

DOCUMENT OF THE INTER-AMERICAN DEVELOPMENT BANK

**BRAZIL**

**TIETÊ RIVER RECOVERY PROJECT UPSTREAM OF PENHA DAM,  
STATE OF SÃO PAULO – RENASCE TIETÊ**

**(BR-L1536)**

**LOAN PROPOSAL**

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## CONTENTS

### PROJECT SUMMARY

I.	DESCRIPTION AND RESULTS MONITORING .....	1
	A. Background, problem addressed, and rationale .....	1
	B. Objectives, components, and cost .....	10
	C. Key results indicators .....	11
II.	FINANCING STRUCTURE AND MAIN RISKS .....	12
	A. Financing instruments .....	12
	B. Environmental and social risks .....	13
	C. Other risks and key themes .....	13
III.	IMPLEMENTATION AND MANAGEMENT PLAN .....	15
	A. Summary of implementation arrangements .....	15
	B. Summary of arrangements for monitoring results .....	18

### APPENDIXES

Proposed resolution

## ANNEXES

### PRINTED ANNEXES

Annex I	Summary Development Effectiveness Matrix
Annex II	Results Matrix
Annex III	Fiduciary Agreements and Requirements

## LINKS

### REQUIRED

1. [Multiyear execution plan and annual work plan](#)
2. [Monitoring and evaluation plan](#)
3. [Environmental and social management report](#)
4. [Procurement plan](#)

### OPTIONAL

1. [Technical annex](#)
2. [Socioeconomic analysis](#)
3. [Safeguard policy filter and safeguard screening form](#)
4. [Financial analysis](#)
5. [Draft project monitoring report](#)
6. [Project Operating Regulations](#)
7. [Gender measures](#)
8. [Climate change](#)
9. [Cost and disbursement table](#)

## ABBREVIATIONS

DAEE	Departamento de Águas e Energia Elétrica [Water and Electricity Department]
CPTEC	Centro de Previsão de Tempo e Estudos Climáticos [Center for Weather Forecasting and Climate Studies]
ECLAC	Economic Commission for Latin America and the Caribbean
IBGE	Instituto Brasileiro de Geografia e Estatística [Brazilian Institute of Geography and Statistics]
ICB	International competitive bidding
MV	Means of verification
NCB	National competitive bidding
PGE	Office of the Attorney General, State of São Paulo
PMU	Project management unit
QCBS	Quality- and cost-based selection
SABESP	Companhia de Saneamento Básico do Estado de São Paulo [State of São Paulo Basic Sanitation Company]
SIAFEM	Financial Administration System of the State of São Paulo

## PROJECT SUMMARY

### BRAZIL TIETÊ RIVER RECOVERY PROJECT UPSTREAM OF PENHA DAM, STATE OF SÃO PAULO – RENASCE TIETÊ (BR-L1536)

Financial Terms and Conditions						
<b>Borrower:</b>			<b>Flexible Financing Facility<sup>(a)</sup></b>			
State of São Paulo			<b>Amortization period:</b>	24.5 years		
<b>Guarantor:</b>						
Federative Republic of Brazil						
<b>Executing agency:</b>			<b>Disbursement period:</b>	5.5 years		
Water and Electricity Department (DAEE)			<b>Grace period:</b>	6 years <sup>(b)</sup>		
<b>Source</b>	<b>Amount (US\$)</b>	<b>%</b>	<b>Interest rate:</b>		LIBOR-based	
<b>IDB (Ordinary Capital):</b>	79,866,302	79.9%	<b>Credit fee:</b>		<sup>(c)</sup>	
			<b>Inspection and supervision fee:</b>		<sup>(c)</sup>	
<b>Local:</b>	20,091,522	20.1%	<b>Weighted average life:</b>		15.25 years	
<b>Total:</b>	99,957,824	100%	<b>Approval currency:</b>		U.S. dollar	
Project at a Glance						
<p><b>Project objective/description:</b> The project's objective is to support the recovery and conservation of the Tietê River. Its specific objectives are to: (i) recover and conserve the Tietê's riverbanks; (ii) improve the river's water quality; and (iii) strengthen the management of climate information at the DAEE and the management of the project's park complexes with community involvement.</p>						
<p><b>Special contractual conditions precedent to the first disbursement of the loan:</b> (i) entry into effect of the appropriate legal instrument for project execution between the borrower, through the appropriate ministry, and the DAEE; (ii) publication in the Official Gazette of the State of São Paulo of the decree appointing the project management unit, pursuant to the terms agreed upon with the Bank; and (iii) entry into effect of the project Operating Regulations (<a href="#">optional link 6</a>), in accordance with the terms agreed upon with the Bank (paragraph 3.5). See the fiduciary condition referenced in Annex III.</p>						
<p><b>Special contractual conditions for execution:</b> (i) before tendering the project's first works contract in each of the involved municípios, the appropriate legal instrument will have been signed and entered into effect between the executing agency and the respective município, defining the obligations and responsibilities of each, pursuant to the terms established previously with the Bank; and (ii) before the tendering of the works contract for the wastewater collection and interception network, the appropriate legal instrument will have been signed and entered into effect between the executing agency and the entity responsible for wastewater treatment, pursuant to terms established previously with the Bank, (paragraph 3.6). See the fiduciary condition referenced in Annex III and the socioenvironmental conditions referenced in Annex B of the environmental and social management report.</p>						
<b>Exceptions to Bank policies:</b> None.						
Strategic Alignment						
<b>Challenges:<sup>(d)</sup></b>		SI	✓	PI	✓	EI
<b>Crosscutting themes:<sup>(e)</sup></b>		GD	✓	CC	✓	IC ✓

<sup>(a)</sup> Under the terms of the Flexible Financing Facility (document FN-655-1), the borrower has the option of requesting changes to the amortization schedule, as well as currency, interest rate, and commodity conversions. The Bank will take operational and risk management considerations into account when reviewing such requests.

<sup>(b)</sup> Under the flexible repayment options of the Flexible Financing Facility, changes to the grace period are permitted provided that they do not entail any extension of the original weighted average life of the loan or the last payment date as documented in the loan contract.

<sup>(c)</sup> The credit fee and inspection and supervision fee will be established periodically by the Board of Executive Directors as part of its review of the Bank's lending charges, in accordance with applicable policies.

<sup>(d)</sup> SI (Social Inclusion and Equality); PI (Productivity and Innovation); and EI (Economic Integration).

<sup>(e)</sup> GD (Gender Equality and Diversity); CC (Climate Change and Environmental Sustainability); and IC (Institutional Capacity and Rule of Law).

## I. DESCRIPTION AND RESULTS MONITORING

### A. Background, problem addressed, and rationale

- 1.1 The state of São Paulo covers an area of 248,209 square kilometers in southeastern Brazil. According to the Brazilian Institute of Geography and Statistics (IBGE), a total of 45.09 million people were living in the state's 645 municípios in 2017.<sup>1</sup> Metropolitan São Paulo encompasses the state capital and 38 neighboring municípios. It has a population of 21 million<sup>2</sup> living in a heavily urbanized and industrialized area of roughly 8,000 square kilometers, which produces 15%–20% of national GDP and 50% of state GDP.<sup>3</sup>
- 1.2 The territory of metropolitan São Paulo almost completely overlaps with the Upper Tietê River watershed, where 34 of the 39 municípios that make up that metropolitan area are located. The Tietê River, the main body of water in that watershed area and the only natural drainage resource in the region, originates in the município of Salesópolis at the confluence between Serra do Mar (700 meters above sea level) and the ocean, and flows toward the interior of the state of São Paulo. Despite having a high rainfall index—because this is a headwater basin, its soil has low porosity, and its rainfall retention capacity is low—the Upper Tietê River watershed has an average flow of 50 cubic meters per second, which is classified as low. Of the flow captured by the State of São Paulo Basic Sanitation Company (SABESP) to supply metropolitan São Paulo's population, 90% is from the Upper Tietê River watershed.
- 1.3 **Problem addressed.** For water resource management, the Upper Tietê River watershed is divided into six sub-basins, including: (i) the Penha-Pinheiros sub-basin, covering the Tietê River segment in the central area of the município of São Paulo, between its confluence with the Pinheiros River and the Penha Dam (located 24 kilometers upstream from this confluence point), which has high population density and economic activity; and (ii) the Tietê-Cabeceiras sub-basin, corresponding to the river segment located upstream from the Penha Dam all the way to its headwaters (75 kilometers). The riverbanks or natural flood zones of this upper watershed located upstream from the Penha Dam have regulated water infiltration and retention time in the watershed. However, it is estimated that the riverbank zone in the Upper Tietê River watershed has been reduced from 140 to 70 square kilometers, due mainly to deforestation and informal settlements. This has resulted in progressive impermeability and an alteration of regulatory functions in flood-prone areas, which are the first to have settlements. Therefore, water retention time has decreased from 48 hours to less than 13 hours.<sup>4</sup> Informal settlements on the riverbanks of the upper watershed have increased the incidence of flooding and concentration of sediment in the urban segment of the Tietê River downstream from the Penha dam. This has had negative impacts on

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<sup>1</sup> IBGE. Research Division, Office on Population and Social Indicators. Population estimates as of 1 July 2017.

<sup>2</sup> According to the Fundação Seade, 2013 ([link](#)). IBGE data for 2010.

<sup>3</sup> Source: IBGE. Population estimates from 2016 and GDP data from 2014.

<sup>4</sup> "Plano Diretor de Drenagem da Bacia do Alto Tietê a montante da barragem da Penha - Diagnóstico geral," February 2003, Consórcio Enger/CKC.

people living on its banks and the traffic along Avenida Marginal Tietê, a highway with traffic of more than 1.2 million vehicles daily, transporting passengers and freight to other regions of the country. Consequently, the recovery and conservation of the riverbanks of the Tietê in the segment upstream from the Penha Dam is of vital importance to prevent informal settlements and deforestation, increase its water retention capacity, and lessen the impacts of flooding downstream from this dam. With respect to ensuring riverbank conservation, experience has demonstrated that an effective, sustainable way to protect and preserve the environmental function of riverbanks is to foster awareness and empowerment in society regarding the need to protect the relevant territory. To do so, it is critically important to build recreational infrastructure along with having communication, education, and overall social empowerment activities for public spaces, in order to ensure their socioenvironmental sustainability (paragraph 1.10).

