STRATEGIC PROJECTS

DRINKING WATER • SEWERAGE • SANITATION

SEPTEMBER - 2016
Mexico needs to ensure the supply of water for this and future generations, in such a way that the resource becomes a fortress that is conducive to the economic, social and sustainable development of the country.

The biggest area of opportunity is the optimization in the exercise of the financial resources provided the hydraulic sector, both public and private, in order to meet the challenges of the 21st century for a growing population.

The projects that are included here, have been considered as strategic for the achievement of sustainable development, and almost all of them have been in the National Infrastructure Program 2014-2018 (Official Government Gazette, April 29, 2014).

Some of the projects are led by the Conagua. The rest, are promoted by local governments, with the technical and financial support from the Federal Government, so it is included promoter contact for more information.
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<td>Conagua</td>
<td>Value not determined</td>
<td>Under review</td>
</tr>
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*Total investment estimated at 2014 prices
**Total investment estimated at 2015 prices
## DAMS

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<td>Completed</td>
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<td>Capaseg</td>
<td>1 537**</td>
<td>Under review</td>
</tr>
</tbody>
</table>

*Total investment estimated at 2014 prices
**Total investment estimated at 2015 prices
# Aqueducts

<table>
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<th>Investment (millions of pesos)</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>A.1 Monterrey VI</td>
<td>SADM</td>
<td>18 283*</td>
<td>Tender completed</td>
</tr>
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<td>A.2 Chapultepec (Acapulco, Gro.)</td>
<td>Capaseg</td>
<td>2 164*</td>
<td>Completed</td>
</tr>
<tr>
<td>A.3 Vicente Guerrero-Cd. Victoria</td>
<td>CEAT-Tamaulipas</td>
<td>1 260**</td>
<td>Under review</td>
</tr>
<tr>
<td>A.4 Riviera Veracruz System</td>
<td>CAEV</td>
<td>979***</td>
<td>Under review</td>
</tr>
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<td>Jumapam-Ceapas</td>
<td>521**</td>
<td>Under review</td>
</tr>
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<td>A.6 Hobomó-Campeche</td>
<td>Capae</td>
<td>446**</td>
<td>Under construction</td>
</tr>
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<td>A.7 El Carrizal-La Paz</td>
<td>CEA-BCS</td>
<td>160*</td>
<td>Under construction</td>
</tr>
</tbody>
</table>

**Others ...**

<table>
<thead>
<tr>
<th>Project</th>
<th>Director of the project</th>
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<td>Conagua</td>
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<tr>
<td>P.3 El Realito-San Luis Potosí</td>
<td>Conagua and CEA-SLP</td>
<td>Completed</td>
</tr>
</tbody>
</table>

*Total investment estimated at 2014 prices  **Total investment estimated at 2015 prices  ***Total investment estimated at 2015 prices
# Cleaning-up

<table>
<thead>
<tr>
<th>Project</th>
<th>Director of the project</th>
<th>Investment (millions of pesos)</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>S.1 Atotonilco W.W.T.P.</td>
<td>Conagua</td>
<td>9,564*</td>
<td>Completed</td>
</tr>
<tr>
<td>S.2 La Paz W.W.T.P.</td>
<td>Conagua</td>
<td>443**</td>
<td>Tender completed</td>
</tr>
<tr>
<td>S.3 W.W.T.P. under process</td>
<td>Government of the State</td>
<td></td>
<td>Under construction</td>
</tr>
<tr>
<td>S.4 W.W.T.P. under review</td>
<td>Government of the State</td>
<td></td>
<td>Under review</td>
</tr>
</tbody>
</table>

*Total investment estimated at 2014 prices
**Total investment estimated at 2015 prices
<table>
<thead>
<tr>
<th>Project</th>
<th>Director of the project</th>
<th>Investment (millions of pesos)</th>
<th>State</th>
</tr>
</thead>
<tbody>
<tr>
<td>D.1 Desalination plant Ensenada, B.C.</td>
<td>CEA-BC</td>
<td>517*</td>
<td>Under construction</td>
</tr>
<tr>
<td>D.2 Desalination plant La Paz, B.C.S.</td>
<td>SAPA-LA PAZ-BCS</td>
<td>545*</td>
<td>Under review</td>
</tr>
<tr>
<td>D.3 Desalination plants under review</td>
<td>Government of the State</td>
<td></td>
<td>Under review</td>
</tr>
</tbody>
</table>

*Total investment estimated at 2014 prices
New sources of water supply

Director of the project: CONAGUA (www.conagua.gob.mx)

V.1 New sources of water supply

New sources

Aqueduct of the West

Tula - Mezquital

Tecolutla - Necaxa

“Macrocircuito”

Existing aqueduct

Project aqueduct

“Acuaférico”

Existing aqueduct

Project aqueduct

Please contact us for more information about this project: ildefonso.gonzalez@conagua.gob.mx

September - 2016
V.1 New sources of water supply

Director of the project: CONAGUA (www.conagua.gob.mx)

This Project, also known as stage IV of the Cutzamala System (SC), will take advantage of the water in "El Tule" dam and incorporate it to the SC in the Valle de Bravo dam.
V.1 New sources of water supply

The catchment area of Mezquital System consists of twelve batteries of extraction wells, with 200 km of interconnecting lines.

- **Length:** 80 km
- **Diameter:** 1,83 m
- **Flow rate of extraction:** 6,4 m³/s
- **Flow rate for the Valley of Mexico:** 4,2 m³/s

Please contact us for more information about this project: ildefonso.gonzalez@conagua.gob.mx

September - 2016
V.1 New sources of water supply

The project includes supply approximately 12 m³/s to the Valley of Mexico's water from the Necaxa Hydroelectric System (dams of Tenango, Nexapa, Necaxa, La Laguna and Los Reyes).

**Preliminary data from the aqueduct:**

- **Length:** 131 km
- **Difference in elevation:** 1467 m
- **Pumping Plants:** 8

This system is located in the Sierra Norte, in Puebla State.
The Cutzamala system has been working 34 years without interruption. For maintenance of two existing driving lines, water supply is reduced to the population.

With a third line will be offered greater security in supply and will maintain the flow during maintenance work.

