water- or wind-based erosion processes. This work will improve the circulation of traffic as a result of the increased carriageway capacity and the improvement of the intersection in front of port plants which receive high levels of heavy-weight traffic. The consolidation of urban concentrations almost uninterruptedly along the carriageway will make it an interurban avenue. The work's host environment is a flat zone, where superficial water runoff is mainly collected by the Frías creek at station 7+200, by perpendicular canals at stations 9+540 and 14+050 and by the Seco creek. There are no native tree species in the zone or relevant flora communities which might be affected by the project. There are no known archeological sites.

b. Impacts
The construction of this work will have a positive impact associated with the employment of local labor during the construction stage; the doubling of the carriageway will provide for the reduction of traffic accidents and allow for a more comfortable drivability. The most relevant negative impact will occur temporarily during the construction of the work. It will relate to difficulties to access the property fronting the road, frequent and unavoidable congestions caused by the construction work in a road that is already congested and with few alternatives. The asphalt will be manufactured outside the area where the work is to be located. There will also be a negative permanent impact by borrowing soil to build the expansion of the current embankment, and for that reason it will be located in the rural area, and its environmental restoration will be fostered by colonizing with species and smoothing the cut slopes. It should be mentioned that the project will be developed on an existing road.

c. Alternatives
This alternative implies a smaller intervention in the territorial structure, minimizing the effects on the population and environmental alterations. The final embankment was designed as a widening of the existing one to reduce soil movements and minimize the expansion of the existing road zone.

d. Mitigation measures
The Mitigation Measures comprise supervision and control activities in compliance with the existing environmental regulation. The practices considered include, among others: water sprinkling with the required frequency to abate dust, measurement of noise levels at the work fronts, construction of passage drains to avoid interfering with the normal water runoff, design ditches considering the runoff rate, contemplating their self cleaning and erosion of the bottom. The bidding documents include environmental specifications for the construction stage which contemplate the Environmental Impact Study that was carried out. An environmental management plan will be prepared before the start of the works, contemplating mitigation measures in compliance with the existing environmental regulations, fostering the use of the most appropriate construction technologies.

e. Approvals
The Environmental Impact Study was analyzed by the Environmental Unit of the Provincial Road Directorate, which raised no objections, and by the State Secretariat of Environment and Sustainable Development, where it is pending approval.

PUBLIC CONSULTATION: A methodology has been developed to conduct public consultations and these will be carried out within the next few months, according to a defined work schedule.

RESETTLEMENT AND EXPROPRIATIONS: The degree of existing urban development along the entire layout does not allow for the expansion of a narrow-road zone. For that reason, interventions are limited to specific sites at the intersections.

34 plots will be affected and will have to be subject to an expropriation process.

PROGRESS:
Draft Project: Under review.
Bidding Documents: Under review.

CONTRACTORS:
Draft Project and Bidding Documents: Consultants Parsons Brinckerhoff - Iatasa Ingenieros Consultores - Atec Ingenieros Consultores S.A. - Ing. Cornero Consultora S.A.
Executive Project: The Constructor is responsible for the executive design.

DESIGN APPROVAL: Provincial Roads Directorate.

WORKS INSPECTION: Provincial Roads Directorate.

Name as per TOR of the consulting firm retained by the Secretariat of Transport: Canalized intersection at Provincial Road No. 21 and Piedrabuena. Piedrabuena community road, in Alvear. Paved access to Provincial Road No. 25-S, in Alvear. Provincial Road No. 25 - S between Piedrabuena and Paraná street.


JUSTIFICATION: The main purpose of this improvement in the existing layout consists in providing a safe access to the port facilities and industrial plants located in the Alvear area, regardless of the weather conditions, especially with respect to heavy traffic. Similarly, an appropriate access to the referred locality will be constructed from the western area, for all kinds of traffic, as well as a direct link between National Road A012 and Paraná street.

DESCRIPTION: These works contemplate the paving of the following roads:

- VS4: Piedrabuena street, from the intersection with Provincial Road No. 25 S up to the junction with Provincial Road No. 21, at the southern limit of the urban sector of Alvear.
- VS5: Provincial Road No. 25 S, from the intersection with National Road No. A012 up to Paraná street, in Alvear.

The layout of VS5 implies the construction of a concrete carriageway of 7.30 m, in the South-to-North direction, starting at National Road No. A-012, crossing the Rosario – Buenos Aires Highway through an existing bridge, going through a populated sector of the Monteflores locality (where the roads adopts the form of a boulevard), and ending at a level crossing at the junction with Paraná street, on the limit of the Alvear and V.G.Gálvez districts. This road will cross the Railroad Ring Corridor, and therefore, a bridge needs to be built with a single 18.15 m clearance, located perpendicularly to the track axis, by means of precast flakes of reinforced concrete for the vertical facing. VS4 (Piedrabuena street), running from west to east, starts at the roundabout designed for the junction with VS5 and ends at the level crossing designed to intersect Provincial Road No. 21. This stretch runs mainly in the urban area of Alvear, where the carriageway will have comprehensive curbs 8.50 m wide, piped drains, and adjoining bicycle trails next to the section between the railroad tracks and Provincial Road No. 21. The structural package will be made up of a simple concrete carriageway with a soil-cement base and a lime-improved subgrade. In addition, these works include tasks such as horizontal and vertical signage, the construction of humps, catch-basins, drains and fences, installation of metallic guard rails, relocation of electricity lines, reconditioning of railroad level crossings, lighting, and forestation.

LENGTH: This work will be performed throughout approximately 2,700 meters in the layout of the VS5, 2,600 meters in the VS5-Stretch II, and 3,900 meters in the road called VS4 (Piedrabuena street).

EXECUTION SCHEDULE: A period of twelve (12) calendar months has been established for the full completion of the works.

OFFICIAL BUDGET: For the full performance of the works an official budget of $ 23,180,968 is available, according to prices as of February, 2007.
ENVIRONMENTAL IMPACT STUDIES: The Bidding Documents for these works consider environmental specifications to be contemplated during the construction stage.

a. Diagnostic
The work is located in the Wet Pampas region, a region with a temperate, sub humid-humid climate and average annual rainfalls of 1000 mm concentrated in the summer-autumn cycle, without water- or wind-based erosion processes. The zone does not comprise natural areas or protected animal species -declared or under study- or wetlands. There are no historical or cultural monuments or sites. The work project is not crossed by any permanent water course; therefore, superficial drainage will be made by resort to natural depressions in the terrain. This work will partially alleviate congestion of the Buenos Aires-Rosario Highway in the stretch between National Road No.A-012 and National Road No. A-008, and will serve as an alternative for heavy traffic to access the industrial and port area of Villa Gdor. Gálvez. Piedrabuena Street crosses rural and urban areas of Alvear, including a level crossing on the tracks of the NCA railroad, the trunk track of the Retiro-Rosario section and the canalized intersection at Provincial Road No. 21. Provincial Road No. 25-S crosses urban areas in Monte Flores and then rural areas.

b. Impact
The construction of this work will have a positive impact as a result of the reduction of congestion in the Buenos Aires-Rosario Highway thanks to the decrease in the flow of trucks and to the more direct paved access between the town of Alvear and the highway. The most relevant negative impact will occur in a temporary manner during the construction of the work, creating difficulties for dwellers to gain access to their properties, and will be caused by the transitory presence of a worksite. The asphalt will be manufactured outside the area where the work is to be located. There will also be a negative permanent impact by borrowing soil to build the embankment, and for that reason it will be located in a rural area, and its environmental restoration will be fostered by colonizing with species and smoothing the cut slopes.

c. Alternatives
It should be mentioned that the project will be developed on the existing road area. This alternative implies a smaller intervention in the territorial structure, minimizing the effects on the population and environmental alterations. The final embankment was designed to reduce soil movement and to reduce the expansion of the road zone as much as possible while allowing for the installation of all basic road elements (carriageway, shoulder lanes, drains, among others).

d. Mitigation measures
The Mitigation Measures comprise supervision and control activities in compliance with the existing environmental regulation. The practices considered include, among others: water sprinkling with the required frequency to abate dust, measurement of noise levels at the work fronts. Regarding water resources: all required measures will have to be adopted to prevent temporary installations from increasing the risk of flooding as a result of the effect on natural runoff. It should be noted that the works envisage the expansion of pipes and drains, which will contribute to the prevention and mitigation of such effects. The bidding documents include environmental specifications for the construction stage which contemplate the Environmental Impact Study that was carried out. An environmental management plan will be prepared before the start of the works, contemplating mitigation measures in compliance with the existing environmental regulations, fostering the use of the most appropriate construction technologies.
e. Approvals
The Environmental Impact Study was analyzed by the Environmental Unit of the Provincial Road Directorate, which raised no objections, and by the State Secretariat of Environment and Sustainable Development, where it is pending approval.

PUBLIC CONSULTATION: A methodology has been developed to conduct public consultations and these will be carried out within the next few months, according to a defined work schedule.

RESETTLEMENT AND EXPROPRIATIONS: The pavement works require road zone widths which are larger than the existing ones throughout almost the entire length of the project. Therefore, it is estimated that 27 plots will be affected and will have to be subject to an expropriation process.

PROGRESS:
Draft Project: Under review.
Bidding Documents: Under review.

CONTRACTORS:
Draft Project and Bidding Documents: Consultants Parsons Brinckerhoff - Iatasa Ingenieros Consultores - Atec Ingenieros Consultores S.A. - Ing. Cornejo Consultora S.A.
Executive Project: The Constructor is responsible for the executive design.

DESIGN APPROVAL: Provincial Roads Directorate.

WORKS INSPECTION: Provincial Roads Directorate.
PROJECT: Heavy traffic access from National Road No. 9 to Provincial Road No. 21. Section: National Road No. 9 – San Martín street (Gral. Lagos) – road limiting Gral. Lagos and Arroyo Seco. National Road No. 9 to Provincial Road No. 21. Section: Paraje Ombú street and San Martín street (Arroyo Seco).

Name as per TOR of the consulting firm retained by the Secretariat of Transport: Access to the urban area of Gral. Lagos from National Road No. 9 Highway. Extension of Av. San Martín southbound up to the road limiting the District and from there to Provincial Road No. 21, Gral. Lagos. Gates at the existing Level Crossing in the urban area and at the crossing with the boundary road. Intersection of Provincial Road No. 21 and boundary road of the Gral. Lagos municipality. Access from National Road No. 9 (Rosario – Buenos Aires Highway) to Provincial Road No. 21, through Pje. El Ombú. Link branches and interchange on National Road No. 9 in Paraje el Ombú.


JUSTIFICATION: The main purpose of the paving works detailed above consists in providing a safe access to the port facilities and industrial plants located in the General Lagos and Arroyo Seco area, regardless of the weather conditions, especially with respect to heavy traffic. In addition, these paved roads will constitute appropriate access ways to General Lagos and Arroyo Seco from the Rosario – Buenos Aires Highway.