- 1.4 The river's water quality from its headwaters in the município of Salesópolis to its entry into the município of Mogi das Cruzes (60 kilometers) is adequate (class two),<sup>5</sup> and then decreases (class three to four).<sup>6</sup> This occurs as a result of pollution caused mainly by effluents from household sources and contaminants swept by rainfall. In the município of Mogi das Cruzes, with a population of nearly 435,000 people,<sup>7</sup> sewer system coverage is 75% and the wastewater treatment level is 81%.<sup>8</sup> Therefore, wastewater from roughly 170,000 people is discharged directly into the tributary streams of the Tietê River—meaning that nearly 3,550 tons per year of biochemical oxygen demand are discharged into the river. According to the município's basic sanitation plan,<sup>9</sup> a diagnostic assessment of the urban macrodrainage system identified inadequate drainage conditions. These were due to a lack of discharge capacity in the existing hydraulic sections, aggravated by factors that include sedimentation and increased discharge of wastewater and solid waste.<sup>10</sup> Consequently, rainfall events with 50-year and 100-year return periods could generate high water levels, with flows varying between 13-100 cubic meters per second and 15-123 cubic meters per second respectively in the nine drainage basins, causing flooding and additional pollution of waters in the tributary streams of the Tietê River.<sup>11</sup>

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<sup>5</sup> Classification of the quality of surface freshwater pursuant to Resolution 357/2005 of the National Environmental Council of Brazil's Ministry of the Environment.

<sup>6</sup> In the segment upstream from the município of Mogi das Cruzes, the conformity indexes for water samples from the Tietê River are 98% for biochemical oxygen demand (5 days at 20°C), 74% for dissolved oxygen, 100% for nitrogen, and 98% for phosphorous. Immediately after the município, conformity indexes are 39% for biochemical oxygen demand (5 days at 20°C), 0% for dissolved oxygen, 93% for nitrogen, and 6% for phosphorous.

<sup>7</sup> IBGE, 2017.

<sup>8</sup> National System for Sanitation Information, Ministry of Regional Development, 2017.

<sup>9</sup> Plano de Saneamento Básico do Município de Mogi das Cruzes, Sistema de Macrodrenagem. April 2019.

<sup>10</sup> It should be noted that the household solid waste collection rate in Mogi das Cruzes is close to 100%.

<sup>11</sup> The organic load discharged into the Tietê River in the Mogi das Cruzes segment by rainfall is estimated at 450 tons per year.

- 1.5 The Water and Electricity Department (DAEE) monitors surface and ground water resources in the state of São Paulo through the Technical Center for Hydraulics and Water Resources. The Basic Hydrological Network of the DAEE is the largest source of quantitative water data in the state, measuring rainfall, river flooding, ground water levels, and sediment. Monitoring by radar and information from hydrometeorological stations are the basis for operations in the seven situation rooms that the DAEE manages in the state. This data feeds into the alert system for the State of São Paulo's civil defense; the agricultural, transportation, and health care sectors; public safety; and the general population. Of the six existing radar systems, only four are in operation and only three of these are providing meteorological information. This service does not currently cover the entire territory of the state, since the coastal strip of Baixada Santista and the northern zone lack radar coverage. As a result, these areas do not have optimum information management for meteorological data.
- 1.6 **Institutional framework.** The DAEE is a decentralized agency of the State of São Paulo, with administrative and financial management autonomy, which reports to the State's Department of Infrastructure and Environment. The agency's annual budget is based on the State's general annual budget. The DAEE was established in 1951. Its duties are to manage water resources in the state; build and operate water infrastructure works; and provide support to the municípios on these matters.
- 1.7 In Mogi das Cruzes, drinking water and sewer system services are provided mainly by the Municipal Water and Sewer Service, a decentralized municipal entity established pursuant to Law 1,613 of November 1966. In this context, SABESP provides the following services in this município: (i) sewer systems in part of the município (the northern area that does not drain into the Tietê River); (ii) mass production of drinking water for the entire município; and (iii) mass transportation and treatment of wastewater in the western area of the município. To provide these services, SABESP has signed three contracts with the Municipal Water and Sewer Service. Drinking water and sewer services are regulated by the State of São Paulo Sanitation and Energy Services Regulator.
- 1.8 **State of São Paulo strategy and previous interventions.** Law 7,663 of December 1991 sets forth a water resources policy for the State of São Paulo. The law's application in the Tietê River watershed began with the establishment of the Watershed Committee in 1994 and the preparation and periodic update of the watershed management plan. A priority in this plan is the recovery of the Tietê River's water quality and its riverbanks. Following the plan's guidelines and taking into account the strategic importance of the Tietê River for metropolitan São Paulo and its inhabitants, the State of São Paulo has planned and implemented several measures intended to control flooding and recover the river's water quality and the environmental functions of its riverbanks.
- 1.9 Between 1998 and 2005, the State of São Paulo executed works to control flooding on 41 kilometers of the Tietê River, in the segment from the Penha Dam to the Edgard de Souza Dam (downstream). The approximate cost was US\$1 billion. These interventions lessened the social and economic impacts of flooding. Estimates show that the damage prevented for each event (with a 100-year return period) was of up to US\$280 million. However, the effectiveness of these works is conditioned on having the Penha Dam release a maximum flow of 498 cubic

meters per second,<sup>12</sup> which in turn depends on the buffering capacity of the riverbanks upstream from this dam when there are high water levels. This operation's measures are intended to preserve and improve that capacity.

- 1.10 In addition, in 1982, to improve and conserve the banks of the Tietê River, the DAEE implemented and has been managing the Tietê River Ecological Park, located upstream from the Penha dam, which has approximately 50,000 visitors per weekend. Based on this park's success, the State of São Paulo delegated the responsibility of executing the Tietê Várzea<sup>13</sup> Program to the DAEE. This Bank-financed operation approved in 2010 included the creation of the Várzeas do Tietê Park in the segment upstream from the Penha Dam, providing continuity to the Ecological Park.<sup>14</sup> The area of intervention for this operation was one of three Tietê River segments that the DAEE plans to recover, which range from the segment upstream from the Penha Dam to the border with the município of Itaquaquecetuba (25 kilometers long), covering part of the territories of the municípios of São Paulo and Guarulhos. The interventions included implementation of the Várzeas do Tietê Park; resettlement of 716 families who were living in informal settlements in flood-prone zones in the município of Guarulhos; and measures to ensure the environmental and social sustainability of the interventions. These contributed significantly to the recovery of flood zones and the capacity for water retention in the watershed, in addition to benefitting the population through resettlement and by providing recreational opportunities.<sup>15</sup>
- 1.11 To continue flood control efforts, in 2014 the State of São Paulo prepared a Third Master Plan for Macrodrainage of the Upper Tietê River watershed, which covers that entire watershed area. This supplements the studies prepared for the two previous plans, which did not cover the whole area. The guiding principle of this master plan is "To foster the integrated management of rainfall and flooding risks, envisaged as an organizational system; to promote control of urban waters through structural and nonstructural interventions, and in coordination with the stakeholders involved; to formulate public policies; and to implement social control, technical training, and economic-financial sustainability actions."
- 1.12 In terms of river water quality, the State's strategy includes having universal coverage of wastewater collection and treatment services in metropolitan São Paulo. For more than 25 years, the IDB has worked with the State of São Paulo to implement a master plan for universal coverage of sanitary sewer and wastewater treatment services in this metropolitan area by providing support for the Tietê River Cleanup Program of SABESP. To date, the first three stages of the program have been successfully executed, with a total investment of US\$2.4 billion (US\$1.25 billion from the IDB). Execution of the last operation for US\$500 million is starting. As a result of these investments, more than 13 million additional people have wastewater collection and treatment services, which has

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<sup>12</sup> "Ampliação da Calha do Rio Tietê entre a Barragem Edgard de Souza e Barragem da Penha" - Relatório Técnico, December 1986.

<sup>13</sup> Natural floodplains that form next to rivers with low slopes.

<sup>14</sup> Loan 2500/OC-BR for US\$115.7 million, which was approved in 2010, is currently in the closing stage and all resources have been disbursed.

<sup>15</sup> See [map of interventions](#).

contributed to improving the environmental and sanitary conditions of the Upper Tietê River watershed. Sewer system coverage increased from 70% to 87%, and wastewater treatment coverage from 24% to 84%. Measurements show that Tietê River water quality has consistently improved in the past several decades. Reports from the State of São Paulo Environmental Company confirm that between 2013 and 2016, the organic load in the water of the Upper Tietê River watershed decreased by more than 48%. Also, reports from the SOS Mata Atlântica Foundation indicate that over the past 25 years, the river's anaerobic area has decreased by 183 kilometers, equivalent to 32% given that the length of this watershed is 576 kilometers. However, there are still more than 4 million people who lack sewer services. They also require more expensive and complex solutions, due to the unregulated use and occupation of urban land. Significantly, considering the major infrastructure investment planned by the State of São Paulo, supplementary investment contributions from the private sector could play an important role in achieving universal coverage of services in a shorter time period. The Bank could provide support with financing to structure the processes for private-sector participation.

- 1.13 **Intervention strategy.** The project's strategic concept is based on acknowledging that the riverbanks upstream from the Penha Dam play an essential role in maintaining adequate water flow restriction in that dam. This is fundamental to the effectiveness of the control infrastructure for high water levels and flood prevention built downstream from the dam. To do so, the project will include riverbank recovery and conservation measures that prevent informal settlements and deforestation, as well as measures to increase the river's capacity to control high water levels, including expanding the water monitoring system. The project will also include interventions to build parks and other urban features to foster coordination and social commitment with respect to protecting the riverbanks. In addition, it will seek to improve the river's water quality in the segment of the município of Mogi das Cruzes, with measures aimed at reducing organic loads from rainfall and household discharge into the river. Lastly, to improve the project's operational, environmental, and social sustainability, there will be measures involving empowerment and mass communication, environmental education, and professional training. There will also be measures aimed at improving the management capacity of the institutions involved, including enhancing and expanding the meteorological information system to achieve 100% coverage in metropolitan São Paulo.<sup>16</sup>
- 1.14 Various cases studies<sup>17, 18, 19</sup> and other evaluations<sup>20, 21</sup> demonstrate the effectiveness of structural and nonstructural interventions like those being proposed.

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<sup>16</sup> For better understanding, see [map of intervention zones](#).

<sup>17</sup> The draft project completion report for operation BR-L1216 (loan 2500/OC-BR) shows the technical effectiveness of the solutions proposed, since expected outcomes were achieved with respect to recovery of the river's environmental functions, construction of a park, and implementation of social empowerment actions.

