

Consultation and inquiry about water supply

Please contact the call center in such a case as follows

Change of residence

Change of customer name

Long-term stoppage of water supply

Change of payment method

Customer call center ☎ 078-797-5555

Monday-Friday 9:00 a.m.-5:15 p.m. (excluding weekends, holidays, and New Year holidays)

You can also apply for starting or stopping the use of water supply from the Internet / mobile devices.

Please contact the Water Supply Repair Works Center for leakage repair inside the residential area

Water Supply Repair Works Center

Toll-free phone number 0120-976-194

Toll free / Mobile support

24 hours a day,
365 days available

Please contact to the water construction contractor designated by Kobe City for construction related to water supply.

A list of water supply construction contractors is available on the website of the Waterworks Bureau. It is also introduced at Kobe City Pipe Work Association (phone 078-575-0961).

Web <https://kobe-wb.jp/kosyou-trouble-ijikanri/kouji/howto/>

* To avoid troubles after construction, please take a quotation from multiple vendors as much as possible and consider the contents.
In addition, as there are cases in which a quotation is charged, please confirm it beforehand.

For further information or inquiries,
please check our website below.

<https://kobe-wb.jp/>



* Building a better future with citizens and communities *



Water Supply in Kobe



Kobe City Waterworks Bureau

Journey of water throughout Kobe

Kobe's water supply ensures a pleasant life

Kobe City inaugurated its modern water supply as the seventh in Japan in 1900. During that time, the city built a reservoir upstream of Nunobiki Falls and supplied water to part of the places in the current Chuo-ward and Hyogo-ward. Since then, according to the expansion of the city area and the population increase, we have built the Karasuhara / Sengari reservoirs, and has secured the water of Lake Biwa and Yodo River through Hanshin Water Supply Authority. In this way, we have supplied safe and high quality water to its citizens for more than 100 years. We will continue to strive for citizens to use the water supply more reliably.

From the water source to your home

Reservoirs

Kobe, surrounded by the sea and mountains, has no big rivers or lakes either. For that reason, we built three reservoirs in the city to store river water and rain water.



Sengari Reservoir (Kita Ward)



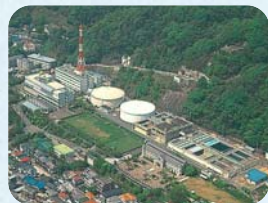
Nunobiki Reservoir (Chuo Ward) Karasuhara Reservoir (Hyogo Ward)

Purification Plants

A large amount of water is sent from the reservoirs to the purification plants every day. It takes about 3 hours for water to be reborn as drinking water at the rapid filtration system adopted in Okuhirano / Sengari etc.



Sengari purification plant (Kita Ward)
(Filtration capacity: 108,000 m³/day)



Okuhirano purification plant (Hyogo Ward)
(Filtration capacity: 60,000 m³/day)



Uegahara purification plant (Nishinomiya City)
(Filtration capacity: 70,000 m³/day)

Kobe city water works bureau

Supplying water to citizens We are stably supplying water at all times ...P3

Protecting our Water We conduct water quality management for safe and reliable water ...P5

Preparing for an Emergency We are promoting water supply resistant to disasters ...P7

Supported by Customers Water supply is supported by our Customers ...P11

Hanshin Water Supply Authority
Lake Biwa / Yodo River
638,000 m³

Hyogo Prefecture Water Supply Project
Dondo Dam / Aono Dam
28,000 m³

Purification Plant

Purification Plant

Purchase

Water flow

1 Water Strage Reservoir

3 places
(Sengari / Nunobiki / Karasuhara)
Effective volume: 13,530,000 m³
Other small rivers such as Sumiyoshi River and spring water at Shin-Kobe Tunnel are also the water source.

2 Tap Water Processing Purification plant

6 places
(Uegahara / Okuhirano / Sengari / Motoyama / Sumiyoshi / Rokkousan)
Purification capability: 247,000 m³ / day

3 Pumping of Water Pumping station

51 places (235 pumps)
The purified water is pumped and sent to distribution reservoirs of each area in high places.

4 Water Storage Distribution reservoir

126 places (257 reservoirs)
The distribution reservoirs are located according to elevation to supply water at the appropriate pressure throughout the city.

• Telemeter/tele-control facilities
central monitoring station: 1
relay station: 8 slave station: 50

5 Water Distribution Water distribution pipes

Water distribution pipe (conduit) extension about 4,800 km
The water distribution pipes are laid throughout the city to supply water. The total length is almost the same as the distance from Kobe to Singapore.

6 Measurement of Water Meter

Checks the amount of water usage by reading meter once every other month.

7 Water use Your home

Water is a limited resource. Please use it carefully.
• Penetration rate of water supply: 99.97%
• Water supply population: 1.53 million people

Supply water

1. Water source

Kobe City that has few water sources, purchases water

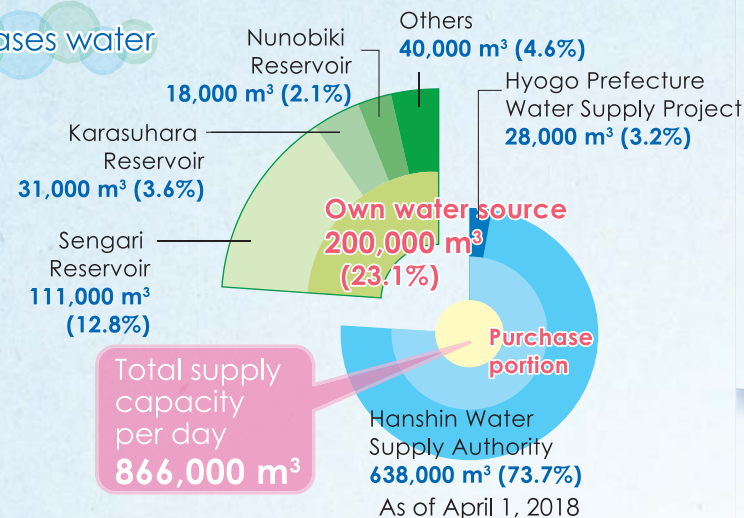
There are no big rivers or lakes in Kobe City that serve as a source of water. Its own water sources do not sufficiently cover daily water demand in the city, even when utilizing Nunobiki / Karasuhara / Sengari reservoirs in the city, small rivers such as Sumiyoshi River, and spring water from Shin-Kobe Tunnel. Therefore, approximately three quarters of water required per a day is purchased from Hanshin Water Supply Authority, which supplies tap water that draws from Lake Biwa and Yodo River as water sources. In addition, we have also purchased water from Hyogo Prefecture, and now have a total supply capacity of 866,000 m³ per day.