DESCRIPTION: The above caption refers to the paving of the roads listed below:

- VS6: This road runs from west to east from the Rosario - Buenos Aires Highway, up to the urban sector of General Lagos (San José street). It crosses the extension of Avda. San Martín, a road which runs parallel to the NCA railroad tracks, where VS7 begins.
- VS7: This road is the extension of Avda. San Martín (from General Lagos), and runs southbound up to a roundabout located on the District's limit and, from this point, it crosses through a bridge (VS8) at a different level than the tracks of the NCA Railroad, up to Provincial Road No. 21. This last intersection takes the form of a variable radius roundabout (VS9).
- VS15: From the interchange located at paraje El Ombú of the Rosario – Buenos Aires Highway, this access runs from west to east up to the referred Avda. San Martín, and goes northbound from this point up to the intersection with VS7 at the referred circular roundabout.
- VS16: Link branches of the interchange of the Buenos Aires - Rosario Highway (El Ombú locality).

These works include the design of a structural package constituted by a lime-improved subgrade, a soil-cement sub-base and a simple concrete carriageway for all the sections considered access ways, 6,200 meters on VS6 and VS7, and another stretch of 4,000 meters on VS15. The links of the interchange of the Rosario – Buenos Aires Highway and Paraje el Ombú are planned to be constructed with a package made up of an asphaltic concrete base and layer, a soil+sand+cracked stone+concrete base, a soil+sand+lime sub-base, a soil+lime sub-base and a lime-improved subgrade; these links will have an outer paved shoulder lane. The bridge to be constructed over the NCA Railroad tracks will have a clearance of approximately 36.00 meters and will be placed in a slightly oblique position. Furthermore, the following works are included: horizontal and vertical signage, lighting of the intersections, and construction of drains, fences, and forestation.
LENGTH: This work will be performed throughout 2,800 meters on the VS6 road, 2,800 meters on the VS7, 3,100 meters on the VS7, 3,950 meters on the VS15, and also involves the roundabouts at the intersection with Provincial Road No. 21 and at the junction of the VS7 and VS15, in addition to the branches of the Paraje Ombú interchange.

EXECUTION SCHEDULE: A period of twelve (12) calendar months has been established for the full completion of the works.

OFFICIAL BUDGET: For the full performance of the works an official budget of $34,064,878 is available.

ENVIRONMENTAL IMPACT STUDIES: The Bidding Documents for these works consider environmental specifications to be contemplated during the construction stage.

a. Diagnostic
The work is located in the Wet Pampas region, a region with a temperate, sub humid-humid climate and average annual rainfalls of 1000 mm concentrated in the summer-autumn cycle, without water- or wind-based erosion processes. The zone does not comprise natural areas or protected animal species -declared or under study- or wetlands. There are no historical or cultural monuments or sites. The work project does not cross any permanent water courses; therefore, superficial drainage will be made by resort to natural depressions in the terrain. The Paraje Ombú Street is approximately parallel to the Seco creek, although a steep slope lies between them. Crossing the trunk track of the Retiro-Rosario branch of the NCA railroad at a different level will favor a safer traffic flow. This work will enable heavy traffic traveling towards the existing industrial plants and port facilities located between the Arroyo Seco and Gral. Lagos districts, from the Buenos Aires-Rosario Highway up to Provincial Road No. 21. Access through the town of Gral. Lagos comprises a partially rural zone which partially follows the southern border of the town. The access through the Paraje Ombú street is entirely rural.

b. Impacts
This access will prevent heavy traffic originating south of the locality of Arroyo Seco from crossing through the town. The construction of this work will have a positive impact on Provincial Road No. 21 and on the town of Arroyo Seco, as a result of the reduction of congestion levels in a road which is already operating above its capacity. The most relevant negative impact will occur in a temporary manner during the construction of the work, creating difficulties for dwellers to gain access to their properties, and will be caused by the transitory presence of a worksite. The concrete and asphalt to be used for the pavement and bridge will be manufactured outside the urban zone. There will also be a negative permanent impact by borrowing soil to build the embankment, and for that reason it will be located in a rural area, and its environmental restoration will be fostered by colonizing with species and smoothing the cut slopes. It should be mentioned that the project will be developed making use of existing streets. This alternative implies a smaller intervention in the territorial structure, minimizing the effects on the population and environmental alterations. The final embankment was designed to reduce the impacts caused by the widening of the road zone.

c. Mitigation measures
The Mitigation Measures comprise supervision and control activities in compliance with the existing environmental regulation. The practices considered include, among others: water sprinkling with the required frequency to abate dust, measurement of noise levels at the work fronts. Regarding water courses: all required measures will have to be adopted to prevent temporary installations from increasing the risk of flooding as a result of the effect on natural
runoff. It should be noted that the works envisage the expansion of pipes and drains, which will contribute to the prevention and mitigation of such effects. The bidding documents include environmental specifications for the construction stage which contemplate the Environmental Impact Study that was carried out. An environmental management plan will be prepared before the start of the works, contemplating mitigation measures in compliance with the existing environmental regulations, fostering the use of the most appropriate construction technologies.

d. Approvals
The Environmental Impact Study was analyzed by the Environmental Unit of the Provincial Road Directorate, which raised no objections, and by the State Secretariat of Environment and Sustainable Development, where it is pending approval.

PUBLIC CONSULTATION: A methodology has been developed to conduct public consultations and these will be carried out within the next few months, according to a defined work schedule.

RESETTLEMENT AND EXPROPRIATIONS: The pavement works demand road zone widths which are larger than the existing ones throughout almost the entire length of the project. Therefore, it is estimated that 75 plots will be affected and will have to be subject to an expropriation process.

PROGRESS:
Draft Project: Under review.
Bidding Documents: Under review.

CONTRACTORS:
Draft Project and Bidding Documents: Consultants Parsons Brinckerhoff - Iatasa Ingenieros Consultores - Atec Ingenieros Consultores S.A. - Ing. Cornero Consultora S.A.
Executive Project: The Constructor is responsible for the executive design.

DESIGN APPROVAL: Provincial Roads Directorate.

WORKS INSPECTION: Provincial Roads Directorate.

Name as per TOR of the consulting firm retained by the Secretariat of Transport: Extension of the width of Provincial Road No. 16 between the Rosario – Buenos Aires Highway and Provincial Road No. 21. Level interchange on both roads. Bridges over NCA Railroad and Provincial Road No. 16.


JUSTIFICATION: The main purpose of this improvement in the existing layout consists in the construction of a carriageway with sufficient capacity to accommodate the considerable volume of traffic, in particular, heavy traffic moving cargo between the different access ways to the city and neighboring ports.

DESCRIPTION: The referenced works consist in the extension of the existing carriageway in Provincial Road No. 16 between the intersection of Provincial Road No. 21 and the Rosario – Buenos Aires Highway, in the Province of Santa Fe. The extension of the carriageway involved implies the construction of two 7.30 m wide carriageways, going in opposite directions, separated by a central traffic island with a New Jersey-type concrete guard rail. The starting point of this section matches the end of the roundabout to be constructed at the intersection with Provincial Road No. 21; the stretch has a length of 4,500 meters and includes bridges over the tracks of the NCA Railroad and over the Frias Creek. The works for the extension of the width of the road involve the execution of a structural package consisting in an asphaltic concrete base and layer, a soil-sand-stone-cement base, a soil-sand-lime sub-base, a soil-lime sub-base and a lime-improved subgrade. A paved outer shoulder 2.50 meters wide has also been planned. The bridge to be built over the tracks of the NCA Railroad is in a slightly oblique position, and has two 40.00 meter clearances, while the bridge over the Frias Creek is positioned perpendicular with respect to the axis of the creek and has two 20.00 meter clearances. Furthermore, these works include the performance of tasks such as horizontal and vertical signage, the construction of new drains and fences, a New Jersey-type concrete guard rails, and the conditioning and relocation of electricity lines.

HYDRAULIC DESIGN: The current drainage directions will be maintained, and lateral drains will be reconstructed as required, with an appropriate profiling of slopes and ditches. These will drain the water lengthwise up to the discharge into a channel (station 0+380) and into the Frias Creek (station 3+450), and both will be transversally located with respect to the road design. Between these channels, at station 1+950, there is a water divide formed by the tracks of the NCA Railroad tracks. In addition, and for the purpose of achieving an appropriate drain of the flows derived from the rise in water level in the vicinity of the bridge over the stream, bottom dredging and grubbing tasks should be performed, along with the stabilization and rectification of both sides through an extension of 250 meters along the creek’s axis, so as to achieve a uniform trapezoid section.

LENGTH: The total length of the works covers 4,500 meters.

EXECUTION SCHEDULE: A period of twelve (12) calendar months has been established for the full completion of the works.

OFFICIAL BUDGET: For the full performance of the works an official budget of AR$ 23,273,607 is available, according to prices as of July, 2006.
ENVIRONMENTAL IMPACT STUDIES: The Bidding Documents for these works consider environmental specifications to be contemplated during the construction stage.

a. Diagnostic
The work is located in the Wet Pampas region, a region with a temperate, sub humid-humid climate and average annual rainfalls of 1000 mm concentrated in the summer-autumn cycle, without water- or wind-based erosion processes. The work’s host environment is a partially rural flat zone, with the presence of industrial and residential properties gradually increasing on the sides of the road. Superficial drainage between Provincial Road No. 21 and the tracks of the NCA railroad will be through a perpendicular canal located at station 0+360; between the tracks of the NCA railroad and National Road No. 9 it will be through the Frias creek located at station 4+470. There is no presence of native tree species in the zone, or known archeological sites.

b. Impacts
This work will improve the safety and the quality of traffic circulation, as a result of the increased carriageway capacity, the elimination of maneuvers involving crossing from one carriageway to the one in the opposite direction, and due to the construction of a railroad unleveled crossing. The presence of the central barrier makes it necessary to build localized collector roads at an early stage, to facilitate access to the adjoining properties. The most relevant negative impact will occur in a temporary manner during the construction of the work, creating difficulties for dwellers to gain access to their properties, and will be caused by the transitory presence of a worksite. The asphalt will be manufactured outside the area where the work will be located. There will also be a negative permanent impact as a result of soil borrowings to widen the current embankment and the access ways to the bridge over the NCA railroad, and for that reason the borrow area will be located in a rural area. It should be mentioned that the project will be developed on an existing road. This alternative implies a smaller intervention in the territorial structure, minimizing the effects on the population and environmental alterations. The final embankment was designed as a widening of the existing one to reduce the soil movements and reduce the requirement of road zone expansion.

c. Mitigation measures
The Mitigation Measures comprise supervision and control activities in compliance with the existing environmental regulation. The bidding documents include environmental specifications for the construction stage which contemplate the Environmental Impact Study that was carried out. An environmental management plan will be prepared before the start of the works, contemplating mitigation measures in compliance with the existing environmental regulations, fostering the use of the most appropriate construction technologies.

d. Approvals
The Environmental Impact Study was analyzed by the Environmental Unit of the Provincial Road Directorate, which raised no objections, and by the State Secretariat of Environment and Sustainable Development, where it is pending approval.