**1.15 Climate change impacts and vulnerability.** Historical climatological (rain and temperature) data available for metropolitan São Paulo shows high variability in the annual hydrological cycle with a trend toward intensification of extreme values, measured through: (i) an increase in the frequency and intensity of extreme rainfall events throughout the state of São Paulo, particularly an intensification of summer rains; and (ii) an increase in the number of hot days and nights, as well as an increase in the frequency and duration of heat waves with strong year-on-year variations. Nevertheless, climate change estimates from the Eta regional model<sup>22</sup> used by the Center for Weather Forecasts and Climate Studies for Metropolitan São Paulo show that there will be: (i) an increase in average temperature of between two and three degrees by 2050; (ii) a 30% increase in average rainfall by 2050 and a decrease of approximately 10% toward the end of the century; and (iii) a trend in the next few decades toward the gradual intensification of extreme events, particularly an increase of between 5% and 10% in rainfall intensity. This percentage is expected to increase toward the end of the century, reaching up to 30% (Marques Di Giulio et al., 2018). In this regard, climate change becomes a multiplier of environmental and urban problems, particularly for communities that are already living in vulnerable conditions (Nobre et al., 2010; Vargas, 2011; Silva, 2010). Therefore, cities should prepare to be able to respond to changes in the distribution, intensity, and frequency of risks associated with weather events, which not only threaten to surpass the cities' current capacity to absorb physical and economic losses, but also their resilience to the projected impacts (Ambrizzi et al., 2012). Furthermore, recent studies<sup>23</sup> indicate that the Tietê River and other bodies

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<sup>18</sup> Rodríguez-Jeangros et al., 2018, modeled the effect of the treatment by the Economic Commission for Latin America and the Caribbean (ECLAC). Brazil office/Instituto de Pesquisa Econômica Aplicada (IPEA), 2012. (Texts for ECLAC-IPEA discussion, 48). [ECLAC. Digital Repository](#). This study establishes the relevance of adopting green areas as mechanisms to reduce urban flooding by increasing filtration and runoff areas.

<sup>19</sup> Bello, O., L. Ortiz, and J. L. Samaniego (2014). Assessment of the effects of disasters in Latin America and the Caribbean, 1972-2010. ECLAC; and Mayorga Mora, Natalia (2013). [Experiencias de parques lineales en Brasil: espacios multifuncionales con potencial para brindar alternativas a problemas de drenaje y aguas urbanas](#).

<sup>20</sup> The literature contains numerous studies demonstrating the effectiveness of wastewater treatment for the cleaning up of receiving watercourses. For example, von Sperling, M., [Urban Wastewater Treatment in Brazil, Technical Note IDB-TN-970, Water and Sanitation Division, IDB, August 2016](#); and Nolasco, D., [Desarrollo de proyectos MDL en plantas de tratamiento de aguas residuales, Technical Note 116, Water and Sanitation Division, IDB, 2010](#).

<sup>21</sup> Bello, O., L. Ortiz, and J. L. Samaniego (2014). Assessment of the effects of disasters in Latin America and the Caribbean, 1972-2010. ECLAC; and Mayorga Mora, Natalia (2013). [Experiencias de parques lineales en Brasil: Espacios multifuncionales con potencial para brindar alternativas a problemas de drenaje y aguas urbanas. Technical Note IDB-TN-518, Water and Sanitation Division](#). These studies present evaluations of adopting sustainable urban drainage systems based on recovery and respect for the hydrological cycle in urban watersheds, including development of parks, taking advantage of natural water infiltration mechanisms to reduce the speed and volume of water currents.

<sup>22</sup> Model developed by the Center for Weather Forecasting and Climate Studies (CPTEC). The model has been used in several South American countries to generate detailed climate forecasts. This regional model is based on two coupled international models: the Coupled Model, version 3 (HadCM3H) of the Hadley Center in the United Kingdom, and the Climate Model of the Max Planck Institute in Germany.

<sup>23</sup> Relatório Técnico - Medição dos gases CO<sub>2</sub>, CH<sub>4</sub>, e N<sub>2</sub>O emitidos pelas represas Guarapiranga e Billings e pelos rios Pinheiros e Tietê; Prefeitura do Município de São Paulo, Secretaria do Verde e Meio Ambiente; Associação Nacional de Transportes Públicos, São Paulo, 2012.

of water in metropolitan São Paulo (Billings, Guarapiranga, Pinheiros, and Tamanduatei) are net emitters of greenhouse gases, which have been estimated at 460 gigagrams of carbon dioxide equivalent per year. Of these, the Tietê River contributes 35,104 tons of carbon dioxide equivalent per year.

- 1.16 **Gender.** The strong connection between women and the provision of water and sanitation services is related to the private family environment. However, there is a gap because too few women participate in the decision-making processes for management of resources (García, 2000).<sup>24</sup> According to a recent World Bank study, women are underrepresented in technical and executive positions in companies that provide water and sanitation services.<sup>25</sup> For example, as far as employment, in Latin America women account for more than 60% of the workforce in the service sector, but only 19.7% in the water sector.<sup>26</sup> In overall employment, there is an inequality gap for women, because they work in sectors with lower salaries and fewer benefits. In 2017, Brazil's labor force participation rate for women ages 15+ was 54%, compared to 74% for men, according to the World Bank.<sup>27</sup> The gap decreases significantly among young people (ages 15-24), where labor force participation for women is 49% and for men, 62%. The majority of women are in the service sector (85% of women and 59% of men), while in the industry and agriculture sectors the percentage of women employed is much lower and has decreased in the past decade (industry sector: 11% of women and 28% of men; agriculture sector: 4% of women and 13% of men). With respect to gender violence, in 2017, among Brazilian women ages 16+, 16 million (27.4%) had suffered some type of violence in the past 12 months. Also, 4.7 million had suffered physical abuse.<sup>28</sup> Gender violence is a rights issue that also has repercussions on women's productivity.<sup>29</sup> With respect to operation 2500/OC-BR, which is currently closed and in evaluation, although gender actions had not been identified, the program management unit held workshops to counter **violence against women** with women of the 675 families displaced from the areas, with support from the Office of the Undersecretary of Women's Policies of Guarulhos.
- 1.17 **Lessons learned.** To prepare this operation, the lessons learned during the preparation and execution of the operations under the responsibility of SABESP<sup>30</sup> and the Tietê Várzea Program<sup>31</sup> were taken into account. First, it is important to clearly define the objectives and scope of projects related to environmental recovery of the Tietê River watershed and their conversion into easily measurable monitoring indicators. To do so, this operation will continue to use measurable

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<sup>24</sup> [Alianza de género y agua: Colocando el enfoque de género a todos los niveles y en todos los sectores relacionados con el manejo del recurso hídrico.](#)

<sup>25</sup> [World Bank \(2019\).](#)

<sup>26</sup> [¿Tiene género el agua? IDB, 2016.](#)

<sup>27</sup> [The Little Data Book on Gender](#), Brazil chapter, World Bank, 2019.

<sup>28</sup> [Fórum Brasileiro de Segurança Pública \(2018\). Visível e invisível: A vitimização de mulheres no Brasil - 2a edição.](#)

<sup>29</sup> Ibid.

<sup>30</sup> Loans 713/OC-BR, 896/SF-BR, and 1212/OC-BR, already completed; and 2202/OC-BR and 4623/OC-BR, currently in execution.

<sup>31</sup> Loan BR-L1216/2500/OC-BR, which is undergoing the closing process.

indicators based on a sound monitoring system. In addition, it is essential to have a project communication strategy that considers the operation's objectives as well as the views of those involved and their relationships with the media where the messages are featured. Therefore, Component 3 of this operation includes communication and information activities for the population regarding project works. Lessons learned from the project completion report for the Várzeas do Tietê Park demonstrated that measures to conserve the riverbanks by preventing informal settlements can be implemented effectively through community empowerment. Therefore, this operation includes empowerment activities for the public regarding managing and using the public spaces to be built on the riverbanks. Lastly, it is essential for the management team to be experienced and have low turnover, which contributes to working faster and maintaining quality standards. This operation will continue to work with the existing project management unit (PMU), strengthening certain aspects that were identified (paragraph 3.2).

- 1.18 **Strategic alignment.** The operation is aligned with the IDB Group Strategy with Brazil 2019-2022 (document GN-2973), specifically the priority area of improving the business climate and narrowing gaps in sustainable infrastructure for enhanced competitiveness; the strategic objective "narrow infrastructure gaps"; and the crosscutting themes of gender equality and diversity, climate change and environmental sustainability, and innovation and digital transformation. The project is consistent with the Update to the Institutional Strategy 2010-2020 (document AB-3008) and is aligned with the following development challenges: (i) social exclusion and inequality, since flooding and environmental pollution risks will decrease, as well as their disparate impacts on the population; and (ii) low productivity and innovation, by improving urban conditions and infrastructure quality, which will favor the development of activities that contribute to economic growth and the implementation of innovative technologies to reduce the economic and social impact of weather events in metropolitan São Paulo, enabling improved management of weather information. The project is also aligned with the following crosscutting areas: (i) institutional capacity and the rule of law, which will be strengthened through activities to help improve the management capacity of parks at the DAEE and the monitoring and prevention of meteorological risks; (ii) gender equality and diversity, since women will be actively included in the participatory management model for public spaces created under the project, and a professional training program for women that focuses on productive activities and women's rights (including violence prevention) will be designed and executed, in park facilities and in coordination with local advocacy and technical organizations identified during project preparation; and diversity, since infrastructure accessible for people with disabilities will be designed and built; and (iii) climate change and environmental sustainability, by contributing to climate change adaptation, reducing the impacts of climate change on local water through works for recovery and conservation of riverbanks aimed at managing larger surface flows, responding to growing threats from extreme weather events, and monitoring water and the nitrogen and phosphorus pollution load. It also contributes to mitigation, by addressing the additional biochemical oxygen demand resulting from the first rainfall and untreated wastewater that reach the Tietê River, which may increase the risk of cyanobacteria appearing under high-temperature conditions in the summer. In this regard, 100% of the operation's resources will be invested in

climate change mitigation and adaptation activities, according to the [multilateral development banks' joint methodology for tracking climate change adaptation finance](#). These resources contribute to the IDB Group's target of increasing financing for climate change projects to 30% of all operations approved by year-end 2020. In addition, the project will contribute to the Corporate Results Framework 2016-2019 (document GN-2727-6) through the indicator "households with wastewater treatment." The project is also aligned with the IDB Infrastructure Strategy: Sustainable Infrastructure for Competitiveness and Inclusive Growth (document GN-2710-5) in the priority area of promoting access to infrastructure services. The works to be financed were designed taking into account the criteria of the Bank's framework for sustainable infrastructure.<sup>32</sup> Specifically with respect to financial and institutional sustainability, given the support to strengthen the management of the institutions involved (paragraph 1.25); environmental and climate sustainability (paragraphs 1.23 and 1.24); and social and environmental sustainability (paragraph 1.25). The project is also consistent with the Water and Sanitation Sector Framework Document (document GN-2781-8), specifically the dimensions of success and lines of action regarding universal access and increasing the quality of services, and social and environmental sustainability. It is also consistent with the Urban Development and Housing Sector Framework Document (document GN-2732-6), through the dimension of success of access to quality urban infrastructure and public services, which helps to reduce vulnerability to climate-related and geophysical risks and support environmental stewardship. Lastly, the operation is included in the Updated Report on Annex III of the 2019 Operational Program Report (document GN-2948-2).