Hanshin Water Authority

It was established in 1936 to supply tap water from Lake Biwa / Yodo River as water sources to cities in the Hanshin area with few water sources of its own. Currently, it consists of 5 cities of Kobe, Ashiya, Nishinomiya, Amagasaki and Takarazuka. Kobe City has been purchasing water since 1942.

Hyogo Prefecture Water Supply Project (Hyogo Prefectural Water Supply)

It is a project in which Hyogo prefecture supplies tap water to 17 cities, 5 towns and a company group in the prefecture. Kobe City has been purchasing water since 1988.



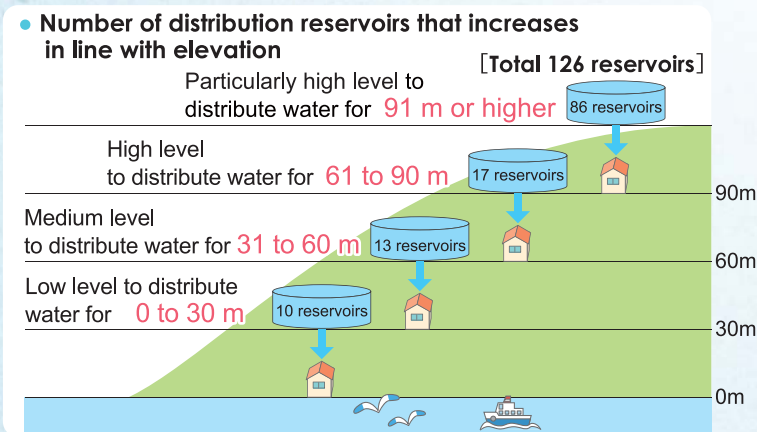
2. Water distribution system

Creative water distribution

Water distribution system in Kobe located between mountains and the sea

Kobe City is a town in the hilly terrain with many slopes. In order to supply water throughout the town with the appropriate pressure using the gravity flow system, the distribution reservoirs are installed according to the elevation.

Therefore, Kobe City requires a large number of distribution reservoirs, and its number is 15 times more than that of Osaka with few slopes.



3. Water distribution control

Water volume is controlled for 24 hours

The telemeter/tele-control system centrally manages the water volume data in distribution reservoirs etc. throughout the entire city. We use the network established throughout the city and remotely control it for 24 hours to ensure the proper distribution of water without waste.

4. Water distribution pipe renewal

Renewal of old pipes to new ones

The water distribution pipes spread throughout the city are about 4,800 km. In order to prevent the accidents, such as water leakage and red water etc. caused by deteriorated water distribution pipes by aging, and the damage due to disaster, we sequentially replace them with new water distribution pipes adopting "earthquake-proof resistance pipes" which are resistant to disaster.

③ From Hyogo Prefecture Water Supply Project
Dondo Dam (Kande Purification Plant)
21,000 m³

④ From Hyogo Prefecture Water Supply Project
Aono Dam (Sanda Purification Plant)
7,000 m³

Daily Water Supply Capacity of Kobe City
Total : 866,000 m³

① Own water source

Sengari Reservoir
Karasuhara Reservoir
Small rivers in the City and others
200,000 m³

② From Hanshin Water Authority
Lake Biwa, Yodo River
638,000 m³



As of April 1, 2018

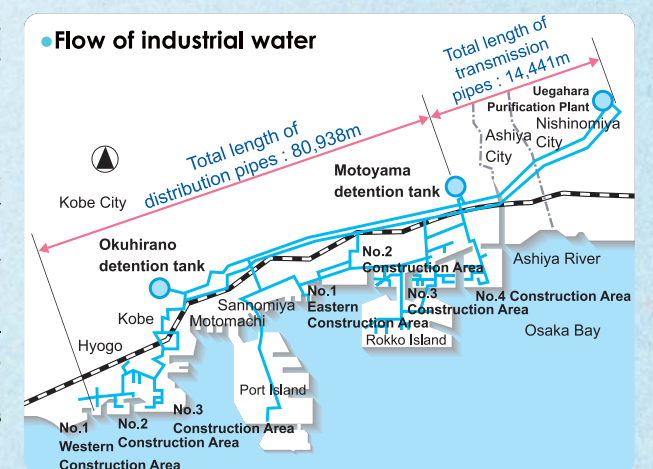
5. Industrial water

Industrial water supply to support industry

In Kobe City, since early, various industries such as shipbuilding and steel industry have developed as the core of Hanshin industrial area.

In order to meet the demand of industrial water, industrial water has been supplied from 1964. Because industrial water is not drinking water, the filtration and the disinfection by chlorine are not done.

All the water sources are water from Lake Biwa / Yodo River, treated by high speed coagulation sedimentation treatment at the Uegahara Purification Plant located in Nishinomiya City, and sent to each factory in Kobe City. Currently, there is a supply capacity of 106,000 m³ per day.



Protecting our water

1. Water quality management

Water quality management with strict standard setting and inspection

We conduct the fine-tuned water quality inspection at various points from water sources to faucet in general homes to supply safe and high quality tap water. In addition to the water quality standard items stipulated by law, more than 200 items are measured according to the needs for water quality control. We have formulated and published "Water Quality Inspection Plan" that stipulates the contents of water quality inspection and published the results of water quality inspection on our website. We also monitor the water quality for 24 hours with the automatic water monitoring system installed in the city and manage the water quality.