PUBLIC CONSULTATION: A methodology has been developed to conduct public consultations and these will be carried out within the next few months, according to a defined work schedule.

RESETTLEMENT AND EXPROPRIATIONS: The relocation of wire fences is planned for the widening of the road zone, in order to provide space to build collector roads to access
frontage properties. Thus, it is estimated that approximately 85 neighbors will be affected on the sides of the road.

**PROGRESS:**
Draft Project: Under review.
Bidding Documents: Under review.

**CONTRACTORS:**
Draft Project and Bidding Documents: Consultants Parsons Brinckerhoff - Iatasa Ingenieros Consultores - Atec Ingenieros Consultores S.A. - Ing. Cornero Consultora S.A.
Executive Project: The Constructor is responsible for the executive design.

**DESIGN APPROVAL:** Provincial Roads Directorate / DNV (National Roads Directorate).

**WORKS INSPECTION:** Provincial Roads Directorate.
**PROJECT:** National Road A012. Section: National Road No. 9 (Rosario-Buenos Aires Highway) – National Road No. 9 (Rosario-Córdoba Highway).

**Name as per TOR of the consulting firm retained by the Secretariat of Transport:** Double-lane carriageway of National Road No. A012 between National Road No. 9-west and National Road No. 9 (Rosario- Buenos Aires Highway).

**LOCATION:** Districts: Álvarez, Piñero, Soldini, Zavalla, Funes and Roldán. Departments: Rosario and San Lorenzo. Province: Santa Fe.

**JUSTIFICATION:** The main purpose of this improvement in the existing layout consists in the construction of a carriageway with sufficient capacity to accommodate the considerable volume of traffic, in particular, heavy traffic moving cargo between the different access ways to the city of Rosario and the neighboring ports. At the same time, it should be noted that there are various intersections with transversal roads and with railroad branches, and all such junctions have level crossings. These works involve the design of interchanges at different levels at the intersections with Provincial Roads No. 14 and 18; and crossings at different levels for all railroad routes.
DESCRIPTION: The works contemplate the extension of the existing carriageway at the sections listed below:

- The first section runs from the intersection with the Buenos Aires – Rosario Highway up to the intersection with National Road No. 33 (approximately station 29+050).
- The second section starts in station 36+550 up to the beginning of the interchange designed for the junction with National Road No. 9, at station 41+400.

Both sections currently have a paved carriageway 7.30 m wide; while the sector between them has a two-lane paved stretch in each direction. The extension of the street involved implies the construction of two carriageways 7.30 m wide, in opposite directions, separated by a central traffic island with a New Jersey-type concrete guard rail.

The works to be performed provide for the extension of the width of existing embankments and the execution of a structural package consisting in an asphaltic concrete base and layer, a soil-sand-stone-cement base, a soil-sand-lime sub-base, a soil-lime sub-base and a lime-improved subgrade. A paved outer shoulder 2.50 meters wide has also been planned. For the duplication of the carriageway width, the following works have been planned at the crossings with other roads and railroad tracks, and with the Saladillo Creek:

- Crossing with the Rosario-Buenos Aires Highway. Adaptation of the existing diamond-type interchange. Reconstruction of the existing bridge over the highway. Bridge on National Road A012: Direction: oblique. Clearance: 2 x 40.00 m. Board width: 31.45 m.
- Crossing with the Belgrano railroad tracks which link Retiro and Rosario Stations. Bridge on National Road A012: Direction: straight. Clearance: 3 x 22.00 m. Board width: 22.40 m.
- Crossing with Provincial Road No.18. Interchange at a different level with an overpass of the Provincial Road. Bridge on Provincial Road No.18: Direction: oblique. Clearance: 2 x 22.00 m. Board width: 20.30 m.
- Crossing with the Belgrano railroad tracks which link Pergamino and Rosario Stations. Bridge on National Road A012: Direction: oblique. Clearance: 3 x 22.00 m. Board width: 22.40 m.
- Crossing with ALL (FEPSA) railroad which enters Rosario’s port area. Bridge on National Road A012: Direction: oblique. Clearance: 3 x 22.00 m. Board width: 22.40 m.
- Crossing with the Belgrano railroad tracks which link Retiro and Rosario Stations. Bridge on National Road A012: Direction: oblique. Clearance: 3 x 22.00 m. Board width: 22.40 m.
- Crossing with Provincial Road No.14. Interchange at a different level with an overpass of the National Road A012. Bridge on National Road A012: Direction: straight. Clearance: 2 x 22.00 m. Board width: 27.70 m.
- Crossing with the Saladillo Creek. Extension of the width on both sides of the existing bridge. Direction: straight. Clearance: 2 x 6.00 m + 3 x 20.00 m. Board broadening: 7.65 m on each side.
- Crossing with Provincial Road No. 17-s. Level roundabout.

Beside the referred tasks, these works include the implementation of horizontal and vertical signage, the lighting of interchanges, the construction of new drains and fences, flexible guard rails, the conditioning and relocation of electricity lines, and forestation.

HYDRAULIC DESIGN: The current drainage directions will be maintained, and lateral drains will be reconstructed as required, appropriately profiling slopes and ditches. According to the
hydraulic study, the section of the existing bridge over the Saladillo Creek is sufficient to provide for drainage under the flood level conditions analyzed, and therefore a broadening of the crossing has been planned on both sides of the existing bridge.

LENGTH: The total length of the works covers 33,900 meters.

EXECUTION SCHEDULE: Completion of all the works has been planned within a period of twenty-four (24) calendar months.

OFFICIAL BUDGET: For the full performance of the works an official budget of $163,307,531.00 is available, according to prices as of June, 2006.

ENVIRONMENTAL IMPACT STUDIES: The Bidding Documents for these works consider environmental specifications to be contemplated during the construction stage.

a. Diagnostic
The work is located in the Wet Pampas region, a region with a temperate, sub humid-humid climate and average annual rainfalls of 1000 mm concentrated in the summer-autumn cycle, without water- or wind-based erosion processes. There are no native tree species in the zone, or known archeological sites. The host environment is a mainly rural flat zone, with the presence of industrial and residential properties gradually increasing on the sides of the road, especially at the intersections with national and provincial roads. Surface drainage has special characteristics at station 15+300 on the Saladillo creek. Existing natural slopes for surface runoff will be maintained through ditches, which will continue uninterruptedly through perpendicular roads and existing canals. The widening of the carriageway for each traffic direction will improve the quality of circulation and provide for safer overtaking.

b. Impacts
The construction of unleveled crossings with railroad tracks, exchangers at unsafe intersections of the National Road No. 18 and Provincial Road No. 14, a new bridge and exchanger with the Buenos Aires-Rosario Highway, and the central barrier separating traffic traveling in opposite directions, will increase safety by eliminating maneuvers at level crossings. The presence of the central barrier makes it necessary to build localized collector roads at an early stage, to facilitate access to the adjoining properties. The most relevant negative impact will occur temporarily during the construction of the work. It will relate to difficulties to access the property fronting the road, frequent and unavoidable congestions caused by the construction work in a road whose only alternative, the Rosario Ring Avenue, is also congested, and to the transitory presence of a worksite. The asphalt will be manufactured outside the urban zone. There will also be a permanent negative impact by borrowing soil to build the expansion of the current embankment, and for the construction of access to bridges, branches and exchanger loops; for that reason, it will be located in a rural area, and its environmental restoration will be fostered by colonizing with species and smoothing the cut slopes. The current intersection of Provincial Road No. 20-S and National Road No. A-012 will have to be modified because both roads are at different levels; this is caused by the presence of the ALL railroad tracks.

c. Alternatives
The project design comprises a paved access to the towns of Piñero and Alvarez through National Road No. A-012 and Provincial Road No. 14. It should be mentioned that the project will be developed on an existing layout. This alternative implies a smaller intervention in the territorial structure, minimizing the effects on the population and environmental alterations. The final embankment was designed as a widening work with respect to the existing one, to reduce
soil movements and the required expansion of the road zone, except in the alternative to the town of Ricardone, where a new road will be projected.

d. Mitigation measures
The Mitigation Measures comprise supervision and control activities in compliance with the existing environmental regulation. The bidding documents include environmental specifications for the construction stage which contemplate the Environmental Impact Study that was carried out. An environmental management plan will be prepared before the start of the works, contemplating mitigation measures in compliance with the existing environmental regulations, fostering the use of the most appropriate construction technologies.

e. Approvals
The Environmental Impact Study was analyzed by the Environmental Unit of the Provincial Road Directorate, which raised no objections, and by the State Secretariat of Environment and Sustainable Development, where it is pending approval.

PUBLIC CONSULTATION: A methodology has been developed to conduct public consultations and these will be carried out within the next few months, according to a defined work schedule.

RESETTLEMENT AND EXPROPRIATIONS: The relocation of wire fences is planned for the widening of the road zone, in order to provide space to build collector roads to access frontage properties. The acquisition of lands will be necessary for the construction of exchangers with all the loops and branches. Thus, it is estimated that approximately 234 neighbors will be affected on the sides of the road.

PROGRESS:
Draft Project: Under review.
Bidding Documents: Under review.

CONTRACTORS:
Draft Project and Bidding Documents: Consultants Parsons Brinckerhoff - Iatasa Ingenieros Consultores - Atec Ingenieros Consultores S.A. - Ing. Cornero Consultora S.A.
Executive Project: The Constructor is responsible for the executive design.

DESIGN APPROVAL: National Roads Directorate.

WORKS INSPECTION: Provincial Roads Directorate.
PROJECT: Construction of double track between Cabin 8 and San Lorenzo

Name as per TOR consulting procured by Transport Secretariat: Construction of double track between Cabin 8 and San Lorenzo

LOCATION: Districts: Rosario, Granadero Baigorria, Capitán Bermúdez, Fray Luis Beltrán and San Lorenzo. Departments: Rosario and San Lorenzo. Province: Santa Fe

JUSTIFICATION: Operational improvement of the wide gage railroad track outgoing from the Stopping Yard (Patio Parada) and the New Weighing Scale (Balanza Nueva) in Rosario, as a result of the increase in transportation capacity based on the existence of an upward branch and another downward branch for destinations in the various port terminals in the north of the city of Rosario. Linking the yards located within the city of Rosario, crossing the above mentioned cities, to connect them with the access system to the port terminals of San Lorenzo and Puerto San Martín.

Its significance decreases with the completion of the Railroad Ring Corridor.

DESCRIPTION: The preliminary design of this project shows a total track length to be built of 14,936 m., comprising the following sections:

- One mixed gage track section between stations 1029.01 and 1529.38.
- A second segment of wide track between stations 1529.38 and 6846.52
- Third existing segment of track to be disassembled and replaced with the wide gage track to be built between stations 6846.52 and 8616.26.
- Fourth segment of wide gage track between stations 8616.26 and 15965.05.