Please contact us for more information about this project: ildefonso.gonzalez@conagua.gob.mx
V.2 Third line of the Cutzamala System

Director of the project: CONAGUA (www.conagua.gob.mx)

Reason

Technical data

Financial data

Location map

V.2 Third line of the Cutzamala System

15 602 m
19 620 m
KM 42+379,43

Q = 12 m³/s

Length: 77,6 Km

Diameter: 2,50 m

Tubing material: steel

Please contact us for more information about this project: ildefonso.gonzalez@conagua.gob.mx

September - 2016
### Total investment estimated: $4,830 millions of pesos (Federal resources, at 2014 prices)

<table>
<thead>
<tr>
<th>Section</th>
<th>Winning consortium</th>
</tr>
</thead>
</table>
| **Analco-San José tunnel – Pericos tank**  
CNA-CGPEAS-FED-OP-101/2013-LPN  
December, 2013  -  November, 2016 | Álvarez y Ferreira Procuradores Técnicos y Legales Asociados, S.A. de C.V. Construcciones y Prefabricados Laguna, S.A. de C.V. |
| **Pericos tank - PI 313 KM 42+379.53**  
CNA-CGPEAS-FED-OP-102/2013-LPN  
December, 2013  -  August, 2016 | La Peninsular Constructora, S.A. de C.V.  
Alcance Total, S.A. de C.V.  
Aqualia Infraestructuras de México, S.A. de C.V.  
Ingeniería de Bombas y Controles, S.A. de C.V. |
| **PI 313 KM 42+379.53 - Sta. Isabel tank**  
CNA-CGPEAS-FED-OP-103/2013-LPN  
December, 2013  -  August, 2016 | Construcciones y Servicios del Noreste, S.A. de C.V.  
Desarrollos Locsa, S.A. de C.V. |
| **Sta. Isabel tank – Oscillation Tower 5**  
CNA-CGPEAS-FED-OP-104/2013-LPN  
December, 2013  -  August, 2016 | Productos y Estructura de Concreto, S.A. de C.V.  
 Constructora Garza Ponce, S.A. de C.V.  
 Construcciones y Dragados del Sureste, S.A. de C.V.  
 Calzada Construcciones, S.A. de C.V. |

Please contact us for more information about this project: ildefonso.gonzalez@conagua.gob.mx
The project starts at the Oscillation tower No. 5, in the municipality of Villa de Allende, crosses the municipalities of Villa Victoria, Almoloya de Juárez, Toluca, Temoaya, Xonacatlán, Otzolotepec, and concludes in the entrance portal of the Analco-San José tunnel, in the municipality of Lerma.
V.3 Atotonilco W.W.T.P.

The Valley of Mexico Basin has one of the country’s lowest wastewater treatment indices (6%), which produces pollution and a serious water imbalance in the basin.

Benefits:

• To treat more than 60% of the wastewater produced in the Valley of Mexico.
• To irrigate with treated wastewater more than 80 thousand hectares in the Tula Valley, thus enhancing the region’s agricultural potential.
• To restore the good conditions of the surface water bodies and streams that receive wastewater.
• To improve the sanitation conditions of over 300 000 people who live in irrigation zones.

The construction of the plant is completed. It is in the testing process.

Director of the project: CONAGUA (www.conagua.gob.mx)
V.3 Atotonilco W.W.T.P.

Director of the project: CONAGUA (www.conagua.gob.mx)

Pre treatment 35 m³/s

Screening

Desanding

To irrigation

Cogeneration

Aerobic sludge drying

To river and dam

Conventional process sequence
Nominal treatment capacity 23 m³/s

Primary sedimentation

Biological reactor

Primary sedimentation

Chlorination

Thickener DAF

Anaerobic digestion

Dehydrated

Grav. Thickener

Treatment of sludge

Treatment phase I

Lamella

Treatment phase II

Fabric filtration

Chlorination

Nominal for rain fed treatment capacity 12 m³/s

Please contact us for more information about this project: rene.chicho@conagua.gob.mx

September - 2016
The construction of the wastewater treatment plant is performed under the DBOT scheme (design, build, operate and transfer) with a concession for operation.

Total investment estimated (at 2014 prices)
$ 9,564 millions of pesos
I.I.R.: 14.2%

Investments sources

- 51% Private investment
- 49% National Infrastructure Trust Fund

The construction of the plant is completed. It is in the testing process.

Opening of the tender (DOF): May 12, 2009

Contract signed: January 7, 2010

Please contact us for more information about this project: rene.chicho@conagua.gob.mx
The plant is built in the municipality of “Atotonilco de Tula” in the state of Hidalgo.

Please contact us for more information about this project: rene.chicho@conagua.gob.mx
Hydrological and hydraulic studies determined the need to reinforce the Main Drainage System with works to drain up to another 150 m³/s and others to increase the regulatory capacity during the rainy season.

The Eastern Drainage Tunnel (TEO) will strengthen the Main Drainage System of the Valley of Mexico Metropolitan Zone for the benefit of its 20 million inhabitants.

By having sufficient capacity to drain wastewater and also rainwater, this will provide water sustainability in the Valley of Mexico Metropolitan Zone by reducing the risk of flooding.
V.4 Eastern Drainage Tunnel (TEO)

Director of the project: CONAGUA (www.conagua.gob.mx)

<table>
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<th>Features of the tunnel:</th>
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<th>Financial data</th>
<th>Location map</th>
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</thead>
<tbody>
<tr>
<td>Diameter: 7 m</td>
<td>Diameter: 7 m</td>
<td>Port: 24</td>
<td>Port: 24</td>
<td></td>
</tr>
<tr>
<td>Length: 62 km</td>
<td>Depth: 30 a 150 m</td>
<td>Capacity: 150 m³/s</td>
<td>Capacity: 150 m³/s</td>
<td></td>
</tr>
<tr>
<td>Slope: 0,0016</td>
<td>Return Period: 50 years</td>
<td>Return Period: 50 years</td>
<td>Return Period: 50 years</td>
<td></td>
</tr>
</tbody>
</table>

Please contact us for more information about this project: ildefonso.gonzalez@conagua.gob.mx

September - 2016
V.4 Eastern Drainage Tunnel (TEO)

Director of the project: CONAGUA (www.conagua.gob.mx)

Total investment estimated: $ 39 034 millions of pesos (at 2015 prices)

Investments sources

- Federal Resources: 81.7%
- 1928 Trust Fund: 18.3%
- I.I.R.: 22.9%

Commissioning of the first 10 kilometers of the Eastern Drainage Tunnel

Please contact us for more information about this project: ildefonso.gonzalez@conagua.gob.mx
The project begins at the intersection of the Grand Canal and the Los Remedios River, on the boundary between Mexico City (Federal District) and the State of Mexico, and ends in the municipality of Atotonilco, in the State of Hidalgo, near the outlet of the Central Drainage Tunnel.

This tunnel will pass through several municipalities in the State of Mexico.
Conagua developed the project of West Drainage Tunnel II, to strengthen the current Issuer of the west, and ensure the efficient eviction of the rainwater and residual water from the northwest area.

The project takes advantage of the West Drainage Open Channel, receiving the new TEPII water without pumping.