Water quality survey in reservoir



Microscopic examination at the water quality laboratory

Items on water quality standard etc. 195 items

Standard items 51 items

Items that may cause problems in human health protection or life



Water quality management target setting items 26 items

Includes an item as a pesticide (pesticide : 118 items *)

* Enforced on April 1, 2018

Water quality data in Kobe

(Inspection results for FY 2016)

Items	From Hanshin Water Supply Authority	From Sengari Reservoir	Standards
Turbidity	less than 0.1	less than 0.1	2 degrees or less
Color	less than 1	less than 1	5 degrees or less
pH value	7.5	7.4	5.8 or more and 8.6 or less
Organic matter etc. (total organic carbon (TOC) amount)	0.7	0.7	3 mg/l or less
Calcium / Magnesium [Hardness]	41.0	21.5	300 mg/l or less
Iron and its compounds	less than 0.03	less than 0.03	0.3 mg/l or less
Manganese and its compounds	less than 0.005	less than 0.005	0.05 mg/l or less
Anionic surfactant	less than 0.02	less than 0.02	0.2 mg/l or less
Fluorine and its compounds	0.10	less than 0.08	0.8 mg/l or less
Total trihalomethanes	0.024	0.013	0.1 mg/l or less
Lead and its compounds	less than 0.001	less than 0.001	0.01 mg/l or less

Acquisition of ISO / IEC 17025 accreditation

ISO / IEC 17025 is a global standard for laboratory accreditation and proves that the laboratory has the technical ability to conduct accurate measurements.

The Water Quality Laboratory acquired ISO/IEC 17025 accreditation for metals and volatile organic compounds, and strive for the thorough water quality management based on accurate measurement.

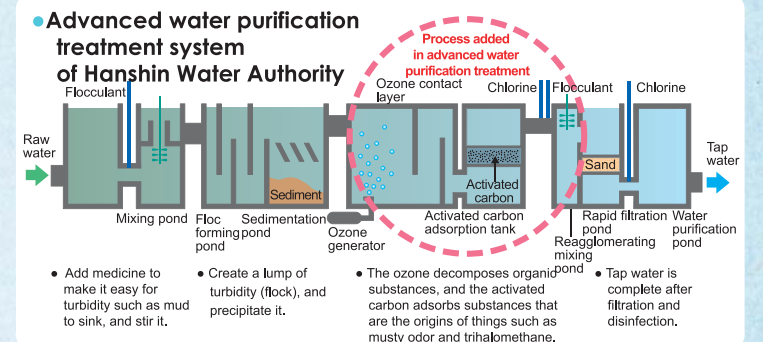
In order to use water reliably

In the home where lead water pipes are used, leads exceeding the water quality standard may dissolve into tap water when it stays for a long time. When used normally, tap water adequately meets the water quality standard, and there are no problems. However, just in case, please use water of about 10 liters (about a bucket) for usages except for drinking for the water that first comes out in the morning.

2. Advanced water purification treatment

Advanced water purification treatment for safer and better quality

Approximately three quarters of the water in Kobe is the water of Lake Biwa and Yodo River purchased from Hanshin Water Supply Authority. Since April 2001, the water has become "advanced water purification treatment water" with ozone/activated carbon treatment added. As a result, the musty odor is removed almost 100%, trihalomethane has been suppressed to about one-third of the past, and it is now possible to supply increasingly high quality water. Even in Sengari Reservoir, when musty odor occurs, water quality improvement is carried out by the granular activated carbon treatment.



3. Environmentally friendly water supply

1 Environment conservation of water source

In order to supply high quality drinking water, it is important to conserve the water source.

Therefore, we are trying to improve water quality by acquiring the lands around the reservoirs of our own water source as land for water quality conservation.

In addition, in order to protect the water environment of the Hatuka River and Hazu River basin, which is located upstream of Sengari Reservoir, partnering with Sanda City and Takarazuka City, we have been working on environmental conservation covering a large area. We have also strived to conserve the water quality of Lake Biwa and Yodo River, which is the largest water source.



Sengari clean exchange

2 Utilization of renewable energy

In order to supply water, a lot of electricity is necessary for the operation of purification plant and pumping station. Therefore, we are working to utilize the renewable and unused energy such as sunlight and hydraulic power. We are promoting the creation of an eco-friendly water supply system by suppressing the greenhouse gas emissions.

(As of the end of FY 2017 : 7 solar power stations; 3 hydraulic power stations)



Solar battery panels in Okuhirano Purification Plant

Disclosure of Environment Accounting

Water is an important environmental resource that protects the healthy activities of nature through water circulation. The water supply business has a close relationship with the global environment because it consumes a lot of energy and resources to supply safe and high quality water. In order to protect this important global environment, we have been promoting environmentally-friendly initiatives as much as possible, and have created and published Environmental Accounting to inform the status of this effort in an easy-to-understand manner.

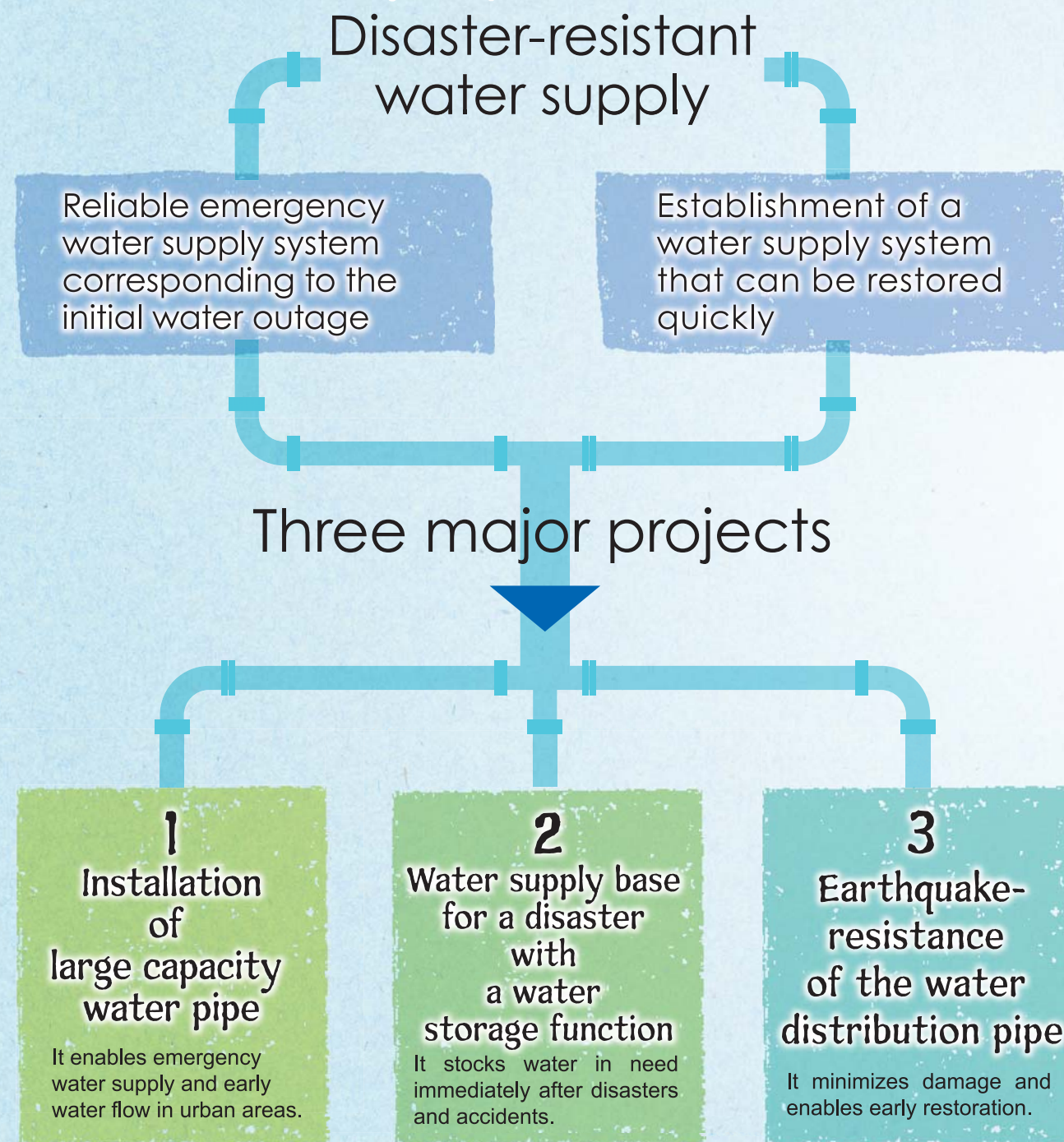
What is Environment Accounting?