First Sector: Mixed gage track - Stations 1029.01 and 1529.38.
This sector will allow for the circulation of the Belgrano railroad in the downward direction, for which reason the mixed gage is required.

Second Sector: As from station 1529.38 the mixed gage track divides into the narrow gage track headed to the Sorrento yard and the wide gage track that continues along the planned route, in parallel and at 4.20m between axes with regards to the existing track to San Lorenzo, reaching with these characteristics the level crossing of J. J. Paso street. In this sector there are a dozen level crossing where the corresponding works have to be implemented and three crossings at different levels with their corresponding works and also a reinforced concrete bridge designed for a load of 25 ton/axle.

Third Sector: It has similar characteristics to the above with level crossings and the existing tracks have to be withdrawn due to the fact that their quality is below that required by these specifications.

Fourth Sector: Starting in stations 8616.26 and up to 15965.05 in the San Lorenzo Yard, going through 5 level crossings that need to be enlarged for the purpose of assembling the second thru track in said sector. In this sector there are roads that need to be expanded in accordance with the second track.

Track Structure: the structure of the track will consist of UIC 54 rails, made up of long welded rails. They will be placed on red hardwood or prestressed concrete sleepers, at the rate of 1650 s/Km. These will be settled on stone ballast with a thickness of 35 or 30 cm. under the sleepers, depending on whether concrete or wood is used. They will be secured using BO gauge lock,
pandrol or similar screw pikes, at the rate of 4/6 units per sleeper if wooden ones are used. In the case of prestressed concrete sleepers, elastic clips of the fas Clip type or similar will be used. The fishplates will be of the 6-hole bar type for continuous tracks and will have 4 holes for the track switching gear. The drais and gutters, if new, will be made of reinforced concrete with head pieces, and in case of extensions to the existing works, will be made of the same material as the original ones. The level crossings will be provided with the signalling required as per the existing regulations. For the works involving bridges, in some cases the plan is to refurbish them, in others they will be reinforced with beams and in the third case a new bridge to be designed, fully in compliance with the technical specifications.

**LENGTH**: The total is 14.936 meters.

**WORK SCHEDULE**: 18 calendar months.

**OFFICIAL BUDGET**: W/ Concrete sleepers: $99,823,886.90 (inclusive of VAT).

**ENVIRONMENTAL IMPACT STUDIES**: Environmental specifications are included for the construction period.

**PROGRESS**:
- Design: completed
- Bidding process: ready for award

**CONTRACTOR**: NCA

**DESIGN APPROVAL**: Comisión Nacional Reguladora de Transporte (CNRT)

**INSPECTION**: Comisión Nacional Reguladora de Transporte (CNRT)
PROJECT: San Lorenzo – Cerana Variant

Name as per TOR consulting procured by Transport Secretariat: San Lorenzo – Cerana Variant


JUSTIFICATION: Operating improvement of the wide gage traffic with destination to the Puerto San Martin and San Lorenzo terminals to reduce traffic through urban areas to relieve demand on the current San Lorenzo and Cerana leg. The layout of the latter implies crossing densely populated zones of San Lorenzo and Puerto San Martin with the resulting inconveniences in terms of environmental degradation, accidents, theft of goods, etc. Preventing major interferences and providing safe and fluid circulation in the urban section of the zone. It is necessary to build a bridge on National Road 11 going over the tracks; this is included in another project of the ring corridor. The importance of executing this work decreases with the completion of the Railroad Ring Corridor.

DESCRIPTION: The projected wide gage segment has a total length of 10 Km. From the north head at San Lorenzo yard up to the detour to Terminal 6 and Cerana, located close to Avenues Perón and Irigoyen in Puerto San Martin. It is the development of a flatland design and the design parameters that were adopted correspond to such characteristics. The infrastructure should have enough carrying capacity to withstand the circulation of cargo trains with loads of 25 tons/axle. The project railroad design comprises 4 segments, with a total length of 10026 meters of track, of which 6504ms are wide gage; 3555 ms are mixed gage and there are a total of 10 track switching gears.

Leg 1: From the junction with the main NCA track to Tucumán at the north end yard of San Lorenzo station, it connects to the tracks of the Belgrano Cargo branch F 1 up to the zone of connection to Branch F7 of said railroad in the area of Timbues. Throughout this leg of 6504 ms of track laying and renovation, it is necessary to carry out works to expand the level crossings for the double track and signalling works according to the current regulations, especially major ones such as in the north access from San Lorenzo to the Rosario - Santa Fe Highway and Provincial Road No. 10 providing access to Aldao. Construction of a wide gage railroad bridge over the San Lorenzo creek. Length: 6504 ms.

Leg 2: Junction with leg F7 of the Belgrano Cargo by means of a curve, going around a truck parking lot; it is necessary to build a level crossing at the intersection with National Road No. 11, of a temporary nature, until said area is resolved by the ring project. Besides, it is also necessary to modify the private level crossing for the access of trucks to the parking lot that has a concrete pavement. Length: 1026 ms.

Leg 3: The project entails replacing the current narrow gage track with a mixed gage track, and this makes it necessary to modify 2 level crossings. Length: 1661.92 m.

Leg 4: The project calls for the development of the mixed gage track parallel to Peron street and perpendicular to the existing tracks, leading to the tracks of the Cerana yard from T6, without requiring access to Cerana to get cargo trains to T6. Length: 832.96 ms.

Track structure: the design contemplates a track structure with capacity for 25 ton/axle using a long welded rail type UIC 54 quality 900, supported on prestressed mono-block concrete.
sleepers at the rate of 1650 d/ km, settled on 3 to 5 cm ballast stone, with a thickness of 30 cm under the sleepers and with elastic fixtures of the fast clip type for wooden sleepers. The sleepers must comply with the ALAF 5022 standards and with the Cirroc 201 standard and be designed for the following cases. Wide gage tracks (1.676m). Mixed gage tracks (1.676m and 1.000m). The alternative of using red hardwood will be acceptable, but in that case the type of fixtures will be changed and a thicker layer of ballast will be used.

LENGTH: The total is 10026 meters.

WORK SCHEDULE: 18 calendar months.


ENVIRONMENTAL IMPACT STUDIES: An environmental specification is included for the construction period. EIA has not been requested by the province of Santa Fe.

PUBLIC CONSULTATION: A methodology has been developed to conduct public consultations and these will be carried out within the next few months, according to a defined work schedule.

RESETTLEMENT AND EXPROPRIATIONS: The lands that will be used mostly belong to the existing railroad routes. The remaining plots required for the construction of the works have already been acquired by the concessionaire company, NCA.

PROGRESS:
Design: at the stage of advanced preliminary design
Bidding process: Competition organized by the NCA Concessionaire.

STATUS: ready for award.

CONTRACTOR: NCA

DESIGN APPROVAL: CNRT

INSPECTION: CNRT
PROJECT: Expansion of the facilities at Timbúes Yard

Name as per TOR consulting procured by Transport Secretariat: Expansion of the facilities at Timbúes Yard.


JUSTIFICATION: Operational improvement of the movement of train cars as a result of the increase of transportation capacity at the switching yard of Timbúes Station. Outer harbor station for unloading at the port terminals of the north zone (San Lorenzo and Pto San Martín) coming from the north of the country. Its importance will decrease once the Railrod Ring Corridor is completed.

DESCRIPTION: The project consists of executing a track grid at the frame of Timbúes station, belonging to the narrow gage Belgrano Cargo branch composed of 6 tracks for over 115 railroad cars and 4 tracks for over 90 railroad cars each, with lengths in the range of 1000 ms to 1558 ms. The works of execution of the grid will also include those of extending the existing drains, and the lifting and renovation of the existing tracks to connect them with those comprised in the project.

Track Structure: Gage 1.000 m. The track structure will consist of UIC 54 rails, quality 900 A. Rails welded at 36m. They will be supported on mono-block concrete sleepers, at the rate of 1472 s/Km. These will be settled on a layer of stone ballast 30 cm. thick under the sleepers. The fixtures will be double elastic clips. Maximum load per axle: 25 tons. Maximum speed for the calculation of the design: 40 Km./h. The drains and culverts will be executed in accordance with the standards contemplated by FA. Grade A 1 Ballast.

LENGTH: 1600 ms.

WORK SCHEDULE: 16 calendar months.

OFFICIAL BUDGET: $ 40.618.089.- April 2006.

ENVIRONMENTAL IMPACT STUDIES:

a. Diagnostic
The work is located in the Wet Pampas region, a region with a temperate, sub humid-humid climate and average annual rainfalls of 1000 mm concentrated in the summer-autumn cycle, without water- or wind-based erosion processes. In the zone there is no presence of relevant fauna communities, or native forests, although there are some planted species. There are no known archeological sites. The zone does not comprise natural areas or protected animal species—declared or under study—or endangered species, and there are no zones of an exceptional character in the proximity of the works to be built. The zone has a flat relief, with soils that are suitable for agricultural activities. The surface drainage is through open ditches and canals. It is an area that is not considered prone to flooding. Within the area under analysis there are no zones with air quality alterations as a result of emission of smoke and vapor; there are, however, various levels of sound pollution. The railroad station has a cultural and historical value. The worksite is located south of the urban zone that is predominantly rural. There are some adjacent constructions of commercial and residential use.

b. Impacts
During the work’s construction phase there will be transitory negative impacts generated as a result of soil movements for the construction of the embankments, the movement of machinery, transportation of materials, installation of the worksite, warehouses. A permanent negative impact will be caused by the borrowing of soil for the construction of the embankment up to the formation plane. The work requires a rearrangement of traffic in the district, especially at the crossing of the streets Brigadier López, Antártida Argentina and National Road No. 11. The construction of this work will have a positive impact associated to the productive activities related to the erection of warehouses and worksites, as well as to the activities of maintenance and improvements (weed control, cleaning of ditches, lighting, signaling, etc.) This yard is a solution for the shortcomings of the narrow gage and has a strategic location to access the industrial and port facilities located in the northern zone. No environmental conditioners were detected leading to the development of significant project alternatives or variations.

c. Mitigation Measures
The Mitigation Measures comprise supervision and control activities of compliance with the existing environmental regulation. The practices considered include the safety of the work zone. The bidding documents include environmental specifications for the construction stage which contemplate the Environmental Impact Study that was carried out. An environmental management plan will be prepared before the start of the works, contemplating mitigation measures in compliance with the existing environmental regulations, fostering the use of the most appropriate construction technologies.

d. Approvals
The Environmental Impact Study was analyzed by the Environmental Unit of the Provincial Road Directorate, which raised no objections, and by the State Secretariat of Environment and Sustainable Development, where it is pending approval.

PUBLIC CONSULTATION: A methodology has been developed to conduct public consultations and these will be carried out within the next few months, according to a defined work schedule.

RESETTLEMENT AND EXPROPRIATIONS: This project envisages the use of 6 plots of land, which will require the completion of the relevant expropriation process.

PROGRESS:
Executive draft project: completed.
Bidding process: not initiated.