- 1.19 **Gender measures.** Based on the gaps identified in the gender diagnostic assessment (paragraph 1.16), which points to inequality in employment opportunities for women, high levels of violence, and scant participation of women in leadership positions, this operation presents an opportunity to include the following actions: (i) implementation of a training program for productive activities focused on women within the park itself; (ii) training courses on women's rights, supported by local organizations;<sup>33</sup> and (iii) a participatory management model for public spaces within the park with a gender focus that guarantees the active participation of women. All these actions will be part of the social empowerment measures for the facilities created under the project, which are spelled out in Component 3. (paragraph 1.26) ([optional link 7](#)).
- 1.20 **People with disabilities.** Estimates show that 810,000 people with disabilities live in the state of São Paulo (42% with visual impairments, 27% motor, 16% intellectual, and 15% hearing).<sup>34</sup> Therefore, as part of its design and construction, the park financed under this operation will include adequate features for its access, operation, and use by people with disabilities.

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<sup>32</sup> [What is Sustainable Infrastructure? A Framework to Guide Sustainability Across the Project Cycle](#). IDB, 2018.

<sup>33</sup> Conselho Municipal de Defesa dos Direitos da Mulher (COMULHER), Câmara Técnica do Plano Nacional de Políticas para a Mulher.

<sup>34</sup> IBGE, 2010 Census.

- 1.21 **Innovation.** The project will prioritize the use of innovative technologies to increase the effectiveness and efficiency of the interventions related to information management. Therefore, it includes: (i) technologies using precision devices for the measurement, remote transmission, cloud storage, and processing of monitoring information on the quantity and quality of river water; and (ii) technologies using telephone applications to inform the public about weather conditions, including alerts about emergency situations.

**B. Objectives, components, and cost**

- 1.22 The project's objective is to support the recovery and conservation of the Tietê River. Its specific objectives are to: (i) recover and conserve the Tietê's riverbanks; (ii) improve the river's water quality; and (iii) strengthen the management of climate information at the DAEE and the management of the project's park complexes with community involvement. This objective will be accomplished through actions and investments under the following components:
- 1.23 **Component 1. Riverbank recovery and conservation works (US\$21.3 million).** This Component will finance: (i) construction and remodeling works for two education, culture, recreation, and sports complexes in the município of Salesópolis, and improvements to facilitate access, prioritizing the permeability and accessibility of these park complexes and complementary works; (ii) reforestation of approximately 36 hectares of degraded flora and riparian vegetation (green infrastructure) to increase the retention capacity of the riverbanks and partially slow the erosion processes that deposit sediment on the riverbed while offering protection against flooding; (iii) supplementary activities, such as engineering and supervision projects; and (iv) expropriations, if necessary.
- 1.24 **Component 2. Improvement works and monitoring of Tietê River water quality (US\$66.4 million).** This Component will finance: (i) the installation of wastewater collector mains (household wastewater and nonpoint source pollution from rainwater) along tributaries of the Tietê River in urban areas of the município of Mogi das Cruzes; the collected effluent will be treated at the Suzano wastewater treatment plant; (ii) the dredging of critical points of the Tietê River's channel as well as those where the main tributaries flow into the river, upstream from the Penha Dam; and (iii) the implementation of control sections for the qualitative and quantitative monitoring of river water, prioritizing the use of innovative technologies; and (iv) supplementary activities, such as engineering and supervision projects.
- 1.25 **Component 3. Institutional strengthening and community involvement (US\$7.9 million).** This Component will finance: (i) expanding the coverage of the DAEE weather-monitoring system through the procurement and installation of equipment, prioritizing technological innovation, and improving public alert communication systems; (ii) preparing and implementing a social empowerment program for the facilities created under the project, including awareness raising and environmental education events to ensure the sustainability of the actions

implemented;<sup>35</sup> (iii) preparing and implementing a management model for the above-mentioned park complexes that promotes the effective participation of the public, with emphasis on women’s participation; and (iv) implementing a training program for production-related activities focused on women; for example, identification of business and entrepreneurial opportunities, accounting, and sales. Training sessions will take place in the park complexes and in coordination with advocacy organizations identified during project preparation ([optional link 7](#)).

- 1.26 **Project administration (US\$4.4 million).** The project will finance the costs associated with retaining specialized services to help the PMU administer the project, including studies, consulting services, environmental licenses, monitoring, evaluation, and external audits.

**C. Key results indicators**

- 1.27 The results matrix (Annex II) includes project outputs and outcomes. Table I-1 sets out the key indicators.

**Table I-1. Key indicators**

<b>Outcome indicator</b>	<b>Unit of measurement</b>	<b>Baseline</b>	<b>Target</b>
Users of Salesópolis Park	Number of people annually	24,000	104,000
Households with wastewater treatment in the município of Mogi das Cruzes	Number of households	48,493	93,731
Women trained in production-related activities and their rights	Number of women	0	225

- 1.28 **Description of the beneficiaries.** The direct beneficiaries of the park are estimated to be the 15,635 inhabitants of the município of Salesópolis. The indirect beneficiaries will be the population of metropolitan São Paulo. Separately, reforestation and dredging interventions will directly benefit some 3 million people settled on a two-kilometer strip of land along both banks of the river. Again, the positive effects of these works will indirectly extend to the entire metropolitan area. In addition, approximately 2 million people settled in the state’s coastal zone will benefit from better information for weather alerts. The project will also benefit nearly 145,000 families in Mogi das Cruzes by improving their environmental conditions through the construction of infrastructure to collect wastewater and subsequently treat it with existing systems. Lastly, approximately 225 women will benefit from professional training focusing on productive activities.

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<sup>35</sup> The social empowerment program will include activities to promote the park complex, an environmental education program for school children, teachers, community leaders, and other education promotion activities, including a focus on climate change. Specifically, this may include information on the impacts of climate change for this region and how parks can help contribute to climate change adaptation, with the aim of raising awareness of the important role communities play in preserving these investments.

## II. FINANCING STRUCTURE AND MAIN RISKS

### A. Financing instruments

- 2.1 **Cost and financing.** The project will have a total cost of US\$99,957,824, of which US\$79,866,302 will be financed by the Bank from its Ordinary Capital and US\$20,091,522, with local counterpart resources. The consolidated budget per Component is shown in Table II-1 ([optional link 9](#)).

Table II-1. Estimated project costs (US\$ millions)

Components	IDB	Local	Total	%
<b>Component 1. Riverbank recovery and conservation works</b>	<b>17.0</b>	<b>4.3</b>	<b>21.3</b>	<b>21.3</b>
Park complex – município of Salesópolis	13.6	3.4	17.0	17.0
Hectares reforested with native flora and riparian vegetation	1.9	0.5	2.4	2.4
Studies and projects	1.1	0.3	1.4	1.4
Supervision	0.4	0.1	0.5	0.5
<b>Component 2. Improvement works and monitoring of Tietê River water quality</b>	<b>53.1</b>	<b>13.3</b>	<b>66.4</b>	<b>66.4</b>
Works	49.5	12.4	61.9	61.9
Studies and projects	1.6	0.4	2.0	2.0
Supervision	2.0	0.5	2.5	2.5
<b>Component 3. Institutional strengthening and community involvement</b>	<b>6.3</b>	<b>1.6</b>	<b>7.9</b>	<b>7.9</b>
<b>Project administration</b>	<b>3.5</b>	<b>0.9</b>	<b>4.4</b>	<b>4.4</b>
<b>Total</b>	<b>79.9</b>	<b>20.1</b>	<b>100</b>	<b>100</b>

- 2.2 **Financial structure and modality.** This will be a specific investment loan with a 5.5-year disbursement period, in line with the multiyear execution plan ([required link 1](#)) and governed by the project Operating Regulations ([optional link 6](#)). The execution period is justified because the executing agency does not have detailed designs and will have to prepare them during the first years of execution; and because there are external stakeholders with whom agreements need to be signed after negotiations, such as an agreement with the entity responsible for wastewater treatment, which will require technical and financial negotiations. The disbursement timetable is shown in Table II-2.

Table II-2. Disbursement timetable (US\$ million)

Source/Year	1	2	3	4	5	6*	Total
IDB	3.5	15.1	18.9	23.6	14.6	4.2	79.9
Local contribution	0.9	3.8	4.7	5.9	3.7	1.1	20.1
Total	4.3	18.9	23.6	29.6	18.3	5.3	100.0
Cumulative %	4.3	18.9	23.6	29.5	18.3	5.3	100.0

(\*) Disbursement period: 5.5 years

## **B. Environmental and social risks**

- 2.3 According to the Bank's Environment and Safeguards Compliance Policy (Operational Policy OP-703), the operation was classified as category "B" in terms of its negative socioenvironmental, health, and safety impacts and risks, which will be mostly moderate, localized, and of a short-term nature. The main impacts include turbidity and re-suspension of polluted sediment due to dredging; minor pollution during the works, mainly air pollution from dust and noise; and pollution of soil or bodies of water due to small spills of lubricants or hazardous waste. During system operation, impacts such as noise and odors will be limited to the infrastructure facilities. Pursuant to the requirements for a category "B" operation, an environmental and social analysis and an environmental and social management plan were prepared for Components 1 and 2. These were already disseminated and the respective consultations were held. Also, a strategic environmental and social assessment and a strategic environmental and social management plan were prepared for the entire project. These were already disseminated and the respective consultations were held. All these documents included risk analysis for natural disasters and gender. While some of the infrastructure for Component 2 has not been defined, preferably, works requiring involuntary resettlement will not be financed. During the operation's execution, preliminary and detailed designs will be prepared for the option selected. These will expand the analysis of the technical viability, and if necessary, determine the need to make possible modifications to avoid resettlement. In case it is necessary, the environmental and social management plan for Component 2 includes a plan for resettlement and/or recovery of means of support. The loan contract also includes clauses to guarantee the implementation of these plans, if necessary. The project does not have the potential to impact indigenous peoples, since it is being implemented in urban areas of municipios where there is no record of their presence. The environmental and social risk is moderate, since despite the population's very positive view regarding the project, the institutional structure for its operation is complex and involves state and municipal entities.
- 2.4 Consultation events were held on 6 and 7 November 2019. Final versions of all environmental and social documents were published, along with the respective consultation report. The consultations were successful and reflected the strong support of the population for the project.