Environment Accounting is a report to summarize the cost of the ecological projects and, as a result of efforts, how much the burden on the environment and the expenses were reduced. We measure it by money unit and quantity unit and disclose it to the public.

Preparing for an Emergency

Based on the lessons learned from the Great Hanshin-Awaji Earthquake, we aim to create a water supply that is resistant to disasters and can restore quickly. We are improving our facilities so that the entire area can be restored in 4 weeks even in case of such an emergency.

Earthquake resistance measures according to lessons from the Great Hanshin-Awaji Earthquake



1. Installation of large capacity water pipe

Large water pipe in the underground of urban areas

In addition to the two water supply tunnels passing through Mt. Rokko, we have newly installed the large capacity water pipe that passes through the underground of the urban area. It is possible to decrease the risk by dividing the water route into the mountain area and the urban area. In addition, it has a high earthquake resistance and a large water storage capacity, so even in case of a disaster, the emergency water supply and the early restoration are possible.

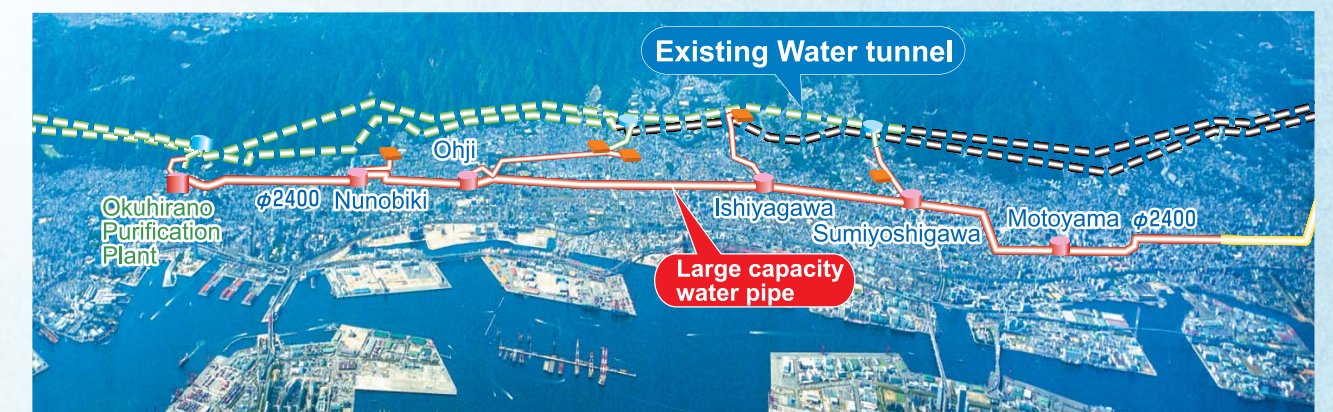
Steel pipe for fault (awarded GOOD DESIGN AWARD 2017)

It is a water pipe which can respond to the displacement of fault and is adopted in the large capacity water pipe. It is a structure to absorb the displacement of fault by processing the water pipe into a bending straw shape. It is laid in the area where fault affects, and the water flow function is maintained after an earthquake.



Image of large capacity water

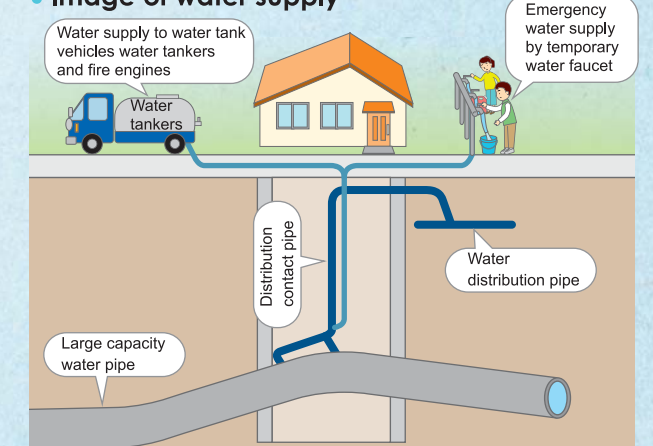
Expense	Approximately 37 billion yen
Construction period	FY 1996 to FY 2015
Length / Main Line extension	Diameter 2,400 mm / 12.8 km (Ashiya City boundary – Okuhirano Purification Plant)
Planned water supply capacity	Up to 400,000 m ³ per day
Amount of stored water	59,000 m ³ (equivalent to 3 ℓ per person× 12 days for all citizens)



Effect of large capacity water pipe

- ① It is possible to send the necessary water without stopping the water supply when the water supply tunnel through Mt. Rokko is damaged or when doing restoration work.
- ② The water supply bases by utilizing vertical shaft in the urban area (total of 6 places) are installed, so that the influence of traffic congestion becomes less when disaster and is possible to cut the emergency water supply time.
- ③ Even when the water supply stops, water stored in the pipe can be used as an emergency water supply.
- ④ Even when the distribution reservoir or the water distribution trunk pipe is damaged, water is sent directly from the large capacity water pipe to the water distribution pipe network in the city to cut the restoration period.
- ⑤ This is used as a place to deepen the understanding of various activities of the water supply business by implementing events and by utilizing facilities.