CONTRACTOR:
Draft project and Bidding documents: Consultants Parsons Brinckerhoff, Iatasa, Atec Ingenieros Consultores, Ing. Corneor Consultora SA, commissioned by the National Government.
Executive Project: by the Constructor.

DESIGN APPROVAL: CNRT

INSPECTION: CNRT
**PROJECT:** Access Gage 1676/1000 up to the Private Detours in the Zone of San Lorenzo and Fray Luis Beltrán

**Name as per TOR consulting procured by Transport Secretariat:** Access Gage 1676/1000 up to the Private Detours in the Zone of San Lorenzo and Fray Luis Beltrán

**LOCATION:** Districts: Fray Luis Beltrán, San Lorenzo and Pto San Martín. Department: San Lorenzo. Province: Santa Fe.

**JUSTIFICATION:** operational improvement of the railroad as a result of the increase in transportation capacity, from the point of view of completing the existing narrow gage track, with a mixed gage track to gain access to the private detours of the North zone and increase the unloading capacity of the port terminals located below Cerana station.

**DESCRIPTION:** the project consist in adapting the existing tracks and track switching gear to transform them into mixed gage, and the construction of new mixed gage tracks between Cerana and Fray Luis Beltrán Station. The crossing over the San Lorenzo creek will be made through a bridge with narrow gage track. 29 level crossings will be adapted in accordance with the effective regulations. The draft project for this work calls for a total track length to be built of 21930 ms.

**Track structure:** Gage 1000 mm, 1676 mm and 1676/1000 mm. The track structure will be composed of UIC 54 rails, consisting of long welded rails. They will be laid on red hardwood sleepers, at the rate of 1472 s/Km. These will be placed on stone ballast with a layer 30 cm thick under the sleepers. They will be affixed using BO type gauge lock, pandrol or similar screw pikes, at the rate of 4/6 units per sleeper, if wooden ones are used. The fishplates will be of the bar type with 6 holes for continuous track and with 4 holes for the track switching gear. The new drains and culverts will be made of reinforced concrete with head pieces and in case they are extensions of the existing works of art, they will be made of the same materials as the original ones. The level crossings will have the regulatory signalling implemented. For the bridges, in some cases the existing ones will be refurbished; in other cases they will be reinforced with beams and in the third case, a new bridge will be built, to be designed fully in accordance with the technical specifications.

**_LENGTH:** The total length is 21930 meters

**WORK SCHEDULE:** 12 calendar months.

**OFFICIAL BUDGET:** $ 55.976.591 as at January 2007.

**ENVIRONMENTAL IMPACT STUDIES:** Pending and to be confirmed.

**PUBLIC CONSULTATION:** A methodology has been developed to conduct public consultations and these will be carried out within the next few months, according to a defined work schedule.

**RESETTLEMENT AND EXPROPRIATIONS:** Based on the nature of the works being planned, it will not be necessary to acquire plots belonging to private individuals.

**PROGRESS:**
Executive draft project: completed.
Bidding process: not initiated.

CONTRACTOR:
Draft Project and Bidding Documents: Consultants Parsons Brinckerhoff, Iatasa, Atec Ingenieros Consultores, Ing. Correro Consultora SA, commissioned by the National Government.
Executive Design: By the Construction company.

DESIGN APPROVAL: CNRT

WORKS INSPECTION: CNRT
**PROJECT:** Addition of narrow gage track at the Pérez Workshop.

**Name as per TOR consulting procured by Transport Secretariat:** Addition of narrow gage track at the Pérez Workshop.

**LOCATION:** Districts: Pujato, Zavalla and Pérez. Departments: San Lorenzo and Rosario. Province: Santa Fe.

**JUSTIFICATION:** improving, by means of a permutation of the current wide gage track into mixed gage track with three rails of the Casilda/ Rosario NCA Branch between the Rosario ring and the entrance to the Pérez Workshop, and the removal of the other track in the same sector, corresponding to one of the works included in the Railway Ring Corridor, to allow wide and narrow gage equipment to enter the Pérez workshop.

**DESCRIPTION:** the draft project of this work has a length of 14 Km., as a result of the removal of a wide gage track to be transformed into a mixed one and two curves with 400 and 500 ms radiuses to connect with the Railway Ring. Other works consist in the adjustment and construction of PAN, refurbishment of drains and bridges with a clearance of 10m.

**Track structure:** Gage 1.676m and 1000 m. The track structure will consist of UIC 54 , quality 900 A rails. Welded rails at 36m. They will be supported on wood sleepers, at the rate of 1472 s/Km. The sleepers will be laid on stone ballast with a thickness of 30 cm. under the sleepers. The rails will be affixed with elastic Gauge Lock type fixtures. Maximum load per axle: 25 tons Maximum speed for the calculation of the design: 40 Km./ h. The drains and culvers will be executed in accordance with the standards established by FA.

**LENGTH:** 14000 ms.

**WORK SCHEDULE:** 6 calendar months.

**OFFICIAL BUDGET:** $18,512,175 as at 12/06.

**ENVIRONMENTAL IMPACT STUDIES:**

a. **Diagnostic**
   The work is located in the Wet Pampas region, a region with a temperate, sub humid-humid weather and average annual rainfalls of 1000 mm, concentrated in the summer-autumn cycle, without water- or wind-based erosion processes. There is no presence of relevant fauna communities in the area. The main tree vegetation has been planted, whereas the herbaceous vegetation surrounding the Operating Area varies according to the land use. There are no known archeological sites. The works' host environment consists in an area which is topographically flat, with a general slope from southwest to northeast, dominated by the Ludueña Creek system, providing drainage of water surpluses in the area. There are some places in the segment of the works extending between Pérez and Zavalla which are flood-prone, although the drain in the railroad embankment, as well as the drain adjacent to National Road No. 33, were both expanded. The main use of land in the area where the works will be located is rural, except for some sectors where the layout crosses the town of Zavalla or enters the southwestern area of the town of Pérez. The landscape in these sectors is that of an urban area with mid/low population density.

b. **Impact**

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The works are intended to facilitate access of narrow-gauge traction and rolling stock towards the workshops located in Pérez. The existing railroad embankment is used for the works, as well as the existing track materials, sleepers and ballast found in the area. During the construction stage, due to the presence of heavy equipment, the air quality and noise levels might be affected. There will also be changes as a result of the installation of worksites, and of the preparation of the area deriving from the cleaning tasks carried out in the sector. No environmental conditioners were detected leading to the development of significant project alternatives or variations.

c. Mitigation Measures
The Mitigation Measures comprise supervision and control activities in compliance with the existing environmental regulation. The practices considered include the safety of the work zone. The bidding documents include environmental specifications for the construction stage which contemplate the Environmental Impact Study that was carried out. An environmental management plan will be prepared before the start of the works, contemplating mitigation measures in compliance with the existing environmental regulations, fostering the use of the most appropriate construction technologies.

d. Approvals
The Environmental Impact Study was analyzed by the Environmental Unit of the Provincial Road Directorate, which raised no objections, and by the State Secretariat of Environment and Sustainable Development, where it is pending approval.

PUBLIC CONSULTATION: A methodology has been developed to conduct public consultations and these will be carried out within the next few months, according to a defined work schedule.

RESETTLEMENT AND EXPROPRIATIONS: Due to the nature of the works, no acquisition of private plots is required

PROGRESS:
Draft project: completed.
Bidding process: not initiated.

CONTRACTOR:
Draft project and Bidding documents: Consultants Parsons Brinckerhoff, Iatasa, Atec Ingenieros Consultores, Ing. Correro Consultora SA, commissioned by the National Government.
Executive Design: By the Construction Company.

DESIGN APPROVAL: CNRT

WORKS INSPECTION: CNRT
PROJECT: Construction of junction curves Cabin 8

Name as per TOR consulting procured by Transport Secretariat: Construction of curves junction Cabin 8.


The project is located in a densely populated zone that links the NCA railway branch coming from Retiro, Casilda and Córdoba (via Cañada de Gómez) to enter the Stopping Yard (Patio Parada) and New Weighing Scale (Balanza Nueva) and then be dispatched to the port terminals in the north, San Lorenzo and Pto. San Martín.

JUSTIFICATION: operational improvement that will allow for the direct entrance of cargo trains coming from Córdoba and Casilda to the north zone, substantially reducing the maneuver times. It is a temporary work for the cargo trains of the concessionaires until the construction of the Railroad Ring Corridor is completed.

DESCRIPTION: The draft project of this work has a length resulting from the development of 2 curves, one with a radius of 500 m in the branch entering the Stopping Yard from the south, coming from Retiro, and another one with a radius of 350mts resulting from the access by way of Córdoba. The works consist of the construction and improvement of tracks and switching gear, provision of track materials (rails, fixtures, sleepers, joints and all other items required). The following is understood: removal of the current track and construction of new junction tracks with double track between the stations of the Rosario/ Pérez Branch and the crossing with the Belgrano Cargo Railroad, link with the single track of the Rosario/Córdoba Branch and the junction with the Belgrano Branch CC from Rosario-Tucumán, towards the north of the crossing. Modification of a segment of the current narrow gage track into mixed gage. Taking into account that the site is located in a densely populated area, it will be necessary to rebuild the carriageway of major level crossings such as that on Junín Street. Regarding the occupation of the route, it will be necessary to relocate an important group of squatters.

Track Structure: Gage 1.676m. The track structure will consist of UIC 54, quality 900 A rails. Rails welded at 36m. They will be laid on mono-block type concrete sleepers, at the rate of 1472 s/Km. These will be settled on stone ballast with 30 cm. thickness under the sleepers. The fixtures will be of the double elastic clip type. Maximum load per axle: 25 tons. Maximum speed for the calculation of the design: 40 Km./ h. The drains and culverts will be executed in accordance with the standards established by FA.

LENGTH: 3444 mts.

WORK SCHEDULE: 6 calendar months.


ENVIRONMENTAL IMPACT STUDIES: Pending and to be confirmed.

PROGRESS:
Draft Project: completed.
Bidding Process: not initiated.

CONTRACTORS:
Draft Project and Bidding Documents: Consultants Parsons Brinckerhoff, Iatasa, Atec Ingenieros Consultores, Ing. Cornero Consultora SA, commissioned by the National Government.

Executive Design: By the Construction company.

DESIGN APPROVAL: CNRT

INSPECTION: CNRT

REMARKS: The work zone is currently occupied by squatters and requires the previous freeing of the route. Agencies involved: Municipality of Rosario and Province de Santa Fe.
PROJECT: Modification of Track Grid in the Stopping Yard (Patio Parada)

Name as per TOR consulting procured by Transport Secretariat: Modification of track grid in the Stopping Yard.

LOCATION: District: Rosario. Department: Rosario. Province: Santa Fe. The Project is located in the Stopping Yard, within the central zone of the city of Rosario, corresponding to the NCA railroad concession. Municipality of Rosario.