## **C. Other risks and key themes**

- 2.5 A medium-level risk was identified for public management and governance, related to limited institutional coordination with other involved entities. This risk will be mitigated by establishing cooperation agreements between the DAEE and the entities involved in project execution, developing participation strategies for interested parties, and approving the project Operating Regulations. Two medium development risks were also identified, related to: (i) poor operation and maintenance of the works to be built under the project; and (ii) delays in receiving counterpart funds. These risks will be mitigated as follows: (i) including in the terms of reference for contractors a requirement to prepare operation and maintenance manuals and train the personnel responsible for operation and maintenance, and including a clause in the loan contract for the proper operation and maintenance of the works; and (ii) having a stable outlook for a satisfactory fiscal position of the

State of São Paulo, as well as periodically updating the operation's financial plan. In addition, two macroeconomic and fiscal sustainability risks were identified, related to fluctuations in the U.S. dollar-Brazilian real exchange rate, and the deterioration of the fiscal position of the State of São Paulo. These risks will be mitigated as follows: (i) dividing major bidding processes into lots in order to move ahead with their execution such that whenever project resources are adversely impacted by the exchange rate, only part of the project's scope is hindered, without affecting the entire bidding process; and (ii) monitoring the rating process of the State of São Paulo ESP and timely signature of the loan contract.

- 2.6 **Technical viability.** Existing detailed designs were evaluated mostly at the concept level, including a diagnostic assessment, demand estimates, concept design, and cost. There was an analysis of alternatives included in the scoping studies for the main works, Salesópolis Park, and the structures for river cleanup in the Mogi das Cruzes segment ([optional link 1](#)). For Salesópolis Park, the alternative considered was the weighing of various technical, environmental, social, and economic criteria. For the river cleanup infrastructure of the Mogi das Cruzes segment, the analysis of alternatives, in addition to technical and economic criteria, took into account the jurisdiction and authority of the DAEE and the period needed to achieve the established objective. Project works will be executed once the respective detailed engineering designs are prepared. These designs will follow the standards of the Brazilian Association of Technical Standards, the generally accepted international engineering principles, and the guidelines agreed upon in the project Operating Regulations ([optional link 6](#)). There are detailed studies available for river dredging activities. Reforestation activities will prioritize the fulfillment of offset areas for the other activities in this operation. For the remaining interventions related to the control sections for river monitoring and the actions for modernization and expansion of the meteorological monitoring system in metropolitan São Paulo, studies for effective implementation will be conducted, prioritizing the use of technological innovations.
- 2.7 **Socioeconomic viability.** A cost-benefit analysis of the operation's projects, the installation of wastewater collector mains in the município of Mogi das Cruzes and the implementation of a park in the município of Salesópolis, was prepared. Benefits for both projects were calculated using the contingent valuation methodology. Using a 12% discount rate, the projects were found to be viable, with economic internal rates of return of 15.8% for the Mogi das Cruzes project and 21% for Salesópolis Park; and net present values of US\$11.7 million and US\$10.1 million, respectively ([optional link 2](#)).
- 2.8 **Institutional viability.** The institutional evaluation of the DAEE was conducted using the Bank's Institutional Capacity Assessment Platform. This evaluation found a low level of risk, indicating that this executing agency has satisfactory experience in project execution, including operations with external financing. The DAEE used its own personnel for the project management unit of the Tietê Várzea Program (loan BR-L1216; 2500/OC-BR), demonstrating that it has institutional capacity in all analyzed modules, suitable human and financial resources, and an institutional setting conducive to effective project execution. In addition, before the startup of works, an agreement will be signed with each applicable município to establish the respective responsibilities and obligations.

- 2.9 **Financial viability.** The historical financial analysis of the State of São Paulo and financial projections indicated that the State has sufficient resources to provide counterpart funds for the project and for the operation and maintenance of project works. The total debt for this project only accounts for 0.1% of the State's current debt and 0.2% of its current liquid earnings for the latest fiscal year. This financial analysis also showed satisfactory fiscal management for the State, which obtained a primary surplus based on factors such as a diversified economy that enables it to have a significant source for its own revenues. The State of São Paulo has also been fulfilling the determining factors of the Fiscal Responsibility Law and the conditions of the Fiscal Adjustment Program. Financial projections for the State were prepared, taking into account its satisfactory fiscal performance in the latest fiscal years and the planned investments. These projections indicated that the State will maintain a stable outlook in its fiscal management, with a primary surplus during the projected period ([optional link 4](#)).

### III. IMPLEMENTATION AND MANAGEMENT PLAN

#### A. Summary of implementation arrangements

- 3.1 **Borrower and executing agency.** The borrower will be the State of São Paulo and the executing agency will be the Water and Electricity Department (DAEE). The DAEE has a project management unit (PMU) created for the Tietê Várzea Program,<sup>36</sup> which will be appointed to also be responsible for the execution of this project. The Federative Republic of Brazil will be the guarantor for the financial obligations related to the loan.
- 3.2 **Project management unit.** The PMU will be comprised of DAEE officials as follows: (i) a coordinator; (ii) a planning, projects, and works specialist; (iii) an administration and financial specialist; and (iv) a social and environmental specialist. Their duties and responsibilities are spelled out in the project Operating Regulations ([optional link 6](#)). For project procurement, the PMU will have the support of a special bidding committee comprised of DAEE staff named specifically for the project. Following the successful execution model used in the previous operation, the PMU will receive specialized consulting services to support project administration and the supervision of works.
- 3.3 **Management of Salesópolis Park.** The PMU will commission a study with several options for park management models, as well as a financial plan, a cost structure, and external contributions, if necessary, to ensure the sustainability of its management (for example, administration by the Parks Department, outsourcing to the private sector, subsidized compensation to the municípios involved, and community management).
- 3.4 **Project Operating Regulations.** Project execution will be governed by the provisions of the project Operating Regulations, which will include aspects such as: (i) a detailed execution mechanism; (ii) the structure and organization of the PMU, including its organizational chart, duties, responsibilities, and procedures; (iii) institutional roles and responsibilities of the entities involved; (iv) rules and

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<sup>36</sup> Created under Decree 55274 of 20 April 2010.

- procedures for the selection and contracting of works, goods, and services; (v) rules and procedures for administrative and financial management; (vi) social and environmental viability criteria for the approval of projects to be financed under the operation; (vii) environmental and social management plan; and (viii) monitoring and supervision procedures.
- 3.5 **The special contractual conditions precedent to the first disbursement of the loan will be: (i) entry into effect of the appropriate legal instrument for project execution between the borrower, through the appropriate ministry, and the DAEE; (ii) publication in the Official Gazette of the State of São Paulo of the decree appointing the project management unit, pursuant to the terms agreed upon with the Bank; and (iii) entry into effect of the project Operating Regulations, in accordance with the terms agreed upon with the Bank.** These conditions are justified to ensure the project is properly executed, since the executing agency has independent legal status and the project Operating Regulations will be the main operational instrument indicating the various responsibilities of all the entities involved in execution.
- 3.6 **Special contractual conditions for execution:** (i) before tendering the project's first works contract in each of the involved municípios, the appropriate legal instrument will have been signed and entered into effect between the executing agency and the respective município, defining the obligations and responsibilities of each, pursuant to the terms established previously with the Bank; and (ii) before tendering the works contract for the wastewater collection and interception network, the appropriate legal instrument will have been signed and entered into effect between the executing agency and the entity responsible for wastewater treatment, pursuant to terms established previously with the Bank.
- 3.7 These special contractual execution conditions are justified based on the following factors: (i) the location of the works for the components in the territory of the municípios of Salesópolis, Biritiba Mirim, and Mogi das Cruzes; and (ii) the importance of ensuring the treatment of the wastewater to be collected and transported with project-financed infrastructure.
- 3.8 **Fiduciary agreements and requirements.** The fiduciary agreements and requirements establish the financial management and planning framework, as well as the framework for supervision and execution of relevant procurement processes for project execution. The disbursement modalities for loan proceeds will be advance of funds, expense reimbursement, and direct payment to suppliers. For the advance of funds modality, disbursements will be based on estimated expenditures for up to 180 days. Supporting documentation for disbursements will be provided for at least 80% of total cumulative balances pending justification, using the Bank's forms. The PMU will submit audited annual and final financial statements for the operation, following the terms and deadlines that the Bank requires in its policies. Therefore, the PMU agrees to select and retain an independent audit firm acceptable to the Bank for the duration of the operation.
- 3.9 The procurement plan will be managed through an online electronic system known as the Procurement Plan Execution System, or the system determined by the Bank. Procurement will be carried out in accordance with the Policies for the Procurement of Goods and Works Financed by the Inter-American Development Bank (document GN-2349-9) and the Policies for the Selection and Contracting of

Consultants Financed by the Inter-American Development Bank (document GN-2350-9), or their subsequent updates.<sup>37</sup> However, given that both the partial and advanced use of Brazil's country procurement system has been approved by the Bank's Board of Executive Directors (documents GN-2538-11 of 2013 and GN-2538-22 of 2017, respectively), the use of this system will be possible once the implementation and monitoring actions described in the "Report on Acceptance of Use of the Brazil Country Procurement System" have been implemented and the procurement plan has been amended. The subsystems for electronic reverse auctions and electronic price lists for framework agreements can be used once the implementation phase of the recommendations prior to their use is completed.