Image of water supply



Preparing for an Emergency

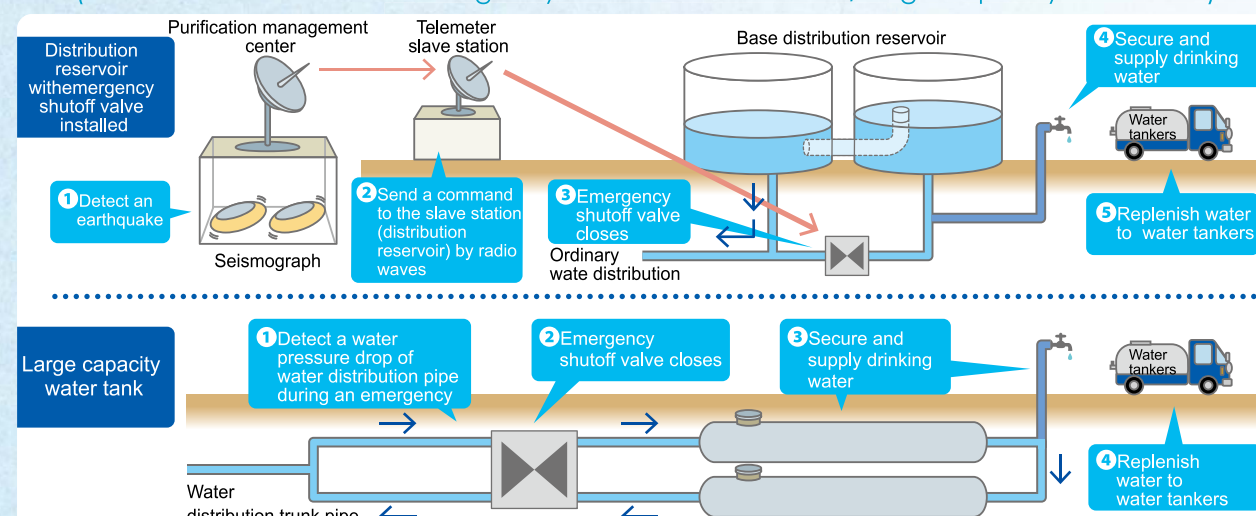
2. Water supply base for a disaster with a water storage function

At the time of a disaster, respond at water supply base for disaster with water storage function

Based on the experiences and lessons from the Great Hanshin-Awaji Earthquake, Kobe City has been focusing on the installation of facilities, such as the emergency storage systems and the large capacity water pipes which have sufficient water storage function for emergency water supply and the ability to replenish water to water tankers. By the completion of the large capacity water pipe in FY 2015, 62 disaster water supply bases with water storage function were completed.

The mechanism of the emergency water storage system

(Distribution reservoir with emergency shutoff valve installed / large capacity water tank)



*Fresh drinking water is always flowing, because the large capacity water tank is directly connected to the water distribution trunk pipe. In case of an emergency, the emergency shut-off valve operates to shut off the water flow with the water distribution trunk pipe, so that fresh and safe drinking water can be secured regardless of the state of the water distribution trunk pipe.

List of the water supply base for disaster with water storage function

Mark of the water supply base for disaster with water storage function

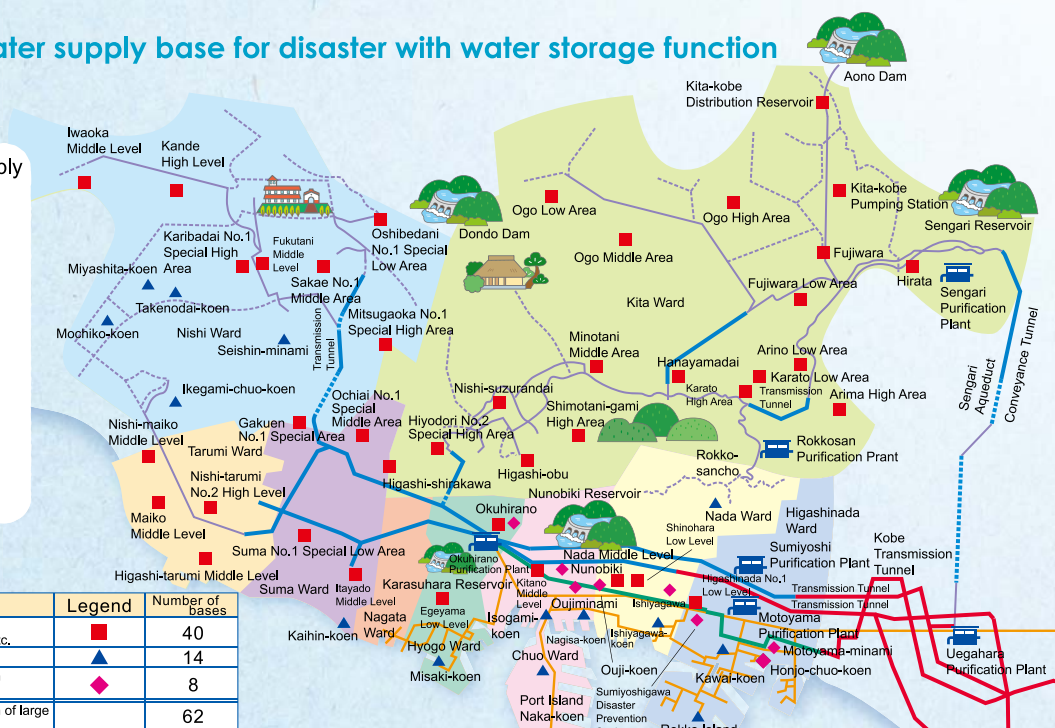


Read the QR code here for details of the base



As of the end of FY 2015

Type	Legend	Number of bases
Distribution reservoir with emergency shutoff valve installed etc.	■	40
Large capacity water tank	▲	14
Base associated with the installation of large capacity water pipe	◆	8
Base associated with the installation of large capacity water pipes		62