JUSTIFICATION: operational improvement of the traffic of railway cars resulting from an increase in the transportation capacity of the switching yard. Outer harbor station to unload at the country’s North, Center and South port terminals.

DESCRIPTION: the project consists in the execution of a new track grid and the removal of others in the framework of the switching and change assembly yards to increase the access capacity to the New Weighing Scale (Balanza Nueva,) with longer trains that would be parked on the proposed tracks to be built. The works of execution of the grid will include all the works required to remove the existing facilities that interfere with the projected grid.

Track Structure: Gage 1.676 m. The track structure will consist of UIC 54 rails, quality 900 A. Welded rails at 36m. They will be supported on mono-block type concrete sleepers, at the rate of 1472 s/Km. In turn, these will be laid on stone ballast with 30 cm thickness under the sleepers. Double elastic clips will be used as fixtures. Maximum load per axle: 25 tons. Maximum speed for the calculation of the design: 40 Km./ h. The drains and culverts will be executed in accordance with the standards provided by FA. Ballast grade A 1.

LENGTH: section length approximately 1300 ms.

WORK SCHEDULE: 10 calendar months.

OFFICIAL BUDGET: $ 13.521.008. as at March 2006.

ENVIRONMENTAL IMPACT STUDIES: Environmental impact studies for the construction period are included.

a. Diagnostic
The work is located in the Wet Pampas region, a region with a temperate, sub humid-humid climate and average annual rainfalls of 1000 mm concentrated in the summer-autumn cycle, without water- or wind-based erosion processes. There is no presence of relevant fauna communities or native forests in the area, although there are some planted or mixed forests. There are no known archeological sites. The work’s host environment consists of an area with a flat relief. There are no superficial water courses in the vicinity. The area is considered free of flood risks.

b. Impacts
The purpose of the work is to improve the efficiency of the use of the existing facilities, in order to adapt them to the formation of trains with up to 74 carriages, including the maneuvers carried out by engines, while affecting the existing level crossings to the lowest possible extent. These works are of a transitory nature, until the Railroad Ring Corridor, including its facilities and switching yards, become ready for use. The development of the work will include activities that could cause a series of temporary negative impacts of concentrated localization during the
work's construction stage, as a consequence of the activities of erection and operation of the worksite. These works could affect the air quality, as a result of the emission of suspended particles and the increase of the level of noise generated by heavy machinery.

c. Alternatives
Some alternatives were analyzed that would eventually require a redesign of the crossing between the Alberdi Avenues and Salta street, in order to reduce the interruptions of vehicle traffic as a result of railroad maneuvers.

d. Mitigation measures
The Mitigation Measures comprise supervision and control activities of compliance with the existing environmental regulation. The practices considered include the safety of the work zone. The bidding documents include environmental specifications for the construction stage which contemplate the Environmental Impact Study that was carried out. An environmental management plan will be prepared before the start of the works, contemplating mitigation measures in compliance with the existing environmental regulations, fostering the use of the most appropriate construction technologies.

e. Approvals
The Environmental Impact Study was analyzed by the Environmental Unit of the Provincial Road Directorate, which raised no objections, and by the State Secretariat of Environment and Sustainable Development, where it is pending approval.

PUBLIC CONSULTATION: A methodology has been developed to conduct public consultations and these will be carried out within the next few months, according to a defined work schedule.

RESETTLEMENT AND EXPROPRIATIONS: due to the nature of the works, no private land acquisitions are required.

PROGRESS:
Executive Draft Project: completed.
Bidding Process: not initiated.

CONTRACTOR:
Draft Project and Bidding Documents: Consultants Parsons Brinckerhoff, Iatasa, Atec Ingenieros Consultores, Ing. Cornero Consultora SA, commissioned by the National Government.
Executive Design: by the Constructor.

DESIGN APPROVAL: CNRT

INSPECTION: CNRT
PROJECT: Relocation of loading facilities to the Ludueña Station.

Name as per TOR consulting procured by Transport Secretariat: Relocation of loading facilities to the Ludueña Station.

LOCATION: District: Rosario. Department: Rosario. Province: Santa Fe. The project is located in the Ludueña station of the NCA concession branch within the city of Rosario, before the entrance to the Stopping Yard and the New Weighing Scale (Patio Parada y Balanza Nueva).

JUSTIFICATION: Operational improvement of the railroad car traffic in terms of transferring the loading facilities, independently from the existing ones that are currently in use, located in a very central zone.

DESCRIPTION: The project consists of the execution of the following works: removal of some sections of the current track and construction of new ones plus the corresponding switching gear to link them. Execution of new carriageways corresponding to level crossings. Works to build new drainage and reconditioning of others. Construction of 7 roofed sheds with facilities for full operation.

Track Structure: Gage 1.676 m. The track structure will consist of UIC 54 rails, quality 900 A. Rails welded at 36m. They will be supported by mono-block concrete sleepers, at the rate of 1472 s/Km. These will be laid on stone ballast with a 30 cm thickness under the sleepers. Double elastic clips will be used as fixtures. Maximum load per axle: 25 tons. Maximum speed for the design calculation: 40 Km./ h. The drains and culverts will be constructed in accordance with the standards provided by FA. Ballast grade A I.

LENGTH: approximately 700 ms. of track section.

WORK SCHEDULE: 4 calendar months.

OFFICIAL BUDGET: $ 11.051.429 as at March 2006.

ENVIRONMENTAL IMPACT STUDIES: Environmental impact studies for the construction period are included.

a. Diagnostic
The work is located in the Wet Pampas region, a region with a temperate, sub humid-humid climate and average annual rainfalls of 1000 mm concentrated in the summer-autumn cycle, without water- or wind-based erosion processes. In the zone there is no presence of relevant fauna communities, or native forests, although there are some planted or mixed forests. There are no known archeological sites. The work’s host environment is an area topographically flat. There are no superficial water courses in the operational area. The area is considered to be free from flood risks.

b. Impacts
The development of the work will include activities that will cause negative impacts of a temporary nature during the work’s construction stage, as a result of the construction activities, operation of the worksite, dismantling of the structure of old sheds and construction of new sheds.

c. Mitigation measures
The Mitigation Measures comprise supervision and control activities in compliance with the existing environmental regulation. The practices considered include the safety of the work zone. The bidding documents include environmental specifications for the construction stage which contemplate the Environmental Impact Study that was carried out. An environmental management plan will be prepared before the start of the works, contemplating mitigation measures in compliance with the existing environmental regulations, fostering the use of the most appropriate construction technologies.

d. Approvals
The Environmental Impact Study was analyzed by the Environmental Unit of the Provincial Road Directorate, which raised no objections, and by the State Secretariat of Environment and Sustainable Development, where it is pending approval.

PUBLIC CONSULTATION: A methodology has been developed to conduct public consultations and these will be carried out within the next few months, according to a defined work schedule.

RESETTLEMENT AND EXPROPRIATIONS: since the project involves structures located in railroad land, no effects on private plots have been identified.

PROGRESS:
Executive Draft Project: completed.
Bidding process: not initiated.

CONTRACTOR:
Draft Project and Bidding Documents: Consultant Parsons Brinckerhoff, Iatasa, Atec Ingenieros Consultores, Ing. Cornero Consultora SA, commissioned by the National Government.
Executive Design: by the Constructor.

DESIGN APPROVAL: CNRT

INSPECTION: CNRT
PROJECT: Removal of facilities at the New Weighing Scale

Name as per TOR consulting procured by Transport Secretariat: Removal of facilities at the New Weighing Scale.

LOCATION: District: Rosario. Department: Rosario. Province: Santa Fe. The project is located in the zone of the New Weighing Scale of the NCA concession branch, within the city of Rosario, after the entrance to the Stopping Yard.

JUSTIFICATION: Clearing the zone of the track yard of the so called New Weighing Scale of the NCA concession, for the purpose of accommodating other uses, independent from the railway use according to the complementary works, defined in the railroad reordering plan provided by the CCF plan.

DESCRIPTION: The project consists in the execution of the following works: removal of segments of tracks and track switching gear, auxiliary signalling facilities, communications, drains with necessary movement of contaminated soil, stocking and loading of rails and gear and all the items resulting from the disassembly.

Track Structure: Track to be disassembled: 1676 mm.

LENGTH: approximately 900 m. of track to be disassembled.

WORK SCHEDULE: 6 calendar months.

OFFICIAL BUDGET: $2,305,303 as at May 2006.

ENVIRONMENTAL IMPACT STUDIES: Environmental impact studies for the construction period are included.

a. Diagnostic
The work is located in the Wet Pampas region, a region with a temperate, sub humid-humid climate and average annual rainfalls of 1000 mm concentrated in the summer-autumn cycle, without water- or wind-based erosion processes. In the zone there is no presence of relevant fauna communities, or native forests, although there are some planted or mixed forests. There are no known archaeological sites. It should be noted, however, that in the work’s operational area there are some building structure related to railroad activities that have a certain historical and cultural value. The work’s host environment is flat, and located in the urban grid of the city of Rosario. The area is free from flood risks. The freeing up of the “New Weighing Scales” area from the railroad activities that have been conducted on the site for many decades, implies the availability of lands for public, community and private activities of great value for the city of Rosario.

b. Impacts
The development of the work will require activities that will cause temporary negative impacts during the work’s construction, as a consequence of the operation of the worksite. Of special interest is the treatment of the railroad waste materials, all types of scrap, materials resulting from demolitions, destination of the ballast, treatment of the stormwater drains existing at the site. Such interventions in the field will generate changes in air quality, due to the emission of suspended particles and the increase of noise levels as a result of the constant movement of heavy machinery and the transportation of personnel. There will be specific impacts on the vegetation cover that is present in the work zone, and to a variable degree on the soil resources as...
a consequence of the extraction of vegetal soil, transportation of construction material, installation of ballast stones, etc. No environmental conditioners were detected leading to the development of significant project alternatives or variations.

c. Mitigation measures
The Mitigation Measures comprise supervision and control activities of compliance with the existing environmental regulation. The practices considered include the safety of the work zone. The bidding documents include environmental specifications for the construction stage which contemplate the Environmental Impact Study that was carried out. An environmental management plan will be prepared before the start of the works, contemplating mitigation measures in compliance with the existing environmental regulations, fostering the use of the most appropriate construction technologies.

d. Approvals
The Environmental Impact Study was analyzed by the Environmental Unit of the Provincial Road Directorate, which raised no objections, and by the State Secretariat of Environment and Sustainable Development, where it is pending approval.

PUBLIC CONSULTATION: A methodology has been developed to conduct public consultations and these will be carried out within the next few months, according to a defined work schedule.

RESETTLEMENT AND EXPROPRIATIONS: As a consequence of the nature of the work, it is not necessary to acquire any private lands.

PROGRESS:
Executive Draft Project: completed.
Bidding Process: not initiated.

CONTRACTOR:
Draft Project and Bidding Documents: Consultora Parsons Brinckerhoff, Iatasa, Atec Ingenieros Consultores, Ing. Corneiro Consultora SA, commissioned by the National Government.
Executive Design: by the Constructor.