- 3.10 **Retroactive financing and recognition of expenditures.** Retroactive financing of payments corresponding to contracts that entered into effect after the project profile approval date is not anticipated. Recognition of expenditures for up to US\$2 million against the local counterpart is anticipated for the preparation of engineering designs, provided that such expenditures will have been incurred on or after 17 October 2019 (project profile approval date), but may under no circumstances include expenditures incurred more than 18 months prior to the date the loan proposal is approved by the Bank's Board of Executive Directors.
- 3.11 **Sustainability considerations for procurement.** Procurement processes will include sustainability criteria (environmental, social, or economic) in the various stages, including: planning; preparation of standard bidding documents; definition of technical specifications; evaluation and selection criteria for bidders; and evaluation and awarding criteria for bids.
- 3.12 With regard to environmental considerations, the inclusion of materials, ecotechnologies, and design and construction practices to improve thermal comfort, energy efficiency, integration of the natural landscape into equipment and asset infrastructure, and risk reduction will be promoted for the various interventions in frontages, paths, and cultural facilities. Procurement processes will also ensure that works include the installation of efficient lighting systems in frontages, paths, and public spaces, as well as the use of pervious concrete materials in sidewalks and public squares to foster the infiltration of stormwater runoff and reduce puddling and flooding. The guide [Green Procurement: How to Encourage Green Procurement Practices in IDB-funded Projects?](#) offers guidelines on the elements that should be considered when designing and implementing green procurement.
- 3.13 **Operation and maintenance.** The borrower will commit to adopting, through the executing agency or beneficiary município, as applicable, the measures necessary for the proper operation and maintenance of the works and assets that are part of the project, in accordance with generally accepted technical standards. During the disbursement period and as part of the semiannual status reports, the borrower will submit, acting through the executing agency, a report on the status of these works and assets, and of the budget resources allocated to their operation and

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<sup>37</sup> In May 2019, the Board of Executive Directors of the Bank approved the Policies for the Procurement of Goods and Works Financed by the Inter-American Development Bank (document [GN-2349-15](#)) and the Policies for the Selection and Contracting of Consultants Financed by the Inter-American Development Bank (document [GN-2350-15](#)), which will enter into force in January 2020.

maintenance. If, on the basis of the Bank's inspections or any reports the Bank receives, maintenance is found to be below agreed upon levels, the borrower, acting through the executing agency or the beneficiary municipio, as applicable, will take measures to ensure that the deficiencies are fully corrected.

**B. Summary of arrangements for monitoring results**

- 3.14 **Monitoring.** A monitoring arrangement that includes a data collection plan, responsible parties, and budgetary allocation has been agreed upon ([required link 2](#)). The executing agency will be responsible for monitoring and evaluating projects to be financed under the operation, for which it can engage independent consultants. Monitoring will be carried out using the Bank's oversight tools, including the procurement plan, the multiyear execution plan, the annual work plan, the results matrix, and the progress monitoring report. The executing agency will submit semiannual reports on progress and outcomes achieved, including an action plan for the following six-month period, within 60 days after the end of every six-month period.
- 3.15 **Evaluation.** The project evaluation mechanism will include: (i) a midterm review, if requested by the Bank, within 90 days after the date on which 50% of the loan proceeds have been disbursed, or 36 months of execution have lapsed, whichever occurs first (the Bank may agree to a midterm mission in lieu of this arrangement); and (ii) a final review to be submitted to the Bank within 90 days after the closing date of disbursements. The proposed evaluation methodology will be a "before and after" analysis, which will measure the outcome indicators for the project baseline before and after implementation and compare the measurements to verify that the targets were achieved. An ex post economic evaluation will also be conducted, following the methodology used for the ex ante evaluation, to compare the costs of executed investments, operation and maintenance costs, and project benefits, calculated as described in the monitoring and evaluation plan ([required link 2](#)).

Development Effectiveness Matrix		
Summary		BR-L1536
<b>I. Corporate and Country Priorities</b>		
<b>1. IDB Development Objectives</b>		
Development Challenges & Cross-cutting Themes	<ul style="list-style-type: none"> <li>-Social Inclusion and Equality</li> <li>-Productivity and Innovation</li> <li>-Gender Equality and Diversity</li> <li>-Climate Change and Environmental Sustainability</li> <li>-Institutional Capacity and the Rule of Law</li> </ul>	
Country Development Results Indicators	<ul style="list-style-type: none"> <li>-Women beneficiaries of economic empowerment initiatives (#)*</li> <li>-Government agencies benefited by projects that strengthen technological and managerial tools to improve public service delivery (#)*</li> <li>-Households with wastewater treatment (#)*</li> </ul>	
<b>2. Country Development Objectives</b>		
Country Strategy Results Matrix	GN-2973	Priority area of improving the business climate and narrow gaps in sustainable infrastructure for enhanced competitiveness, strategic objective, "narrow infrastructure gaps".
Country Program Results Matrix	GN-2948-2	The intervention is included in the 2019 Operational Program.
Relevance of this project to country development challenges (If not aligned to country strategy or country program)		
<b>II. Development Outcomes - Evaluability</b>		Evaluable
<b>3. Evidence-based Assessment &amp; Solution</b>		7.7
3.1 Program Diagnosis		3.0
3.2 Proposed Interventions or Solutions		1.7
3.3 Results Matrix Quality		3.0
<b>4. Ex ante Economic Analysis</b>		10.0
4.1 Program has an ERR/NPV, or key outcomes identified for CEA		3.0
4.2 Identified and Quantified Benefits and Costs		3.0
4.3 Reasonable Assumptions		1.0
4.4 Sensitivity Analysis		2.0
4.5 Consistency with results matrix		1.0
<b>5. Monitoring and Evaluation</b>		7.2
5.1 Monitoring Mechanisms		2.5
5.2 Evaluation Plan		4.7
<b>III. Risks &amp; Mitigation Monitoring Matrix</b>		
Overall risks rate = magnitude of risks*likelihood		Low
Identified risks have been rated for magnitude and likelihood		Yes
Mitigation measures have been identified for major risks		Yes
Mitigation measures have indicators for tracking their implementation		Yes
Environmental & social risk classification		B
<b>IV. IDB's Role - Additionality</b>		
The project relies on the use of country systems		
Fiduciary (VPC/FMP Criteria)	Yes	Financial Management: Budget, Treasury, Internal Audit. Procurement: Information System, Price Comparison.
Non-Fiduciary		
The IDB's involvement promotes additional improvements of the intended beneficiaries and/or public sector entity in the following dimensions:		
Additional (to project preparation) technical assistance was provided to the public sector entity prior to approval to increase the likelihood of success of the project	Yes	TC BR-T1429

Note: (\*) Indicates contribution to the corresponding CRF's Country Development Results Indicator.

The objective of the program is to contribute to the recovery and preservation of the Tietê River. The specific objectives are: (i) recovery and preservation of riverbanks; (ii) improvement of river water quality; and (iii) strengthening the management of information of the DAEE and the management of the Salesópolis park with social participation.

The documentation presents a solid diagnosis. The problems that contribute to the deterioration of the riverbanks and the water quality of the Tietê River are identified, including deforestation, irregular occupations, and drainage infrastructure gaps in key hydraulic areas. Investment and coverage gaps are identified in the DAEE's Basic Hydrological Network to monitor and manage the water resources of the State of São Paulo.

To mitigate these problems, the Program will implement three components: 1) Riverbank recovery and preservation works; 2) Works to improve and monitor the water quality of the Tietê River; 3) Institutional strengthening and social participation. Relevant evidence is presented on the effectiveness of these types of programs. The results matrix (RM) reflects the objectives of the program and shows a clear vertical logic. The results indicators meet the criteria to be SMART. The product and outcome indicators have baseline values, targets, and means to collect information.

Two Cost-Benefit analyzes are performed — for the recovery and conservation of the River (Salesópolis Park), and for the improvement of the quality of the River (collectors of contaminated water in Mogi das Cruzes). The main costs and benefits are identified and quantified. The assumptions are reasonable and are supported with household survey data. The internal economic rate of return (IERR) is 21% for the Park and 15% for collectors of contaminated water. The net present value (NPV) is US\$10.1 million and US\$11.7 million, respectively. Sensitivity analyzes are performed; the modifications do not present significant alterations to the NPV or IERR.

The monitoring and evaluation plan proposes two evaluations: ex post cost-benefit analysis and reflexive evaluation. Given the nature of the Program, the proposal is reasonable; however, the ex post EA for the Park could use real data from visits to the park instead of the contingent valuation methodology. This would strengthen the link between the Effectiveness and Efficiency section in the PCR and could serve as a model for future similar operations.

The identified risks seem reasonable and are classified as low risk (7) and medium (5). All risks classified as Medium include a management strategy and compliance indicators.

## RESULTS MATRIX

<b>Project objective</b>	The project's objective is to support the recovery and conservation of the Tietê River. Its specific objectives are to: (i) recover and conserve the Tietê's riverbanks; (ii) improve the river's water quality; and (iii) strengthen the management of climate information at the Water and Electricity Department (DAEE) and the management of the project's park complexes with community involvement.									
<b>Outcomes</b>										
<b>Indicator</b>	<b>Unit of measurement</b>	<b>Baseline</b>	<b>Year</b>	<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>	<b>Year 4</b>	<b>Year 5</b>	<b>End of project</b>	<b>Comments/Means of verification (MV)</b>
<b>Outcome 1. Riverbanks of the Tietê recovered and preserved</b>										
1.1 Users of Salesópolis Park	Number of visitors per year	24,000 <sup>1</sup>	2019					104,000	104,000	<b>MV:</b> Report on number of monthly visits to the parks <b>Comment:</b> Estimated at 2,000 visitors per week in both parks (52 weeks per year). <b>Responsibility:</b> DAEE – project management unit (PMU)
1.2 Surface runoff coefficient	Percentage	69.45 <sup>2</sup>	2019					65.31	65.31	<b>Comment:</b> See calculation formula in the monitoring and evaluation annex <b>MV:</b> Measurements taken for the project's final review <b>Responsibility:</b> DAEE – PMU
<b>Outcome 2: Improved environmental function of the Tietê River upstream from the Penha Dam</b>										
2.1 Water retention time in the Upper Tietê River watershed	Number of hours	13.8 <sup>3</sup>	2019					14.3	14.3	<b>Comment:</b> Retention time = (volume of residue removed) / (restriction flow x 3,600) + initial retention time <b>MV:</b> Measurements taken for the project's final review <b>Responsibility:</b> DAEE - PMU
<b>Outcome 3: Improved water quality in the Tietê River</b>										
3.1 Households with wastewater treatment in the município of Mogi das Cruzes	Household	48,493	2019					93,731	93,731	<b>MV:</b> Semiannual project reports <b>2019:</b> 155,664 inhabitants (baseline). <b>2025:</b> 300,878 inhabitants (target). <b>Index:</b> 3.21 (2015) people per household (Master Sewerage Plan of the State of São Paulo Basic Sanitation Company (SABESP) <b>Responsibility:</b> DAEE - PMU

<sup>1</sup> Nascentes section.

<sup>2</sup> Project completion report data for operation BR-L1216.

<sup>3</sup> Project completion report data for operation BR-L1216.