With the construction of the TEPII, you will be protecting the area Northwest floods and disasters associated with events of extraordinary rains (municipalities of Naucalpan, Tlalnepantla, Atizapán and Cuautitlán Izcalli in the State of Mexico).
V.5 West Drainage Tunnel II (TEPII)

Capacity: 112 m³/s
Length: 9.8 km
Depth: 12 to 110 m

Cross-section of the five main sections

SECTION 1
Tlalnepantla-Atizapán

SECTION 2
Atizapán-Valle Dorado

SECTION 3
Valle Dorado-San Javier

SECTION 4
San Javier-Outlet portal

SECTION 5
Outlet portal

September - 2016

Please contact us for more information about this project: ildefonso.gonzalez@conagua.gob.mx
V.5 West Drainage Tunnel II (TEPII)

Director of the project: CONAGUA (www.conagua.gob.mx)

Total investment estimated: $ 2 228 millions of pesos
(at 2014 prices)

- Construction of West Drainage Tunnel II (first stage)
- Project and Rectification of West Drainage Open Channel

Tender No. CNA-CPEAS-FIDE-OP-41/2013-LPN
Investment: $ 1 795,5 millions (excluding VAT)
Period of execution: December, 2013 to March, 2017

Winning consortium: Proacon México, S.A. de C.V.
Construcciones Aldesem, S.A. de C.V.
Regiomontana de Construcción y Servicios, S.A.P.I. de C.V.

Investment sources: 100%
1928 Trust Fund

Please contact us for more information about this project: ildefonso.gonzalez@conagua.gob.mx

Director of the project: CONAGUA (www.conagua.gob.mx)
V.5 West Drainage Tunnel II (TEPII)

Director of the project: CONAGUA (www.conagua.gob.mx)

Please contact us for more information about this project: ildefonso.gonzalez@conagua.gob.mx
The current General Channel has reduced its carrying capacity by subsidence of the land.

With the construction of the General Channel Tunnel protection against floods, will be strengthened since it vacate sewage and rain waters in the area, working fully with the Río de la Compañía tunnel and La Caldera pumping plant.
Features of the tunnel:

- Capacity: 20 m³/s
- Diameter: 5.0 m
- Length: 7.9 km

Features of the 4 Ports:

- Diameter: 12 m
- Depth: 25 m

V.6 General Channel Tunnel

Director of the project: CONAGUA (www.conagua.gob.mx)

Please contact us for more information about this project: ildefonso.gonzalez@conagua.gob.mx

September - 2016
V.6 General Channel Tunnel

Director of the project: CONAGUA (www.conagua.gob.mx)

Total investment estimated: $1,381 millions of pesos

(at 2014 prices)

Investment sources:

100%
1928 Trust Fund

Tender No. CNA-CGPEAS-FIDE-OP-122/2013-LPN
Period of execution: February, 2014 to February, 2017

Winning consortium: Ingenieros Civiles Asociados, S.A. de C.V.
and Construcciones y Trituraciones, S.A. de C.V.

Please contact us for more information about this project: ildefonso.gonzalez@conagua.gob.mx
The tunnel starts at the intersection with the Chalco-Tláhuac road and ends at Port 3A of the Río de la Compañía tunnel.
Permanent monitoring of the Río de la Compañía channel, in the section that still works as an open channel, suggests that they could generate conditions of risk which forced the construction of tunnel and vent closed for drought-like.

**Features of the tunnel:**

- **Capacity:** 20 m³/s
- **Diameter:** 5.0 m
- **Length:** 7.9 km
The National Water Commission and the Governments of the States of Guanajuato and Jalisco are carrying out this project on the Verde River in order to utilize up to 8,6 m$^3$/s for drinking water supply to:

- León, Gto. 3,8 m$^3$/s
- Altos de Jalisco 1,8 m$^3$/s
- Guadalajara, Jal. 3,0 m$^3$/s

The population of León is supplied mainly through groundwater sources. Aquifer overexploitation causes an estimated 3m annual decrease in water table levels.

The El Zapotillo project will make it possible to transfer a volume of around 120 million m$^3$ per year from the Verde River Basin to the Lerma River Basin, which is overexploited.
**P.1 El Zapotillo Dam**

Director of the project: CONAGUA (www.conagua.gob.mx)

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**Basic data:**

<table>
<thead>
<tr>
<th>Storage capacity:</th>
<th>411* Mm³</th>
</tr>
</thead>
<tbody>
<tr>
<td>Height of dam:</td>
<td>80* m</td>
</tr>
<tr>
<td>Aqueduct:</td>
<td>140 km</td>
</tr>
<tr>
<td>diameter:</td>
<td>2.54 m</td>
</tr>
<tr>
<td>Pumping height:</td>
<td>500 m</td>
</tr>
</tbody>
</table>

*Dam height and storage capacity are subject to changes arising from the ruling by the Second Chamber of the Supreme Court of Justice of the Nation, in the 93/2012 constitutional controversy, on August 7, 2013.

**In addition:**

- Water treatment plant (3,8 m³/s)
- Two pumping plants
- Storage tank (100 000 m³)
- Distribution macro circuit (43 km) in the city of León, Guanajuato

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Please contact us for more information about this project: jorge.malagond@conagua.gob.mx

September - 2016
Total investment estimated: $16,162 millions of pesos
(at 2014 prices)

Investment sources

<table>
<thead>
<tr>
<th>Source</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dam</td>
<td>93.8%</td>
</tr>
<tr>
<td>Aqueduct, treatment plant</td>
<td>6.2%</td>
</tr>
</tbody>
</table>

State Resources: 13.19%

Federal Expenditure Budget (PEF):
- 93.8%
- 6.2%

Private Investment:
- 58.7%
- 41.3%

National Infrastructure Trust Fund:
- 93.8%
- 6.2%

Winning consortium:
- Dam: La Peninsular Compañía Constructora, S.A. de C.V.; FCC Construcción, S.A.; Grupo Hermes, S.A de C.V.
- Aqueduct: Abengoa México, S.A. de C.V.; Abeinsa Infraestructuras Medio Ambiente, S.A. Sociedad Unipersonal; Abeinsa, Ingeniería y Construcción Industrial, S.A.
The dam site is 100 km from Guadalajara, on the Verde River, in the State of Jalisco.
The National Water Commission and the Government of the State of Jalisco are promoting the El Purgatorio Project on the Verde River to utilize: 5.6 m³/s

- Use of the El Salto dam (existing): 0.8 m³/s
- Diversion from the El Zapotillo dam: 3.0 m³/s
- Capture from the catchment of El Purgatorio dam: 1.8 m³/s

The conurbated area of the city of Guadalajara is mainly supplied by surface water. 60% of the current supply comes from Lake Chapala.