3. Earthquake-resistance of the water distribution pipe

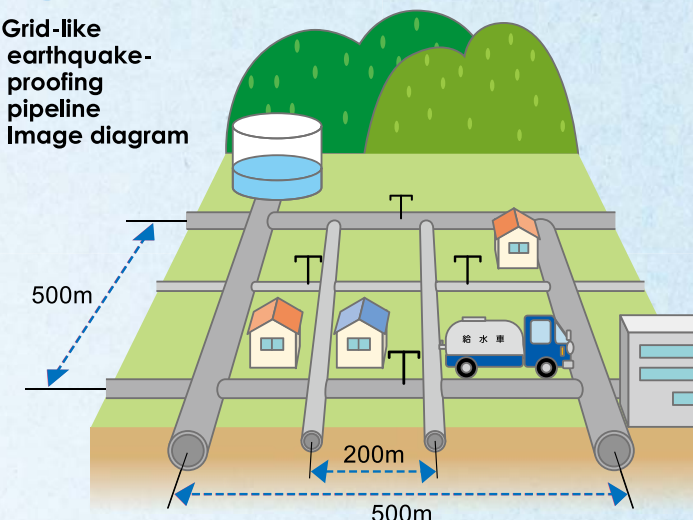
Installation of a water pipeline resistant to earthquake

Based on the experiences of the Great Hanshin-Awaji Earthquake, we have made the water distribution pipes earthquake-resistant in accordance with exchange of old water distribution pipes. Considering the emergency water supply activity at the time of a disaster, we are proceeding with earthquake-proofing of water distribution trunk lines at intervals of 500 m and main water distribution pipeline at 200 m intervals etc. to install the grid-like earthquake-proofing pipeline network, and also proceeding with earthquake-proofing of the route leading to other disaster prevention bases such as evacuation centers and hospitals.

* Earthquake-resistance ratio of water distribution pipes

As of the end of FY 2016: Approximately 37%
(At the time of the Great Hanshin-Awaji Earthquake: approximately 9%)
In consideration of good quality ground, approximately 68%

Grid-like earthquake-proofing pipeline Image diagram



Installation of emergency water faucet for disaster

It is a water faucet installed at schools etc. which become evacuation centers at the time of a disaster. As the restoration of water distribution pipeline progresses after an earthquake, water becomes available and the burden of carrying water can also be reduced by using more water faucets nearby. We are preparing for disasters through regular water supply drills, such as opening a faucet under the initiative of local community at the time of a disaster.

Fu-Q Suisen (Restoration faucet)

We have been installing it at primary schools etc., where the damaged water distribution pipeline is preferentially restored, from FY 2016 according to the request of local residents.

* It can't be used as a drinking place during regular times.



Itsudemo-Jaguchi (Faucet for drinking water at anytime)

It was installed as a symbol that earthquake-proofing resistance of water distribution pipes up to elementary schools etc. was completed. It is a drinking place where children become familiar with tap water at regular times.

* The installation had been implemented until FY 2016..



Strengthening cooperation with other cities

Emergency connection pipes are installed to allow water to be supplied each other between neighboring water supply business entities to alleviate and mitigate the damage due to water outage in the event of an emergency such as a disaster. (As of the end of FY 2016: 12 places in 5 cities and a town are already installed).

In order to support water supply quickly at the time of a disaster or an accident, we regularly implement a joint water supply drill by utilizing the emergency contact pipes with neighboring entities. We are working to strengthen our cooperation system on a daily basis.

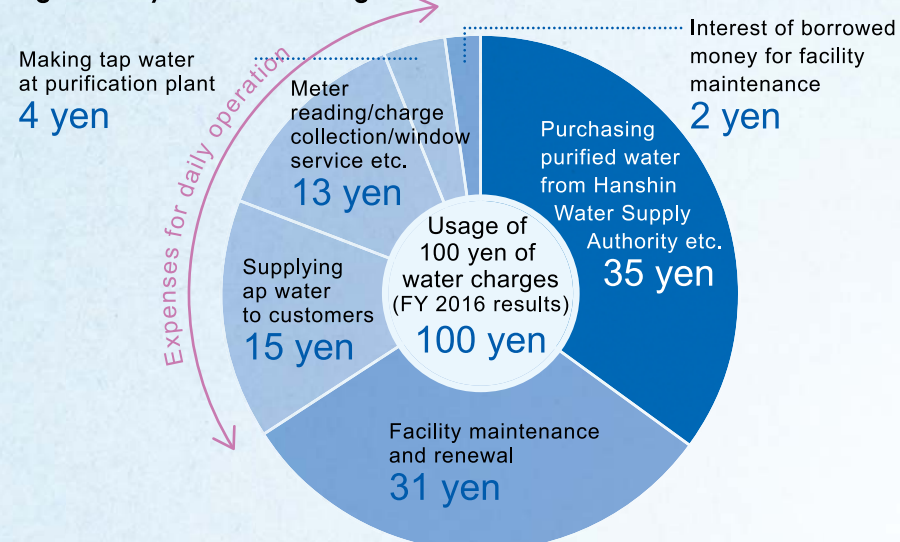
Supported by Customers

1. Water charges

We carefully use the water charges received from all of you.

The water supply business is operated by the water charges that you all pay. For water supply to be used reliably anytime, we carefully use the water charges received from you all, while aspiring to manage the facility efficiently.