Indicator	Unit of measurement	Baseline	Year	Year 1	Year 2	Year 3	Year 4	Year 5	End of project	Comments/Mean of verification (MV)
3.2 Organic load discharged into the tributary streams of the Tietê River in the município of Mogi das Cruzes	Tons of biochemical oxygen demand per year	3,993	2019					1,059	1,059	<b>MV:</b> Project completion report <b>Responsibility:</b> DAEE - PMU
<b>Outcome 4: Expanded monitoring system for water quantity and quality in the Tietê River</b>										
4.1 Coverage of the monitoring system for water quality and quantity in the Upper Tietê River watershed	Stations per kilometer	2.2	2019					2.4	2.4	<b>MV:</b> Monitoring reports on water quantity and quality from the DAEE <b>Responsibility:</b> DAEE - PMU <b>Comment:</b> The DAEE will control the monitoring stations
<b>Outcome 5: Project public spaces suitable for the population</b>										
5.1 Participation of the population in events at Salesópolis Park	People per year	0 <sup>4</sup>	2019					900	900	<b>MV:</b> Reports with records of events <b>Responsibility:</b> PMU
5.2 Coverage of operating and maintenance costs for Salesópolis Park for features built under the project	Percentage	0	2019					100	100	<b>MV:</b> Semiannual project reports <b>Responsibility:</b> DAEE - PMU <b>Comment:</b> (DAEE budget executed for park operation and maintenance / DAEE planned budget for park operation and maintenance) x 100
<b>Outcome 6: Women with knowledge of their rights and with strengthened productive skills</b>										
6.1 Women trained on production-related activities and women's rights	Number of women	0						225	225	<b>MV:</b> Course completion certificates <b>Responsibility:</b> PMU
<b>Outcome 7: Expanded and upgraded meteorological information system</b>										
7.1 Population covered by the meteorological information system for nine cities on the coast and north of the state of São Paulo	Population	0						2,000,000	2,000,000	<b>MV:</b> Installation and operation report for the radar systems procured <b>Responsibility:</b> DAEE <b>Comment:</b> Millions of people

<sup>4</sup> The baseline is 0 because no events are currently held at the park.

<b>Output indicators</b>											
<b>Component 1: Riverbank recovery and conservation works</b>											
<b>Output</b>	<b>Unit of measurement</b>	<b>Associated outcomes</b>	<b>Cost (US\$ millions)</b>	<b>Baseline</b>	<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>	<b>Year 4</b>	<b>Year 5</b>	<b>End of project</b>	<b>Comments/Mean of verification</b>
1.1 Expanded park in the município of Salesópolis	Park	1.1, 1.2, 2.1, 5.1, and 6.1	21,321,740	0	0	0	0	0	1	1	<b>MV:</b> Works certificate validated by the PMU <b>Responsibility:</b> PMU
<u>Milestone:</u> Park complexes that are accessible for people with disabilities	Park complex		8,980,280	0	0	0	0	1	1	2	<b>MV:</b> Works certificate validated by the PMU <b>Responsibility:</b> PMU
<u>Milestone:</u> Park access roads built	Kilometers of road		8,474,969	0	0	0	3.20	4.27	3.21	10.68	<b>MV:</b> Works certificate validated by the PMU <b>Responsibility:</b> PMU
<u>Milestone:</u> Park road network built	Kilometers of road		560,712	0	0	0	6.18	8.24	6.18	20.60	<b>MV:</b> Works certificate validated by the PMU <b>Responsibility:</b> PMU
<u>Milestone:</u> Modules with recreational equipment accessible for people with disabilities built	Module		716,217	0	0	0	1	2	1	4	<b>MV:</b> Works certificate validated by the PMU <b>Responsibility:</b> PMU
1.2 Hectares planted with native and riparian vegetation	Hectares	1.2 and 2.1	2,589,562	0	0	10	26	0	0	36	<b>MV:</b> Works certificate validated by the PMU <b>Responsibility:</b> PMU
<b>Component 2: Improvement works and monitoring of Tietê River water quality</b>											
2.1 Wastewater collector mains in Mogi das Cruzes built	Kilometers	3.1 and 3.2	4,473,267	0	0	0	5,202	6,937	5,202	17,341	<b>MV:</b> Works certificate validated by the PMU <b>Responsibility:</b> PMU
2.2 Rainfall retention systems capacity built (includes lifting stations and grates for separation of solids)	Cubic meters	3.1 and 3.2	45,002,344	0	0	0	25,026	33,370	25,026	83,422	<b>MV:</b> Works certificate validated by the PMU <b>Responsibility:</b> PMU
2.3 Sediment from the project area removed and disposed of adequately	Cubic meters	2.1	16,309,637	0	0	104,000	156,000	156,000	104,000	520,000	<b>MV:</b> Works certificate validated by the PMU <b>Responsibility:</b> PMU <b>Comment:</b> "Properly disposed" means following Brazil's environmental regulations.
<b>Output</b>	<b>Unit of measurement</b>	<b>Associated outcomes</b>	<b>Cost (US\$ millions)</b>	<b>Baseline</b>	<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>	<b>Year 4</b>	<b>Year 5</b>	<b>End of operation</b>	<b>Comments/Mean of verification</b>
2.4 Stations for qualitative and quantitative monitoring of river water implemented	Number of station	4.1	596,978	0	0	0	5	7	5	17	<b>MV:</b> Works certificate validated by the PMU <b>Responsibility:</b> PMU

<b>Component 3: Institutional strengthening and community involvement</b>											
3.1 Meteorological monitoring system in metropolitan São Paulo upgraded and expanded	System	7.1	2,000,000	0	0	0	0	1	0	1	<b>MV:</b> Consulting assignment report <b>Responsibility:</b> PMU
3.2 Social empowerment program for the facilities created under the project modernized and expanded	Program	1.1, 5.1, and 5.2	2,454,000	0	0	0	0	1	0	1	<b>MV:</b> Consulting assignment report <b>Responsibility:</b> PMU
3.3 Environmental education events in Salesópolis Park for students, teachers, and community leaders prepared and implemented	Event	1.1, 5.1, and 5.2	820,000	0	0	0	0	12	18	30	<b>MV:</b> Consulting assignment report <b>Responsibility:</b> PMU
3.4 Productive professional training program with a gender focus in Salesópolis Park prepared and implemented	Program	5.1 and 6.1	1,230,600	0	0	0	0	1	0	1	<b>MV:</b> Consulting assignment report <b>Responsibility:</b> PMU
3.5 Participatory management model with a gender focus for Salesópolis Park developed and implemented	Model	1.1, 5.1, 5.2, and 6.1	1,430,000	0	0	0	0	1	0	1	<b>MV:</b> Consulting assignment report <b>Responsibility:</b> PMU

## **FIDUCIARY AGREEMENTS AND REQUIREMENTS**

<b>COUNTRY:</b>	Brazil
<b>PROJECT:</b>	BR-L1536
<b>NAME:</b>	Tietê River Recovery Project Upstream of Penha Dam, State of São Paulo – Renasce Tietê
<b>BORROWER:</b>	State of São Paulo
<b>EXECUTING AGENCY:</b>	Water and Electricity Department (DAEE) of the State of São Paulo
<b>GUARANTOR:</b>	Federative Republic of Brazil
<b>FIDUCIARY TEAM:</b>	Karina Díaz and Carlos Carpizo (VPC/FMP)

### **I. EXECUTIVE SUMMARY**

- 1.1 The project's institutional assessment for fiduciary management was based on: (i) the country's current fiduciary context; (ii) the results of the evaluation of the main fiduciary risks; (iii) the institutional capacity assessment; (iv) previous experience with the Tietê Várzea Program, also executed by the DAEE (operation BR-L1216); and (v) working sessions involving the Bank's project team, the DAEE, and other State authorities. This assessment was used to prepare fiduciary agreements for financial and procurement management in project execution.
- 1.0 Brazil has robust country fiduciary systems that facilitate proper management of administrative, financial, control, and procurement processes and that comply with the principles of transparency, economy, and efficiency. The executing agency's systems related to its capacity for planning, organization, execution, and oversight are at an acceptable level of development. Also, taking into account that the management team for program 2500/OC-BR will also execute this operation, that there were no execution issues in the first stage, and that the amount for the current project is less than what was previously executed, this project presents a low risk level.

### **II. THE EXECUTING AGENCY'S FIDUCIARY CONTEXT**

- 1.1 The DAEE is a decentralized entity with its own legal status as well as administrative and financial autonomy, which was created pursuant to Law 1,350 of 12 December 1951. It is the managing body for water resources in the state of São Paulo. The DAEE currently reports to the Department of Infrastructure and Environment (SIMA). It executed the Tietê Várzea Program, which was financed with external borrowing resources (operation 2500/OC-BR). The management unit for the Várzea Program was created for this purpose, pursuant to Decree 55,724 of 20 April 2010. This

- project management unit (PMU) was part of the DAEE's structure and the management team was comprised of career personnel. Also, since this is a matrix organization, its duties included facilitating project activities through interaction with the corresponding line and support units.
- 2.0 The DAEE's budget is included in the State of São Paulo Annual Budget Act, under the budget line for the Department of Infrastructure and Environment. The latter department manages a budget of approximately R\$1.2 billion, which is fully executed through the Financial Administration System of the State of São Paulo (SIAFEM). In turn, that system is administered by the Department of Finance and Planning of the State of São Paulo. Budget, financial, asset, and accounting execution for all the entities of the state's public administration, both direct and indirect, can be processed in real time using this system.
  - 2.1 The DAEE has an internal audit unit established by internal decree in 1971 and attached to its Office of the Superintendent. The main duties of this unit include: (i) monitor the financial and accounting administration of the DAEE; (ii) review the rendering of accounts of DAEE representatives responsible for managing assets and financial resources; (iii) review the rendering of accounts from agreements and contracts signed by this decentralized agency; and (iv) execute other specific audit services as determined by the superintendent.
  - 2.2 External control of the DAEE is performed by the State of São Paulo Audit Office, which is responsible for accounting, budgetary, operational, and asset monitoring for all public entities that are part of the State budget, including indirect administration bodies.
  - 2.3 In addition to the state systems mentioned, the DAEE has systems to process documentation and to interact with organizations within the DAEE and with the offices of the legal counsel for the Office of the State Attorney General (PGE). Project planning and monitoring duties are still being carried out using Excel. However, an operational management system has been developed and is currently being used as a contract recording and execution system—and it shows potential to develop planning and monitoring functions.
  - 2.4 Procurement and contracting are governed by the National Bidding Act, Law 8666/93. Procurement of off-the-shelf goods and services is governed by Law 10520/2002, and uses the Pregão Eletrônico system.
  - 2.5 As part of internal controls and approvals, regardless of the sources of finance, the PMU interacts with the Administration and Systems Division and the Budget and Finance Division, both in the DAEE, as well as with the offices of the legal counsel for the PGE.<sup>1</sup> Also, there is a bidding committee that processes tendering.
  - 2.6 The PMU will also be responsible for executing this project, with the same management team and facilitation duties. The project will have Operating Regulations, which will be approved in agreement with the Bank. To process project tendering, a special bidding committee will be established. Considering that the PMU is minimally staffed and that personnel will be needed to support the activities, a supplementary team will be retained.