The El Purgatorio Project, supported by the “El Zapotillo” Project, will make it possible to preserve Lake Chapala and contribute towards the ecological recovery of the Lerma-Chapala Basin.
Basic data:

<table>
<thead>
<tr>
<th>Diversion dam:</th>
<th>3,5 Mm³</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pumping height:</td>
<td>565 m</td>
</tr>
</tbody>
</table>

Aqueducts:
- Pumping: 2,4 km
- Gravity (2): 4,3 km

Conduction Ocotillo: 12,0 km

In addition:
- Pumping plant
- Ocotillo treatment plant
- San Gaspar treatment plant (capacity increase)
- Regime change tank (240 000 m³)
- Southern and western distribution systems

Please contact us for more information about this project: cea@jalisco.gob.mx
**P.2 El Purgatorio Dam**

**Director of the project:** Comisión Estatal del Agua de Jalisco ([www.ceajalisco.gob.mx](http://www.ceajalisco.gob.mx))

---

**Total investment estimated:** $6,788 millions of pesos (at 2014 prices)

**Investment sources**

- **Dam:**
  - State Resources: 56.6%
  - Other sources: 21.5%
  - Federal Expenditure Budget (PEF): 21.9%

- **Aqueduct, treatment planta and distribution system** (contract for the provision of services)
  - Private investment: 59.6%
  - National Infrastructure Trust Fund: 40.4%

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The construction of the dam is performed in accordance with Mexican Public Works Law.

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**Opening of the tender (DOF):** July 17, 2012  
**Decision:** November 16, 2012  
**Winning consortium:** Isolux México, S.A. de C.V.; Corsan-Corviam, Construcción, S.A.; Ayesa Ingeniería y Arquitectura, S.A.U.; Ayesa México, S.A. de C.V.

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Please contact us for more information about this project: [cea@jalisco.gob.mx](mailto:cea@jalisco.gob.mx)
The dam site is located on the Santiago River in the municipality of Zapopan, State of Jalisco.
### P.3 El Realito Dam

**Director of the project:** Comisión Estatal del Agua de San Luis Potosí (www.ceaslpgob.mx)

<table>
<thead>
<tr>
<th>Reason</th>
<th>Technical data</th>
<th>Financial data</th>
<th>Location map</th>
</tr>
</thead>
</table>

The National Water Commission and the governments of the States of San Luis Potosí and Guanajuato are developing this project to construct a dam that regulates 2 m$^3$/s and is utilized to supply drinking water to:

- **San Luis Potosí C.Z.** 1 m$^3$/s (1$^{st}$ stage)
- **Celaya, Gto.** 1 m$^3$/s (2$^{nd}$ stage)

This project will make it possible to revert dwindling aquifer levels and avoid the gradual increase in land subsidence that are affecting urban infrastructure and housing.

The dam was inaugurated on **October 9, 2012**

The aqueduct (1$^{st}$ stage) was inaugurated on **January 22, 2015**

Population benefited: **800,000 inhabitants** (1$^{st}$ stage)

Please contact us for more information about this project: cea@slpgob.mx
**P.3 El Realito Dam**

**Director of the project:** Comisión Estatal del Agua de San Luis Potosí (www.ceaslp.gob.mx)

### Regulation de 2 m³/s

- Storage dam: 50 Mm³
- Height of the dam: 88 m

### Utilization of 1 m³/s

**1st stage, San Luis Potosí C.Z.**

- Aqueduct: 133 km
- Diameters: 0.91 m, 1.42 m
- Pumping height: 1,050 m

This project includes the implementation of a Comprehensive Improvement of Management Program (MIG) in the provision of services in the San Luis Potosí C.Z., enabling the financial feasibility of the investment.

Please contact us for more information about this project: cea@slp.gob.mx
P.3 El Realito Dam

Director of the project: Comisión Estatal del Agua de San Luis Potosí (www.ceaslp.gob.mx)

Total investment estimated: $3,527 millions of pesos (at 2014 prices)

I.I.R.: 13.97%

Investment sources

- Dam: 100%
  - Federal Expenditure Budget (PEF)

- Aqueduct and treatment plant: 58%
  - 58%
  - Private investment

- National Infrastructure Trust Fund: 42%
  - 42%

Winning consortium (dam): Constructora de Infraestructura Latinoamericana, S.A. de C.V.; Carso Infraestructura y Construcción, S.A. de C.V.; Desarrollo y Construcciones Urbanas, S.A. de C.V.; Pavimentaciones, Caminos y Compactaciones, S.A. de C.V.; Construcciones Zugusa, S.A. de C.V.; Tecnología y Sistemas, S.A.

Winning consortium (aqueduct): CONOISA (ICA); AQUALIA (FCC); SAT (Mitsui).

Please contact us for more information about this project: cea@slp.gob.mx

September - 2016
P.3 El Realito Dam

This dam is located on the Santa María River in the municipality of San Luis de la Paz, Guanajuato, very close to the state border between Guanajuato and San Luis Potosí.
P.4 La Laja Dam

Director of the project: Comisión de Agua Potable, Alcantarillado y Saneamiento del Estado de Guerrero (www.capaseg.gob.mx)

The Ixtapa-Zihuatanejo Metropolitan Zone has been affected badly by the batches in the service de delivery de potable water for domestic use, especially in the time de hottest and busiest tourist.

Population benefited:
120 000 inhabitants

Consumption in hotels, and the tourist areas, increase significantly in the summer. This obliges the distribution de water in tank trucks.

This project will allow:
- improve the service de drinking water to the population,
- promote economic and social development,
- promote the growth of tourism de region.
P.4 La Laja Dam

Director of the project: Comisión de Agua Potable, Alcantarillado y Saneamiento del Estado de Guerrero (www.capaseg.gob.mx)

**Basic data:**

- **Storage capacity:** 40 Mm³
- **Height of the dam:** 47 m

**Diversion dam:**

- **Height of the dam:** 10 m

**Aqueducts:**

- **Capacity:** 0,50 m³/s
- **Length:** 32,0 km
- **Diameters:** 0,41 m - 0,91 m

**In addition:**

Las Ollas treatment plant (0,50 m³/s)

Please contact us for more information about this project: palma.arturo@yahoo.com.mx

September - 2016
P.4 La Laja Dam

Director of the project: Comisión de Agua Potable, Alcantarillado y Saneamiento del Estado de Guerrero (www.capaseg.gob.mx)

Total investment estimated: $1,537 millions of pesos
(at 2015 prices)

Investment sources

- Dam
  - 100% Federal Expenditure Budget (PEF)

- Aqueduct and treatment plant
  - 61.3% Private investment
  - 38.7% National Infrastructure Trust Fund

Windows of opportunity for the private sector:
- The dam will be built in accordance with the Mexican Public Works Law.
- Expected that the aqueduct and the water treatment plant are built by a contract for the provision of services, with an operating concession for 23 years.