Usage of 100 yen of water charges

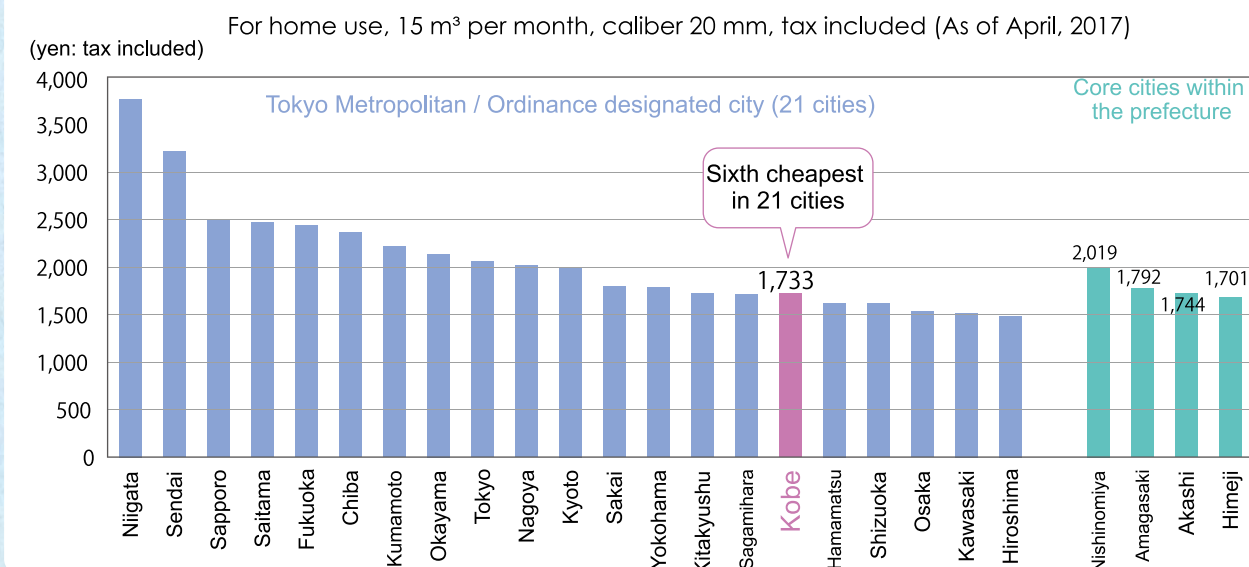


Operation of water supply business

We are making efforts to suppress the water charges.

In order to supply water to the City of Kobe, which is in the hilly terrain with a lot of slopes, we need a lot of pumping stations. We have geographical factors that are unfavorable to the water supply business. Also, as water demand decreases and water charge revenue tends to be decreasing, we are making efforts to improve the management efficiency such as formulating a medium-term financial plan, and keeping costs low. We will continue to provide services from the perspective of our citizens.

Different water charges depending on where you live

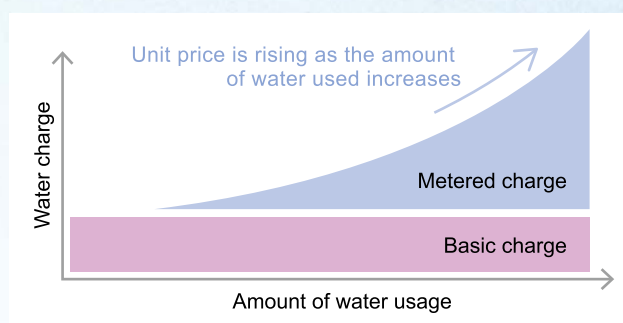


* 15m³ per month is the average amount of water usage in Kobe City
 * Water charges of Chiba Prefectural Water Service are applied in Chiba City,
 Water charges of Kanagawa Prefectural Water Service are applied in Sagami-hara City

Mechanism of water charges

Water charges consists of a basic charge and a metered billcharge

$$\text{Water charges} = \text{basic charge} + \text{metered charge}$$



Metered charge

- A charge determined according to the amount of water used
- Determined by usage such as general use or business use
- Set unit price per 1 m³ according to water amount classification

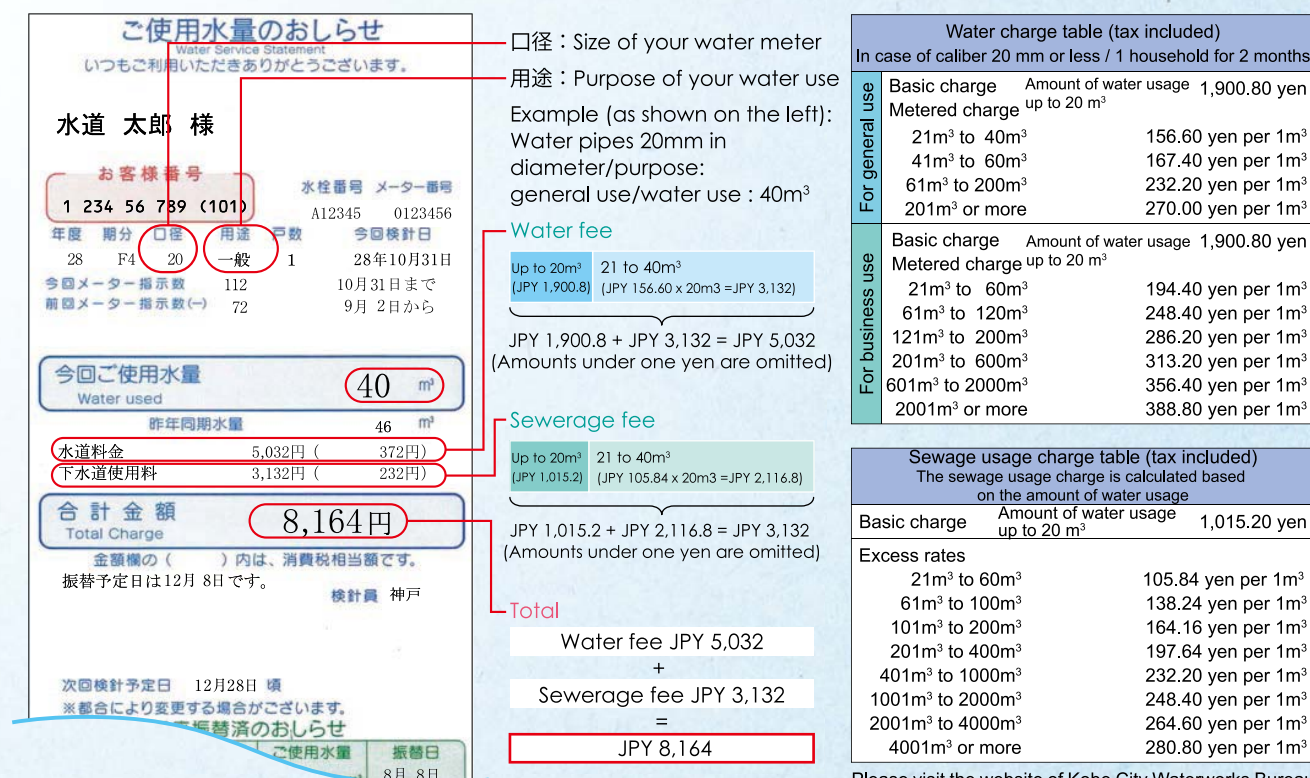
Basic charge

- Flat rates regardless of the amount of water used
- Set the amount per month for each caliber of water meter

Incidentally, the water charge is paid once every two months together with the sewage usage charge. The sewage usage charge is made up of basic amount and excess amount.