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<sup>1</sup> Joint Resolution PGE-DAEE 1 of 23 April 2013, which stipulates the duties of the PGE and the Legal Division of the DAEE.

### III. INSTITUTIONAL CAPACITY ASSESSMENT, FIDUCIARY RISK EVALUATION, AND MITIGATION ACTIONS

- 1.1 Conclusions from the assessments conducted showed that the DAEE has qualified personnel and satisfactory institutional capacity to manage the actions necessary for the project. Therefore, a low level of fiduciary risk was identified.
- 3.0 Even though the fiduciary risk is low, the institutional capacity assessment identified areas for improvement to process procurement efficiently. Accordingly, the following actions will be implemented: (i) signing of effective management agreements with the PGE to optimize the fiduciary review of project actions; (ii) creation of the project management unit; (iii) inclusion in the project Operating Regulations of the duties and positions necessary to fulfill fiduciary duties; (iv) creation of a special bidding committee for project tendering processes; and (v) provision of training on the Bank's fiduciary policies to all the personnel involved in project execution.

### IV. CONSIDERATIONS FOR THE SPECIAL PROVISIONS OF THE LOAN CONTRACT

- 1.1 **Special contractual condition precedent to the first disbursement of the loan:** Publication, in the Official Gazette of the State of São Paulo, of a decree establishing a special bidding committee for the project's procurement processes. This condition is justified to ensure proper project execution, as indicated in the previous paragraph.
- 4.0 **Special fiduciary conditions for execution.** Before work begins on the project's works, the executing agency will have contracted consulting services to support the management of the project and the supervision of its works. This is justified on grounds that the project management unit is minimally staffed and specialized personnel are needed to support the implementation of activities.
- 4.1 **Disbursement management.** The executing agency will submit the project's financial plan following the guidelines agreed upon by the Bank and the country. The minimum percentage for justification of expenditures required to release advances of funds will be 80%, except for the first advance.
- 4.2 **Exchange rate.** According to the provisions of Article 4.10 of the General Conditions of the loan contract, the parties agree that the exchange rate applicable will be as indicated in section (b)(i) of this article. The agreed-upon exchange rate to be used for determining the equivalence of expenses incurred in local currency and chargeable to the local contribution will be the exchange rate in effect on the date on which the executing agency or any other legal entity or individual with delegated authority to incur expenses makes the respective payments to the contractor, provider, or beneficiary. In addition, to determine the equivalent amount for the reimbursement of expenditures from the loan proceeds, the agreed-upon exchange rate will be the purchasing exchange rate set by the Central Bank of Brazil on the date prior to the reimbursement request.
- 4.3 **Financial supervision.** Annual audited financial statements for the project, pursuant to the terms of reference agreed upon with the Bank, will be prepared by external auditors acceptable to the Bank and submitted no later than 120 days after the close of the fiscal year.

## V. AGREEMENTS AND REQUIREMENTS FOR PROCUREMENT EXECUTION

1.1 The fiduciary agreements and requirements regarding procurement establish the provisions that apply to the execution of all of the project's planned procurements.

### A. Procurement execution

5.0 **Procurement of works, goods, and nonconsulting services.** Contracts will be subject to international competitive bidding (ICB) and executed using the standard bidding documents issued by the Bank. Bidding processes subject to national competitive bidding (NCB) will be executed using national bidding documents agreed upon with the Bank. Works, goods, and nonconsulting services will be procured in accordance with the Policies for the Procurement of Goods and Works Financed by the Inter-American Development Bank (document GN-2349-9).<sup>2</sup>

5.1 **Selection and contracting of consultants.** Contracts will be executed using the standard request for proposals issued by the Bank. The project's sector specialist is responsible for reviewing the terms of reference for the contracting of services. Selection and contracting will be carried out in accordance with the Policies for the selection and contracting of consultants financed by the Inter-American Development Bank (document GN-2350-9).<sup>3</sup>

5.2 **Use of the country procurement system.** The country procurement (sub)system approved by the Bank, Pregão Eletrônico, may be used to procure nonconsulting goods and services for up to US\$5 million. Any system or subsystem approved subsequently will be applicable to the operation. The procurement plan and its updates will indicate which contracts will be executed through approved country systems.

1.5 **Retroactive financing and recognition of expenditures.** Retroactive financing of payments corresponding to contracts that entered into effect after the project profile approval date is not anticipated. Recognition of expenditures for up to US\$2 million against the local counterpart is anticipated for the preparation of engineering designs, provided that such expenditures will have been incurred on or after 17 October 2019 (project profile approval date), but may under no circumstances include expenditures incurred more than 18 months prior to the date the loan proposal is approved by the Bank's Board of Executive Directors.

### B. Direct contracting.

5.3 No direct contracting is anticipated for the project.

**Table 1. Thresholds for international bidding and international shortlist for consulting services**

Method	ICB works	ICB goods and nonconsulting services	International shortlist for consulting services
Threshold	US\$25 million	US\$5 million	US\$1 million

<sup>2</sup> Procurement policies were amended and will enter into force in January 2020. At that time, the applicable policy will be GN-2349-15.

<sup>3</sup> Procurement policies were amended and will enter into force in January 2020. At that time, the applicable policy will be GN-2350-15.

**Table 2. Main procurement processes**

Procurement item	Procurement method	Estimated date	Estimated amount (US\$ million)
<b>Works</b>			
Macro- and micro-drainage works	ICB	I-2020	19
Sanitation works and construction of water treatment station	ICB	II-2021	16
<b>Consulting services</b>			
Support for project management	Quality- and cost-based selection (QCBS)	I-2020	1
Works supervision	QCBS	I-2020	0.5
Preparation of detailed designs (sanitation, drainage, roads, and urban planning works)	QCBS	I-2020	1
Preparation of the loss reduction plan	QCBS	I-2021	0.2
Organizational restructuring of Autonomous Water and Sewer Service	QCBS	II-2021	0.7
Master plan for projects	QCBS	II-2020	0.4

### C. Procurement supervision

- 5.4 Procurement processes will be supervised on an ex post basis except in cases in which ex ante supervision is warranted and for direct contracting. When procurement takes place through the country system, supervision will also be performed through this system.
- 5.5 The supervision method will be determined for each selection process. Ex post reviews will be performed every 12 months in accordance with the project supervision plan. Ex post review reports will include at least one physical inspection visit, selected from the procurement processes subject to ex post review.

**Table 3. Thresholds for ex post review**

Works	Goods	Consulting services
NCB and shopping	NCB	Under US\$1 million

### D. Records and files

- 5.6 The executing agency, acting through the PMU, will be responsible for maintaining the necessary supporting documentation for supervision and auditing.

## VI. FINANCIAL MANAGEMENT

- 6.1 **Programming and budget.** The PMU, as part of the DAEE's structure, will be responsible for planning the execution of activities pursuant to the project execution plan, the budgets, and the annual work plans. The budget allocated for project activities will be included in the State of São Paulo annual budget proposal and adopted through the annual approval of the State Budget Act.
- 6.2 In this regard, the DAEE will ensure that budget resources for the project—from the Bank and from local contributions—are duly budgeted annually and available for the execution pursuant to the project's operational programming and financial plan.

- 6.3 **Treasury and disbursement management.** Bank resources will be administered through an accounting subaccount for the Renasce Tietê Program, within the treasury single account of the State of São Paulo.
- 6.4 Loan disbursements will be made in U.S. dollars in the form of advances. Requests for an advance of funds will meet the project’s actual liquidity needs in accordance with a financial plan and for a period of up to six months. For each advance (except the first one), it will be necessary to render accounts for at least 80% of the previously advanced funds that have not yet been justified.
- 6.5 Disbursements will be subject to ex post review by the Bank.
- 6.6 **Accounting and information systems.** The DAEE uses the SIAFEM—administered by the Department of Finance and Planning of the State of São Paulo—to manage the processes related to financial and accounting execution. This system enables real-time processing and monitoring of budget, financial, asset, and accounting execution for the DAEE.
- 6.7 The financial execution flow of the DAEE will follow the routines set forth by the SIAFEM for the budgetary and financial settlement of payments related to project activities. Once the payments are made, the PMU will use the Management Information System to extract from the SIAFEM the financial information regarding project execution and prepare financial reports with the characteristics required by the Bank.
- 6.8 Significantly, the accounting, financial execution, and report systems will be the same ones used for the execution of the Tietê Várzea Program (operation BR-L1216; 2500/OC-BR). These systems were analyzed by external auditors as part of the annual review of internal controls for the operation. The results of these reviews confirmed that the internal systems and processes of the PMU for the operation’s financial execution are working correctly.
- 6.9 **Internal control and internal audit.** The internal audit unit of the Office of the Superintendent of the DAEE will conduct the supervision of internal controls.
- 6.10 **External control and audited financial statements.** An external independent audit firm to be retained according to the Bank’s specific policies and procedures will carry out external control. The project will submit to the Bank on an annual basis duly audited financial statements, within 120 days following the close of each fiscal year of the entity, in accordance with the procedures and terms of reference previously agreed upon with the Bank. Audited financial statements for project completion will be submitted within 120 days after the date of the final disbursement.

**A. Financial supervision plan**

- 6.11 This plan may be amended during project execution to reflect the levels of risk or in the event that additional controls are deemed necessary.

**Table 4. Supervision plan**

Nature and scope	Frequency	Responsible party	
		Bank	Executing agency
Annual audit	Annually	Fiduciary team	PMU - External auditor
Review of disbursement requests	Periodic	Fiduciary team	PMU
Supervision visit	Annually	Fiduciary specialist	PMU

DOCUMENT OF THE INTER-AMERICAN DEVELOPMENT BANK

PROPOSED RESOLUTION DE-\_\_\_/19

Brazil. Loan \_\_\_\_/OC-BR to the State of São Paulo. Tietê River Recovery Project  
Upstream of Penha Dam, State of São Paulo – Renasce Tietê

The Board of Executive Directors

RESOLVES:

That the President of the Bank, or such representative as he shall designate, is authorized, in the name and on behalf of the Bank, to enter into such contract or contracts as may be necessary with the State of São Paulo, as Borrower, and with the Federative Republic of Brazil, as Guarantor, for the purpose of granting the former a financing aimed at cooperating in the execution of the Tietê River Recovery Project Upstream of Penha Dam, State of São Paulo – Renasce Tietê. Such financing will be for the amount of up to US\$79,866,302 from the resources of the Bank's Ordinary Capital, and will be subject to the Financial Terms and Conditions and the Special Contractual Conditions of the Project Summary of the Loan Proposal.

(Adopted on \_\_\_\_ \_\_\_\_\_ 2019)