Please contact us for more information about this project: palma.arturo@yahoo.com.mx

I.I.R.: 16.06%
The dam site is 3 km from Las Mesillas, on the Lajas River, in the State of Guerrero.
The challenge is to give certainty to the current supply and future growth of the Monterrey Metropolitan Zone, and minimize the risk of water shortage over the vulnerability of the current sources.

In recent years, Monterrey Metropolitan Zone, have high rates of annual growth.

Now delivered a volume of 11,5 m³/s, an increase of 250 l/s annual.

The Monterrey Metropolitan Zone comprises 16 municipalities and has a population of around 4,2 million inhabitants.

Population benefited: 4,2 million inhabitants
A.1 Monterrey VI Project

Director of the project: Sistema de Agua y Drenaje de Monterrey (www.sadm.gob.mx)

Aqueduct Monterrey VI

Design flow: 5 m³/s
Aqueduct: 372 km
Diameter: 2,13 m
Total power: 45 250 KW

Static head: 265 m
Pumping plants: 6
Dynamic head: 600 m

Reason

Technical data

Financial data

Location map

Cerro Prieto Dam (existing)

PP: Pumping plant
CR: Change of Regime
ST: Storage Tank (75 000 m³)

Please contact us for more information about this project: octavio.salinas@sadm.gob.mx

September - 2016
A.1 Monterey VI Project

Director of the project: Sistema de Agua y Drenaje de Monterrey (www.sadm.gob.mx)

Total investment estimated
(at 2014 prices)

$ 18 283 millions of pesos

I.I.R.: 16,9%

The aqueduct will be built under a contract for the provision of services, with an operating concession for 30 years
(3 years of construction and 27 years of operation)

In addition, the Government of the State of Nuevo Leon, will conduct the suitability of the water treatment plant of San Roque and the strengthening of the existing aqueduct Cerro Prieto-Monterrey.

Winning consortium: Concretos y Obra Civil del Pacífico, S.A. de C.V.; Controladora de Operaciones e Infraestructura, S.A. de C.V.; Desarrollos y Construcciones Rogar, S.A. de C.V.; RECSA Concesiones, S.A. de C.V.; y Productos y Estructuras de Concretos, S.A. de C.V.

Investments sources:

- Private investment: 80%
- National Infrastructure Trust Fund: 20%

Please contact us for more information about this project: octavio.salinas@sadm.gob.mx

September - 2016
The water intake is located at the confluence of the rivers Tampaón and Moctezuma, in the State of San Luis Potosi.

The delivery of the bulk water will be in the pumping plant 1, Cerro Prieto-Monterrey System (existing).
The tourist vocation of Guerrero is a great opportunity to design and carry out a program of economic development based on criteria of sustainability.

The aqueduct Chapultepec-Acapulco will promote tourism and urban development in the coastal strip between Barra Vieja and Punta Diamante.

Population benefited: 637,000 inhabitants

The project also will release the Papagayo I and II system flows, which also benefited the areas of Renacimiento and Zapata, improving the overall efficiency of the system.

Please contact us for more information about this project: palma.arturo@yahoo.com.mx
A.2 Chapultepec

Director of the project: Comisión de Agua Potable, Alcantarillado y Saneamiento del Estado de Guerrero (www.capaseg.gob.mx)

**Design flow:** 1.25 m³/s

**Complementary works**

- Replacement of the existing direct take of the Papagayo River by radial wells for 2.5 m³/s.
- Replacement, rehabilitation and construction of lines (0.46 to 1.07 m diameters).
- Rehabilitation of tanks and pumping plants.

**Aqueduct (gravity):**
- 33.0 km
- D=0.91 to 1.07 m

**Radial wells**
- Aqueduct (pumping):
  - L = 0.8 km
  - D=0.76 to 1.02 m

Please contact us for more information about this project: palma.arturo@yahoo.com.mx

September - 2016
A.2 Chapultepec

Director of the project: Comisión de Agua Potable, Alcantarillado y Saneamiento del Estado de Guerrero (www.capaseg.gob.mx)

Total investment estimated: $ 2 164 millions of pesos

Investment sources

Aqueduct (completed)

49% Federal resources*

51% State resources

Complementary works (under construction)

49% Federal resources*

51% State resources

*Federal Expenditure Budget (PEF)

Windows of opportunity for the private sector:

The aqueduct construction carried out in accordance with the Mexican Public Works Law.
A.2 Chapultepec

Director of the project: Comisión de Agua Potable, Alcantarillado y Saneamiento del Estado de Guerrero (www.capaseg.gob.mx)

Please contact us for more information about this project: palma.arturo@yahoo.com.mx

September - 2016
The project of the second stage of the aqueduct from the Vicente Guerrero dam to Ciudad Victoria will allow to ensure the supply for the city in the long run, which has been affected by the poor reliability and capacity of its current sources.

La Peñita spring is the main source of current, and its flow can vary from 200 to 700 l/s during the year.

<table>
<thead>
<tr>
<th>Reason</th>
<th>Technical data</th>
<th>Financial data</th>
<th>Location data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population benefited:</td>
<td>310 000 inhabitants</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

There are problems in the supply in times of drought, which is also the time of greatest demand.
**A.3 Vicente Guerrero - Victoria City**

Director of the project: Comisión Estatal del Agua el Tamaulipas (www.ceat.tamaulipas.gob.mx)

### Design flow: 0,75 m³/s

<table>
<thead>
<tr>
<th>Reason</th>
<th>Technical data</th>
<th>Financial data</th>
<th>Location data</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Length: 54,6 km</td>
<td>Difference in elevation: 195 m</td>
<td>195</td>
</tr>
<tr>
<td></td>
<td>Diameter: 0,91 m</td>
<td>Pumping plant: 3 (5U)</td>
<td>3 (5U)</td>
</tr>
</tbody>
</table>

**Infrastructure existing**
- Treatment plant
- Regulation tank
- Well

**Project**
- Aqueduct
- Peripheral aqueduct
- Water Intake
- Treatment plant
- Pumping plant

**Start of construction of the peripheral aqueduct: October, 2014**

The water intake by the current aqueduct, at the Vicente Guerrero dam.