DESIGN APPROVAL: CNRT

INSPECTION: CNRT
**PROJECT:** Removal of the facilities of the Chain Yard (*Patio Cadenas*).

**Name as per TOR consulting procured by Transport Secretariat:** Removal of facilities of the Chain Yard.

**LOCATION:** District: Rosario. Department: Rosario. Province: Santa Fe. The project is located in the track zone of the Chain Yard of the NCA concession in the city of Rosario, in the zone called Alberdi Crossing.

**JUSTIFICATION:** clearing the zone of the track yard of the so called Chain Yard (*Playa de Patio Cadenas*) of the NCA concession that is installed in the central zone of the city of Rosario, in order to assign it to other uses, independently from the railroad use in accordance with the complementary works, contemplated in the railroad reordering plan provided by the CCF plan.

**DESCRIPTION:** the project consists of the execution of the following works: removal of the existing track sections and switching gear, auxiliary signalling and communications facilities, drains with the corresponding movement of contaminated soils, stocking and loading of rails and gear and all the materials resulting from the removal.

**Track Structure:** Gage of track to be removed 1676 mm.

**LENGTH:** approximately 750 ms of track to be removed.

**WORK SCHEDULE:** 3 calendar months.

**OFFICIAL BUDGET:** $ 1,048,476 as at May 2006.

**ENVIRONMENTAL IMPACT STUDIES:** Environmental impact studies for the construction period are included.

**a. Diagnostic**
The work is located in the Wet Pampas region, a region with a temperate, sub humid-humid climate and average annual rainfalls of 1000 mm concentrated in the summer-autumn cycle, without water- or wind-based erosion processes. In the zone there is no presence of relevant fauna communities, or native forests, although there are some planted species. There are no known archeological sites, although it should be noted that in the work’s operational area there are certain building structures connected with railroad activities that have a certain historical and cultural value. The work’s host environment is flat, located within the urban grid of the city of Rosario. The area is considered to be free from flood risks. The freeing up of the area of the so called “Chain Yard” (*Patio Cadenas*) from the railroad activities to which it has been devoted for many decades, implies the availability of lands for public, community and private activities of great value to the city of Rosario.

**b. Impacts**
The development of the work will require activities that will cause temporary negative impacts during the work’s construction, as a consequence of the operation of the worksite. Of special interest is the treatment of the railroad waste materials, all types of scrap, materials resulting from demolitions, destination of the ballast, treatment of the stormwater drains existing at the stie. Such interventions in the field will generate changes in air quality, due to the emission of suspended particles and the increase of noise levels as a result of the constant movement of heavy machinery and the transportation of personnel. There will be specific impacts on the
vegetation cover that is present in the work zone, and to a variable degree on the soil resources as a consequence of the extraction of vegetal soil, transportation of construction material, installation of ballast stones, etc. No environmental conditioners were detected leading to the development of significant project alternatives or variations.

c. Mitigation measures
The Mitigation Measures comprise supervision and control activities of compliance with the existing environmental regulation. The practices considered include the safety of the work zone. The bidding documents include environmental specifications for the construction stage which contemplate the Environmental Impact Study that was carried out. An environmental management plan will be prepared before the start of the works, contemplating mitigation measures in compliance with the existing environmental regulations, fostering the use of the most appropriate construction technologies.

d. Approvals
The Environmental Impact Study was analyzed by the Environmental Unit of the Provincial Road Directorate, which raised no objections, and by the State Secretariat of Environment and Sustainable Development, where it is pending approval.

PUBLIC CONSULTATION: A methodology has been developed to conduct public consultations and these will be carried out within the next few months, according to a defined work schedule.

RESETTLEMENT AND EXPROPRIATIONS: Due to the nature of the work, no private lands need to be acquired.

PROGRESS:
Executive Draft Project: completed.
Bidding Process: not initiated.

CONTRACTOR:
Draft Project and Bidding Documents: Consultant Parsons Brinckerhoff, Iatasa, Atec Ingenieros Consultores, Ing. Cornero Consultora SA, commissioned by the National Government.
Executive Design: by the Constructor.

DESIGN APPROVAL: CNRT

INSPECTION CNRT
PROJECT: Narrow Gage Southern Access to the Port of Rosario.

Name as per TOR consulting procured by Transport Secretariat: Narrow Gage Southern Access to the Port of Rosario.

LOCATION: Districts: Villa Gobernador Gálvez and Rosario. Department: Rosario. Province: Santa Fe. The project is located in the FEPSA Rosario-Puerto Belgrano branch, from the NCA Villa Diego Workshops to the Terminal of Puerto de Rosario SA.

JUSTIFICATION: to improve by means of the construction of a narrow gage track, the operational characteristics of the connection from the narrow gage track grid of the Villa Diego switching yards and to provide continuity to the narrow gage for cargo from the Belgrano Cargo Retiro and to extend it into the port of the Rosario Port Terminal.

DESCRIPTION: the draft project for this work has a length of 5.040 Km., resulting from the assembly of narrow gage tracks, a mixed gage track and a final segment of assembly of wide and narrow gage track. Three existing level crossings will be adapted. The crossing over the current Saladillo bridge will be made with mixed gage track. This requires a prior verification of the structure of the existing bridge.

Track Structure: Gage 1.676m and 1000 m. The track structure will consist of UIC 54 rails, quality 900 A. Rails welded at 36m. They will be supported on mono block concrete sleepers, at the rate of 1472 s/Km. These will be laid on stone ballast with a thickness of 30 cm. under the sleepers. The rails will be fixed using double elastic clips. Maximum load per axle: 25 tons. Maximum speed for design calculation: 40 Km./ h. The drains and culverts will be constructed in accordance with the standards provided by FA.

LENGTH: 5,040 m.

WORK SCHEDULE: 10 calendar months.

OFFICIAL BUDGET: $ 7,697,085 as at 5/06.

ENVIRONMENTAL IMPACT STUDIES:

a. Diagnostic
The work is located in the Wet Pampas region, a region with a temperate, sub humid-humid climate and average annual rainfalls of 1000 mm concentrated in the summer-autumn cycle, without water- or wind-based erosion processes. The project’s layout crosses the bed of the Saladillo Creek. In the zone there is no presence of relevant fauna communities, or native forests, although there are some planted or mixed forests. There are no known archeological sites. No native forests were identified in the region, although there are some sectors with planted trees. Neither are there fauna species of any conservation interest. The work’s host environment is a topographically flat area, with a strong railroad slope between the Villa Diego yard and the Port of Rosario.

b. Impacts
The construction of this work is designed to improve railroad traffic and to reduce the congestions and accidents that currently occur in the current narrow gage access to the Port of Rosario. The construction of the work will cause localized negative impacts of a temporary nature during the work’s construction stage, as a result of the activities to erect and operate the
worksite, reconditioning of embankments, development of drainage ditches and construction of the mixed or simple narrow gage track. These activities could affect air quality, due to the emission of suspended particles and the increased noise caused by the operation of heavy machinery, and the transport of personnel. No environmental conditioning factors leading to the development of major project alternatives or variations were detected, since the existing track zone will be used for the works, and partially the narrow-gage track that is currently being used.

c. Mitigation measures
The Mitigation Measures comprise supervision and control activities of compliance with the existing environmental regulation. The practices considered include the safety of the work zone. The bidding documents include environmental specifications for the construction stage which contemplate the Environmental Impact Study that was carried out. An environmental management plan will be prepared before the start of the works, contemplating mitigation measures in compliance with the existing environmental regulations, fostering the use of the most appropriate construction technologies.

d. Approvals
The Environmental Impact Study was analyzed by the Environmental Unit of the Provincial Road Directorate, which raised no objections, and by the State Secretariat of Environment and Sustainable Development, where it is pending approval.

PUBLIC CONSULTATION: A methodology has been developed to conduct public consultations and these will be carried out within the next few months, according to a defined work schedule.

RESETTLEMENT AND EXPROPRIATIONS: the works will be developed within the existing track zone, and for that reason no private lands will be affected.

PROGRESS:
Draft project: completed.
Bidding Process: not initiated.

CONTRACTOR: Draft Project and Bidding Documents: Consultants Parsons Brinckerhoff, Iatasa, Atec Ingenieros Consultores, Ing. Cornero Consultora SA, commissioned by the National Government.
Executive Design: by the Constructor.

DESIGN APPROVAL: CNRT

INSPECTION: CNRT
PROJECT: Narrow gage access to port terminals in the southern zone.

Name as per TOR consulting procured by Transport Secretariat: Narrow gage access to port terminals in the southern zone.


JUSTIFICATION: improving, by means of the construction of a narrow gage track, the operational characteristics of the connection leg, from the start of the CCF southward by way of Retiro NCA and to allow the port terminals in the south of Rosario to increase their stocking and processing capacity, and receive cargo from the north of the country.

DESCRIPTION: the work consists in the construction of a narrow gage track (1000 mm), parallel to the current NCA Retiro track, on the Paraná river side, with the corresponding switching gear that link it to the ring corridor, the tracks of the yards of the Alvear and Gral. Lagos yard. The PAN of the sector comprised between stations 277,80 and 289 of the NCA Retiro tracks will have to be adapted. As a result of the extension of the narrow gage tracks, the drains will be extended. Bridges will need to be adjusted, especially the bridge over the Frias creek.

Track Structure: Gage: 1000 m. The track structure will consist of UIC 54 rails, quality 900 A. Rails welded at 36m. They will be supported on mono block concrete sleepers, at the rate of 1472 s/Km. Wood sleepers may be used. These will be laid on stone ballast with a thickness of 30 cm. under the sleepers. The rails will be secured using (double) elastic clips of the Gauge Lock type. Maximum load per axle: 25 tons. Maximum speed for design calculation: 40 Km./h. The drains and culvers will be constructed in accordance with the standards provided by FA.

LENGTH: 11,200 m of the works segment.

WORK SCHEDULE: 9 calendar months.

OFFICIAL BUDGET: $ 60,966,675 as at December 2006.

ENVIRONMENTAL IMPACT STUDIES: The bidding documents include environmental specifications. Due to the complexity of the works, EIA was not required.

PUBLIC CONSULTATION: A methodology has been developed to conduct public consultations and these will be carried out within the next few months, according to a defined work schedule.

RESETTLEMENT AND EXPROPRIATIONS: between Km 0+000 and Km 3+100 of the Railroad Ring Corridor, it is necessary to acquire private lands. As from Km 0+000 to the South, existing railroad plots will be used, and for that reason it will not be necessary to acquire private lands.


CONTRACTOR: 87
Draft Project and Bidding Documents: Consultants Parsons Brinckerhoff, Iatasa, Atec Ingenieros Consultores, Ing. Cornero Consultora SA, commissioned by the National Government.

Executive Design: by the Constructor.

DESIGN APPROVAL: CNRT

INSPECTION: CNRT
PROJECT: Relocation of the FCBC cargo facilities from CC to Nuevo Alberdi.