Please contact us for more information about this project: jaime.cano@tamaulipas.gob.mx

September - 2016
A.3 Vicente Guerrero - Victoria City

Total investment estimated
(at 2015 prices)

$1,260
millions of pesos

Start of construction of the peripheral aqueduct: October, 2014

Investment sources

55%
Federal resources

45%
State resources

*Federal Expenditure Budget (PEF)

The aqueduct will be built in accordance with the Mexican Public Works Law.
A.3 Vicente Guerrero - Victoria City

Director of the project: Comisión Estatal del Agua el Tamaulipas (www.ceat.tamaulipas.gob.mx)

Please contact us for more information about this project: jaime.cano@tamaulipas.gob.mx
A.4 Riviera Veracruzana System

Director of the project: Comisión del Agua del Estado de Veracruz (www.caev.gob.mx)

Reason

The Riviera of Veracruz, in the municipalities of Boca del Río, Medellín and Alvarado, does not have municipal water service, are supplied by local wells that extract brackish water.

Population benefited:
400,000 inhabitants

The current supply to Boca del Río is complemented by the surface catchment on the Jamapa river at the height of the "El Tejar".

Water catchment in "El Tejar" should be used for the growth and development of the port of Veracruz, so Boca del Río demands a new source of supply.

A lower exploitation of the aquifer would contribute to the reduction of saline intrusion.

Please contact us for more information about this project: direccioncaev@caev.gob.mx

September - 2016
A.4 Rivier a Veracruzana System

Director of the project: Comisión del Agua del Estado de Veracruz (www.caev.gob.mx)

**Reason**

**Technical data**

- **Design flow:** 1,5 m³/s
- **Length:** 30,8 km
- **Diameters:** 1,07 a 0,41 m

**Financial data**

**Location map**

The dam is of Indian type, with a height of 2 m and a length of 42,4 m.

**Uptake through a branching dam on the Cotaxtla river.**

Please contact us for more information about this project: direccioncaev@caev.gob.mx
A.4 Riviera Veracruzana System

Director of the project: Comisión del Agua del Estado de Veracruz (www.caev.gob.mx)

Total investment estimated
(at 2016 prices)

$ 979 millions of pesos

I.I.R.: 15.9%

Possible investment sources:

51%
49%

Windows of opportunity for the private sector:

Expected that the aqueduct is built by a contract for the provision of services with a concession operation.

Private investment
National Infrastructure Trust Fund

Please contact us for more information about this project: direccioncaev@caev.gob.mx

September - 2016
A.4 Riviera Veracruzana System

Director of the project: Comisión del Agua del Estado de Veracruz (www.caev.gob.mx)

Please contact us for more information about this project: direccioncaev@caev.gob.mx

September - 2016
The city of Mazatlán is a major port and a tourist center, which has generated a sustained growth of economic activity. Its geographical location and its high temperatures hamper the availability of drinking water.

**Problem:** overexploitation of the aquifer and water extraction with increasing content of iron and manganese.

This project represents the best choice among the alternatives analyzed:

- water of better quality
- decrease in the extraction of underground water
- reduction in costs of energy
- use of the current infrastructure.

**Population benefited:** 435,000 inhabitants
A.5 Picachos-Mazatlán

Director of the project: Junta Municipal de Agua Potable y Alcantarillado de Mazatlán (www.jumapam.gob.mx)

Design flow: 0.75 m³/s (1st stage)

Please contact us for more information about this project: jumapam@jumapam.gob.mx

September - 2016
A.5 Picachos-Mazatlán

Director of the project: Junta Municipal de Agua Potable y Alcantarillado de Mazatlán (www.jumapam.gob.mx)

**Total investment estimated**
(at 2015 prices)

$ 521 millions of pesos

I.I.R.: 39.17%

Windows of opportunity for the private sector:

Expected that the aqueduct is built by a contract for the provision of services with a concession operation.

Possible investment sources:

- 61% Private investment
- 39% National Infrastructure Trust Fund

Please contact us for more information about this project: jumapam@jumapam.gob.mx
In the first stage it is planned to take water from the main channel right bank to 5,8 km downstream the "SIQUEROS" diversion dam, in the vicinity of the village “El Tecomate de Siqueros”.

Please contact us for more information about this project: jumapam@jumapam.gob.mx
The city of San Francisco of Campeche has three drinking water supply systems: Santa Rosa Valley, Gallery China and urban wells within the city, whose joint bid is 1105 l/s.

<table>
<thead>
<tr>
<th>Reason</th>
<th>Technical data</th>
<th>Financial data</th>
<th>Location map</th>
</tr>
</thead>
</table>

The quality of the groundwater has deteriorated gradually, above all that of the Santa Rosa Valley aquifer and the urban wells, which together represent nearly 70% of the supply.

Population benefited: 240 000 inhabitants

The Government of the State of Campeche promotes the project of Hobomó-Campeche aqueduct, which will replace the volume supplied with water of better quality.

Please contact us for more information about this project: fajisi@gmail.com
A.6 Hobomó - Campeche

Director of the project: Comisión de Agua Potable y Alcantarillado del Estado de Campeche (CAPAE)

Reason

Technical data

Financial data

Location map

Design flow: 1,0 m³/s

Interconnection line:
L = 16 km

Aqueducts
Pumping: 8,50 km
Gravity: 17,50 km

Diameters:
0,91 – 1,07 m

Please contact us for more information about this project: fajisi@gmail.com

September - 2016
**A.6 Hobomó - Campeche**

**Director of the project:** Comisión de Agua Potable y Alcantarillado del Estado de Campeche (CAPAE)

---

**Total investment estimated**

$ 446 millions of pesos

**Possible investment sources:**

- **55%** Federal resources*
- **45%** State resources

---

**I.I.R.: 15.9%**

**Windows of opportunity for the private sector:**

The aqueduct will be built in accordance with the Mexican Public Works Law.

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*Federal Expenditure Budget (PEF)

---

Please contact us for more information about this project: fajisi@gmail.com
A.6 Hobomó - Campeche

Director of the project: Comisión de Agua Potable y Alcantarillado del Estado de Campeche (CAPAE)

Please contact us for more information about this project: fajisi@gmail.com

Location map

September - 2016
The La Paz Metropolitan Zone has had a greater than 30% population growth, based on the Census of population and housing of the INEGI 2000 and 2010.

Population benefited: 67,000 inhabitants

In addition to the increase in the population, the severe drought that hit the country in 2012 affected significantly the aquifer with declines in levels and flows from extraction wells.
A.7 El Carrizal - La Paz

Director of the project: Comisión Estatal del Agua de Baja California Sur (http://cea.bcs.gob.mx/)

Design flow: 350 L/s

Aqueduct: L = 41,6 km
D = 0,61 m

Regulation tank (5000 m³)

Pumping plant

Catchment San Pedro (Aquifer La Paz)

1st stage

3rd stage

Catchment El Carrizal (Aquifer El Carrizal)

1st stage

2nd stage

Financial data

Reason

Technical data

Location map

Please contact us for more information about this project: ceabcs.direccion@hotmail.com

September - 2016
A.7 El Carrizal - La Paz

Director of the project: Comisión Estatal del Agua de Baja California Sur (http://cea.bcs.gob.mx/)

**Total investment estimated:** $160 millions of pesos
(at 2014 prices)

1st y 2nd stage: completed

3rd stage (under construction):

1. Interconnection line and regulation tank of 5000 m³.
2. Automation, construction and equipment of the stand of chlorination.
3. Mainline of 17 km the Carrizal-San Pedro.

**Investment sources:**

- Federal Expenditure Budget (PEF) 76%
- State resources 24%

Windows of opportunity for the private sector:

The aqueduct will be built in accordance with the Mexican Public Works Law.

Please contact us for more information about this project: ceabcs.direccion@hotmail.com

Valley of Mexico | Dams | Aqueducts | Cleaning-up | Desalination
---|---|---|---|---

| Reason | Technical data | Financial data | Location map |
---|---|---|---|---|

September - 2016
A.7 El Carrizal - La Paz

Director of the project: Comisión Estatal del Agua de Baja California Sur (http://cea.bcs.gob.mx/)

Please contact us for more information about this project: ceabcs.direccion@hotmail.com
The Valley of Mexico Basin has one of the country’s lowest wastewater treatment indices (6%), which produces pollution and a serious water imbalance in the basin.

**Benefits:**

- To treat more than 60% of the wastewater produced in the Valley of Mexico.
- To irrigate with treated wastewater more than 80 thousand hectares in the Tula Valley, thus enhancing the region’s agricultural potential.
- To restore the good conditions of the surface water bodies and streams that receive wastewater.
- To improve the sanitation conditions of over 300,000 people who live in irrigation zones.

The construction of the plant is completed. It is in the testing process.
S.1 Atotonilco Wastewater Treatment Plant

Director of the project: CONAGUA (www.conagua.gob.mx)

Please contact us for more information about this project: rene.chicho@conagua.gob.mx

September - 2016
**S.1 Atotonilco Wastewater Treatment Plant**

Director of the project: CONAGUA (www.conagua.gob.mx)

---

**Total investment estimated**
(at 2014 prices)

$9,564 million of pesos

I.I.R.: 14.2%

---

The construction of the wastewater treatment plant is performed under the DBOT scheme (design, build, operate and transfer) with a concession for operation.

---

**Investments sources**

- **51%** Private investment
- **49%** National Infrastructure Trust Fund

---

**Opening of the tender (DOF):** May 12, 2009

**Contract signed:** January 7, 2010

**Winning consortium:** Promotora del Desarrollo de América Latina, S.A. de C.V.; Controladora de Operaciones de Infraestructura, S.A de C.V.; Atlatec, S.A. de C.V.; Acciona Agua, S.A.; Desarrollo y Construcciones Urbanas, S.A. de C.V.; Green Gas Pioneer Crossing, L.L.C.

Please contact us for more information about this project: rene.chicho@conagua.gob.mx
S.1 Atotonilco Wastewater Treatment Plant

The plant is built in the municipality of “Atotonilco de Tula” in the state of Hidalgo.

Please contact us for more information about this project: rene.chicho@conagua.gob.mx
Population growth demands a greater supply of water for human consumption. With the aqueduct El Carrizal and the desalination plant projects they will complement the current supply.

**Problem:**

- The current treatment plant has fulfilled its useful life.
- Greater volume of residual water that requires treatment.

The project includes integral sanitation of water generated in the city of La Paz and its suburbs, including the towns of “Chametla” and “El Centenario”.

**Population benefited:**

220,000 inhabitants
The project consists of the comprehensive renovation of the sewage generated in the suburbs of La Paz.

**Components:**

- Rehabilitation of “Olas Altas", "Agustín Olachea", "Transpeninsular" and “Sur" **Collectors**.
- Construction of the **Sumps Pump**, raw water and treated water.
- Construction of the **Outfalls** of raw water and treated water.

*The project includes the possibility of adding a module in the future to reach the 1050 l/s.*
S.2 La Paz Wastewater Treatment Plant

Director of the project: CONAGUA (www.conagua.gob.mx)

Total investment estimated
(at 2015 prices)

$ 443,3 millions of pesos

Investment costs

Investments sources

I.I.R.: 17,35%

100%

Federal Expenditure Budget (PEF)

Winning consortium:

Controladora de Operaciones de Infraestructura, S.A de C.V.; FYPASA Construcciones Urbanas, S.A. de C.V.

Please contact us for more information about this project: ildefonso.gonzalez@conagua.gob.mx

September - 2016
S.2 La Paz Wastewater Treatment Plant

Director of the project: CONAGUA (www.conagua.gob.mx)

Please contact us for more information about this project: ildefonso.gonzalez@conagua.gob.mx

September - 2016
### S.3 Wastewater treatment plants under process

**Director of the project:** The Government of the State concerned, and where applicable, the respective Municipal Government.

#### Projects under construction (National Infrastructure Trust Fund - private investment)

<table>
<thead>
<tr>
<th>Locality</th>
<th>Nominal treatment capacity (L/s)</th>
<th>Investment (millions of pesos)</th>
<th>No recoverable</th>
<th>Private sector contribution</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Atotonilco (Valley of Mexico)</td>
<td><strong>23 000</strong></td>
<td>4 686,4</td>
<td>4 877,6</td>
<td>9 564,0</td>
<td></td>
</tr>
<tr>
<td>Hermosillo1 (Sonora)</td>
<td>2 500</td>
<td>240,1</td>
<td>635,9</td>
<td>876,0</td>
<td></td>
</tr>
<tr>
<td>San Luis Potosí “El Morro”³ (SLP)</td>
<td>750</td>
<td>144,7</td>
<td>250,3</td>
<td>395,0</td>
<td></td>
</tr>
<tr>
<td>Tuxtla Gutiérrez² (Chiapas)</td>
<td>720</td>
<td>149,0</td>
<td>419,5</td>
<td>568,5</td>
<td></td>
</tr>
<tr>
<td>Bahía de Banderas⁵ (Nay.)</td>
<td>600</td>
<td>87,0</td>
<td>158,4</td>
<td>245,4</td>
<td></td>
</tr>
<tr>
<td>Pachuca² (Hidalgo)</td>
<td>500</td>
<td>68,2</td>
<td>108,1</td>
<td>176,3</td>
<td></td>
</tr>
<tr>
<td>Cd. Juárez “Sur-Sur”⁴ (Chihuahua)</td>
<td><strong>500</strong></td>
<td>56,8</td>
<td>119,4</td>
<td>176,2</td>
<td></td>
</tr>
</tbody>
</table>

¹ Winning Consortium: Cobra Instalaciones México, S.A. de C.V.; Tedagua México, S.A. de C.V.; FYPASA Construcciones, S.A. de C.V.; Inmobiliaria Canoras, S.A. de C.V.