Name as per TOR consulting procured by Transport Secretariat: Relocation of the FCBC cargo facilities from CC to Nuevo Alberdi.


JUSTIFICATION: operational improvement of cargo traffic in connection with the component of relocation of the existing cargo facilities, located in a central zone of the city of Rosario.

DESCRIPTION: the project consists in the execution of the following works: construction and erection of two complete sheds with all the facilities for the warehousing of materials, goods or other uses at the Nuevo Alberdi Station of the Belgrano Cargo railroad in the city of Rosario. The project includes the sectors corresponding to plataforms, offices, depots and other services in accordance with railroad cargo facilities.

Track Structure: Gage: 1000 mm, in accordance with the Belgrano Cargo.

LENGTH: 700 ms of tracks in correspondence with the sheds to be built.

WORK SCHEDULE: 6 calendar months.


ENVIRONMENTAL IMPACT STUDIES:

a. Diagnostic
The work is located in the Wet Pampas region, a region with a temperate, sub humid-humid climate and average annual rainfalls of 1000 mm concentrated in the summer-autumn cycle, without water- or wind-based erosion processes. In the zone there is no presence of relevant fauna communities, or native forests, although there are some planted or mixed forests. There are no known archeological sites. The work’s host environment consists in a topographically flat area. There are no superficial water courses in the operating area. The area is considered free from flood risks.

b. Impacts
The performance of the work will require developing activities that will have negative impacts of a temporary duration during the work’s construction stage as a result of the construction activities, the operation of the worksite, dismantling of the structure of old sheds and construction of new ones.

c. Mitigation Measures
The Mitigation Measures comprise supervision and control activities in compliance with the existing environmental regulation. The practices considered include the safety of the work zone. The bidding documents include environmental specifications for the construction stage which contemplate the Environmental Impact Study that was carried out. An environmental management plan will be prepared before the start of the works, contemplating mitigation measures in compliance with the existing environmental regulations, fostering the use of the most appropriate construction technologies.

d. Approvals
The Environmental Impact Study was analyzed by the Environmental Unit of the Provincial Road Directorate, which raised no objections, and by the State Secretariat of Environment and Sustainable Development, where it is pending approval.

**PUBLIC CONSULTATION:** A methodology has been developed to conduct public consultations and these will be carried out within the next few months, according to a defined work schedule.

**RESETTLEMENT AND EXPROPRIATIONS:** Since the operations connected to the work relate to the construction of sheds in the railroad zone existing in the Nuevo Alberdi Station, no private lands will be affected.

**PROGRESS:**
- Draft Project: completed.
- Bidding Process: not initiated.

**CONTRACTOR:**
- Draft Project and Bidding Documents: Consultants Parsons Brinckerhoff, Iatasa, Atec Ingenieros Consultores, Ing. Corneoro Consultora SA, commissioned by the National Government.
- Executive Design: by the Constructor.

**DESIGN APPROVAL:** CNRT

**INSPECTION:** CNRT
PROJECT: Railroad Ring Corridor - Rosario.

Name as per TOR consulting procured by Transport Secretariat: Railroad Ring Corridor.


JUSTIFICATION: Availability of the proposed improvements in the railroad networks of the Rosario Metropolitan Region with the purpose of ordering the transport of land cargo by enhancing their operational features, improving the participation of the railroad mode to achieve effective economies in freights especially for grain traffic, subproducts and vegetable oils to the industrial and port terminals in the region and their adaptation to potentially absorb the increase in the country’s grain production that is forecasted for the period 2010 -2015.

DESCRIPTION: The draft project of this railroad ring has a track length of 87,500 Km., not including the proposed yards and detours.

Composed of the following legs:
- Leg A: from Cerana (Km. 87,500) to (Km. 79,679.) in the Aldao Zone.
- Leg B: Aldao Zone (Km 79,679) to (Km. 51,700) in the Zone of Crossing of NCA Córdoba tracks.
- Leg C: From (Km. 51,700) in the Zone of Crossing of NCA Córdoba tracks to Km. 20,700.
- Leg D: From (Km. 20,700 ) to KM 0 (Junction of NCA tracks with Alvear-Retiro leg).

Leg A: The project includes wide gage track, intertrack and narrow gage track. This sector will allow for the transportation of cargo from all the concessionaires to the industrial port terminals in San Lorenzo, Puerto San Martín and Timbúes. High level works will be constructed at the crossings with national and provincial roads in the design proposed for this leg. The yards corresponding to the ring corridor, Aldao of the NCA Tucumán branch and Timbúes Yard of the Santa Fe Branch of Belgrano Cargo will be linked to this leg.

Leg B: Continuation of the narrow gage, intertrack and wide gage track sections, interconnecting with the projected Ricardone yard and the existing thru railroad branches. High level works will be built at the crossings with national roads and railroads in the proposed layout for this leg.

Leg C: It has similar characteristics as the previous legs with regards to the typology of track widths, with junctions to the West Yard (Playa Oeste) and the branches under concession, works corresponding to the crossings with national and provincial roads and Saladillo creek.

Leg D: This last leg, while preserving the track gage typology of the previous legs, connects with the narrow and wide gage branches under concession, coming from the south and southwest of the Greater Rosario, to unload at the port industrial terminals of the zone. Outer harbor yards and improvements in Erasto have been planned.

Track structure: Gage 1.676mm, 1.000mm and 1.676/1.000mm. The track structure will consist of UIC 54 rails, consisting of long welded rails. They will be supported on mono block concrete sleepers, at the rate of 1639s/Km. These will be laid on stone ballast with a thickness of 30 cm under the sleepers. Double elastic clips will be used to secure them. The fishplates will be of the bar type with 6 holes for continuous track and with 4 holes for the switching gear. The new drains and culverts will be made of reinforced concrete with head pieces and those that are
extensions of existing works of art will be made of the same materials as the original ones. The
level crossings will have signalling as required by the current regulations. The bridge works will
be designed in accordance with Cirroc 201 standards.

LENGTH: 87,500 Km. not including yards and detours.

WORK SCHEDULE:
Leg A: 11 months.
Leg B: 16 months.
Leg C: 18 months.
Leg D: 15 months.

OFFICIAL BUDGET: $ 2.028.278.746, as at December 2006.
Leg A: $ 339.315.381
Leg B: $ 581.461.370
Leg C: $ 601.789.657
Leg D: $ 505.712.338

ENVIRONMENTAL IMPACT STUDIES:

a. Diagnostic
The work is located in the Wet Pampas region, a region with a temperate, sub humid-humid
climate and average annual rainfalls of 1000 mm concentrated in the summer-autumn cycle,
without water- or wind-based erosion processes. The layout crosses some permanent water
courses: the Saladillo Creek, the basin of the Ludeña Creek, the San Lorenzo Creek, and several
canals of sundry widths. In the zone there is no presence of relevant fauna communities, or
native forests, although there are some planted or mixed forests. There are no known
archeological sites. The host environment is a flat zone, which is predominantly rural. Between
stations 0+000 to 3+000 there are agricultural activities in subdivided lots. Between stations
82+000 and 87+500 (end of the segment) there are varied commercial and urban activities
interspersed. Superficial drainage will be through ditches, and the water flows will be channeled
to the existing canals and towards the San Lorenzo and Saladillo Creeks, with slopes designed to
control erosion and siltation.

b. Impacts
The construction of the Railroad Ring Corridor will channel the traffic of cargo trains that enters
the Metropolitan Rosario Region through ten branches, crossing predominantly rural zones. The
activities of forming trains, outerport yards, will be carried out in five yards and switching yards:
“La Carolina”, Roldán, Ricardone, Aldao and Timbues. Only cargo trains will enter the urban
area to gain access to clients, ready to receive railroad cargoes. Urban interferences will
decrease, since the cargo trains will be limited to the access of clients of railroad transportation;
there will be a reduction of the congestion and accidents caused by the existing level crossings—
both authorized and clandestine. There will be a decrease of noise pollution and vibrations.
Important tracts of land located in the urban center of several localities will be recovered for
public, community and private uses. Some railroad segments that will stop being used for cargo
trains could be used for inter-urban passenger service. The new project will accommodate a
greater number of trains and at higher speeds than currently. This increase in the efficiency of
railroad transport will result in a more efficient use of energy. The most relevant negative impact
will occur temporarily during the construction of the work, making it difficult for dwellers
fronting the work to access their property, and because of the transitory presence of a worksite.
There will also be a negative permanent impact by borrowing soil to build the expansion of the
current embankment, and for that reason it will be located in the rural area, and its environmental restoration will be fostered by colonizing with species and smoothing the cut slopes.

c. Alternatives
Three alternatives were analyzed for the project, and the one that takes best advantage of existing roads and the back part of plots was selected. In the West-North sector, there is a section that runs in relative proximity to the San Lorenzo Creek, until finally crossing it. Between Km 0+000 and 20+600 the existing railroad path is utilized. The alternative selected implies less intervention in the territorial structure, thus minimizing the alteration of the environment. No environmental conditioners were detected leading to the development of significant project alternatives or variations.

d. Mitigation Measures
The Mitigation Measures comprise supervision and control activities in compliance with the existing environmental regulation. The bidding documents include environmental specifications for the construction stage which contemplate the Environmental Impact Study that was carried out. An environmental management plan will be prepared before the start of the works, contemplating mitigation measures in compliance with the existing environmental regulations, fostering the use of the most appropriate construction technologies.

e. Approvals
The Environmental Impact Study was analyzed by the Environmental Unit of the Provincial Road Directorate, which raised no objections, and by the State Secretariat of Environment and Sustainable Development, where it is pending approval.

PUBLIC CONSULTATION: A methodology has been developed to conduct public consultations and these will be carried out within the next few months, according to a defined work schedule.

RESETTLEMENT AND EXPROPRIATIONS: It is envisaged that 105 rural plots and 75 urban plots will be affected in Leg IV (north), 36 rural plots in Leg III, 57 rural plots in Leg II and 76 plots in Leg I (south). In total 349 plots will be affected, for which expropriation procedures will be developed.

PROGRESS:
Draft Project: not completed.
Bidding Process: not initiated.

CONTRACTOR:
Draft Project and Bidding Documents: Consultants Parsons Brinckerhoff, Iatasa, Atec Ingenieros Consultores, Ing. Corner0 Consultora SA, commissioned by the National Government.
Executive Design: by the Constructor.

DESIGN APPROVAL: CNRT

INSPECTION: CNRT
SECTION C

P101421 – ARGENTINA – Rosario Metropolitan Area Infrastructure Project

MAPS
SITUATION MAP OF THE METROPOLITAN AREA OF ROSARIO IN THE PROVINCE OF SANTA FE

MAP 1
ROSARIO METROPOLITAN AREA INFRASTRUCTURE PROJECT

SITUATION MAP OF THE METROPOLITAN AREA OF ROSARIO WITH THE LOCATION ROAD AND RAIL INFRASTRUCTURE SUBPROJECTS

MAP 2