² Winning Company: Tecnología Intercontinental, S.A. de C.V. (TICSA).

³ Winning Company: MARHNOS.

⁴ Winning Company: DEGREMONT, S.A. de C.V.

⁵ Winning Company: Fuerza de Apoyo Constructiva de Ote. S.A. de C.V.

**NB:** Only the plants with the greatest capacities have been included.

Please contact us for more information about this project contact the appropriate State authorities.

September - 2016
### Projects under review or construction (Federal Expenditure Budget - State investment)

<table>
<thead>
<tr>
<th>Locality</th>
<th>State</th>
<th>Investment estimated (millions of pesos)</th>
</tr>
</thead>
<tbody>
<tr>
<td>La Paz</td>
<td>Baja California Sur</td>
<td>443,3</td>
</tr>
<tr>
<td>Poza Rica</td>
<td>Veracruz</td>
<td>150,0</td>
</tr>
<tr>
<td>San Cristóbal de las Casas</td>
<td>Chiapas</td>
<td>135,0</td>
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<td>Taxco</td>
<td>Guerrero</td>
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<td>Tixtla</td>
<td>Guerrero</td>
<td>51,9</td>
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<td>Ometepec</td>
<td>Guerrero</td>
<td>50,0</td>
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<tr>
<td>Playa del Carmen</td>
<td>Quintana Roo</td>
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<tr>
<td>Tlacotalpan</td>
<td>Veracruz</td>
<td>25,0</td>
</tr>
</tbody>
</table>

**NB:** Only the plants with the greatest capacities have been included.

Please contact us for more information about this project contact the appropriate State authorities.
D.1 Ensenada desalination plant, B.C.

Director of the project: Comisión Estatal del Agua en Baja California (http://www.cea.gob.mx)

To guarantee drinking water supply for the population of the city of Ensenada, the government of the State of Baja California is planning a project involving a seawater desalination system for drinking water supply to the city, with a nominal production of 250 l/s.

Population benefited: 72 000 inhabitants
D.1 Ensenada desalination plant, B.C.

Director of the project: Comisión Estatal del Agua en Baja California (http://www.cea.gob.mx)

Reason

Technical data

Financial data

Location map

Direct seawater intake
700 L/s

Seawater inflow
700 L/s
D = 914 mm
- Underwater stretch: L = 1,23 km
- Ground-based stretch: L = 2,89 km

Desalination plant
(reverse osmosis)
Q = 250 L/s

Reject water line
400 L/s
D = 610 mm
- Ground-based outlet: L = 3,10 km
- Underwater outlet: L = 1,97 km

Pipeline
300 L/s
D = 508 mm
- Pressure (including PP): L = 14,36 km
- Gravity: L = 3,56 km

Complementary works and facilities

Please contact us for more information about this project: eruelas@ceabc.gob.mx

September - 2016
D.1 Ensenada desalination plant, B.C.

Director of the project: Comisión Estatal del Agua en Baja California (http://www.cea.gob.mx)

Total investment estimated (at 2014 prices)
$ 517 millions of pesos

The construction of the desalination plant is performed under the DBOT scheme (design, build, operate and transfer) with a concession for operation.

Opening of the tender: February 22, 2011

Investments sources

<table>
<thead>
<tr>
<th>Reason</th>
<th>Technical data</th>
<th>Financial data</th>
<th>Location map</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

I.I.R.: 17.55%

Financial data

Investments sources

- 69% Private investment
- 31% National Infrastructure Trust Fund

Please contact us for more information about this project: eruelas@ceabc.gob.mx
D.1 Ensenada desalination plant, B.C.

Director of the project: Comisión Estatal del Agua en Baja California (http://www.cea.gob.mx)

Please contact us for more information about this project: eruelas@ceabc.gob.mx

September - 2016
The growing demand for water of the city of La Paz, as well as the tourist and residential development in the North-East of La Paz, may not be served by the volumes extracted from aquifers La Paz and El Carrizal.

<table>
<thead>
<tr>
<th>Reason</th>
<th>Technical data</th>
<th>Financial data</th>
<th>Location map</th>
</tr>
</thead>
</table>

**Population benefited:**

70,000 inhabitants

The Government of the State of Baja California Sur, review the feasibility of this project.
Desalination process: reverse osmosis

The project includes:
- direct seawater intake
- desalination plant
- aqueduct
- potable water storage
- work of reject water disposal

Expected an expansion in the future, up to 600 l/s, to strengthen the supply of the city of La Paz and the tourist area of Pichilingue, Punta Colorada, Balandra Bay and Tecolote Beach.

Director of the project: Organismo Operador Municipal del Sistema de Agua Potable, Alcantarillado y Saneamiento (www.lapaz.gob.mx/sapa)
D.2 La Paz desalination plant, B.C.S.

Director of the project: Organismo Operador Municipal del Sistema de Agua Potable, Alcantarillado y Saneamiento (www.lapaz.gob.mx/sapa)

Total investment estimated (at 2014 prices)

$ 545 millions of pesos

Investments sources

- 60% Private investment
- 40% National Infrastructure Trust Fund

Windows of opportunity for the private sector:

Expected that this project will be built by a contract for the provision of services with a concession operation.

The Government of the State of Baja California Sur, review the feasibility of this project.

Please contact us for more information about this project: gerardochiwu@yahoo.com.mx

September - 2016
D.2 La Paz desalination plant, B.C.S.

Director of the project: Organismo Operador Municipal del Sistema de Agua Potable, Alcantarillado y Saneamiento (www.lapaz.gob.mx/sapa)

Please contact us for more information about this project: gerardochiwu@yahoo.com.mx
Desalination is an alternative solution for certain cities based in coastal regions, with a high potential for development and low availability of water resources.

### Among the most significant projects under review

<table>
<thead>
<tr>
<th>Locality</th>
<th>Q (L/s)</th>
<th>Investment (millions of pesos)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>non-recoverable</td>
<td>Private sector contribution</td>
</tr>
<tr>
<td>Tijuana, B.C. (I y II)</td>
<td>1000</td>
<td>440</td>
</tr>
<tr>
<td>Ensenada, B.C.</td>
<td>250</td>
<td>162</td>
</tr>
<tr>
<td>Ensenada, B.C. (La Misión)</td>
<td>250</td>
<td>120</td>
</tr>
<tr>
<td>La Paz, B.C.S.</td>
<td>200</td>
<td>218</td>
</tr>
<tr>
<td>Los Cabos, B.C.S. (Amp.)</td>
<td>200</td>
<td>120</td>
</tr>
<tr>
<td>San Carlos, (Son.)</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

*National Infrastructure Trust Fund (FONADIN)