Let's calculate charges !

The total amount of the water charges and the sewage usage charge is stated in "Notice of amount of water usage" handed over at the time of meter reading. Please make use of it for actual charge calculation referring to the example of "Notice of amount of water usage" and the water charge table below.



Please visit the website of Kobe City Waterworks Bureau for details of other price tables, such as one for other caliber for other usage.

Pay using a convenient account transfer !

The procedure is simple. Please come to the financial institution where you are dealing, with the bank book, the seal, the recent receipt, or "Notice of amount of water usage".

Supported by Customers

2. Water supply device at your house is your property

Water pipes under a road are called water distribution pipes, and water supply pipes which are divided from the water distribution pipes and drawn into each house, and equipment such as faucets are called water supply device as a whole.

The water distribution pipe is the management facility of the Waterworks Bureau, but the water supply device except the water meter is the property of the customer. Therefore, the cost of maintenance and management shall be borne by the customer. However, the cost for repairing the leakage of the road area shall be borne by the Waterworks Bureau.

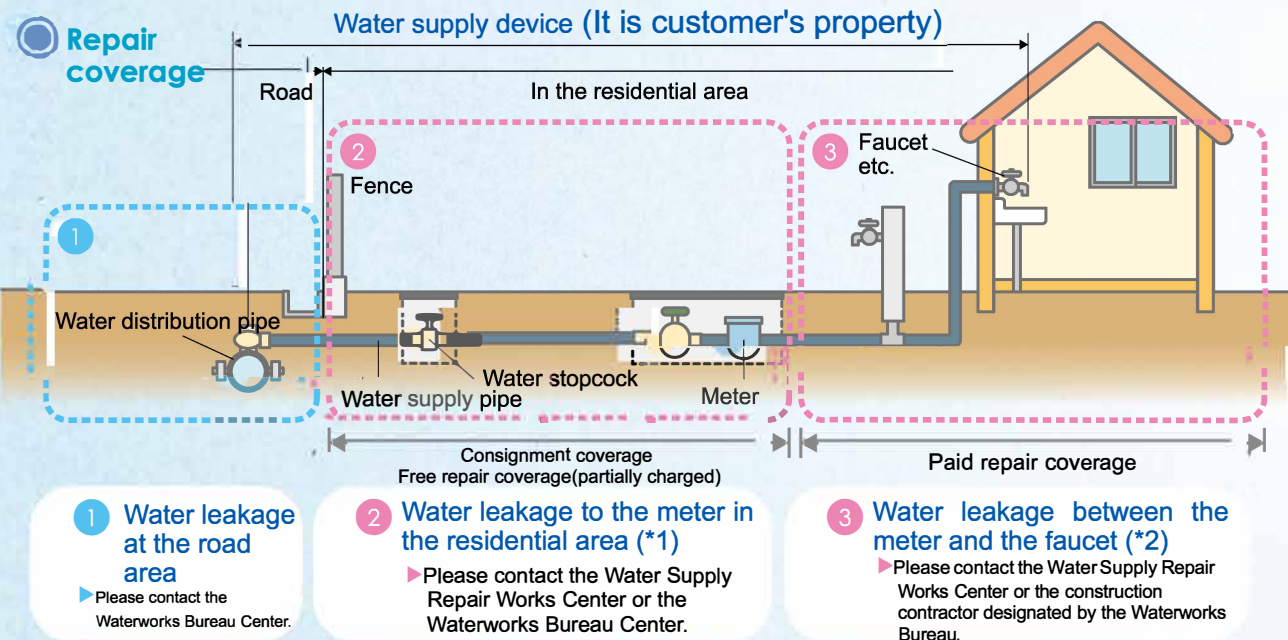
Contact "Water Supply Repair Works Center" for leakage in the residential area

The Water Supply Repair Works Center is established with the consignment of the Kobe City Waterworks Bureau. It is open 24 hours throughout the year, so you can be assured of a request for urgent repairs even at night and on holidays.

Water Supply Repair Works Center

Toll-free phone number
0120-976-194

Toll free / Mobile support
24 hours a day, 365 days available

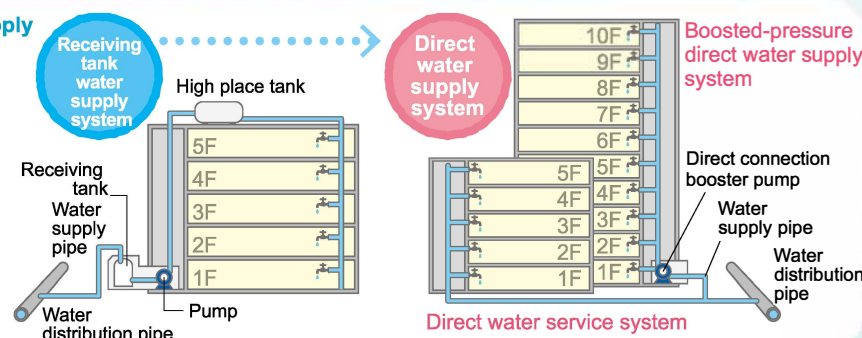


(*1) Among the water distribution pipes (water supply device) in the residential area, the repair reception and repair of the water leakage from the boundary with the road to the meter are entrusted to the Water Supply Repair Works Center. Regarding repair of this part, the Waterworks Bureau will bear the cost, so the customer will be free of charge in principle. However, the customer may be responsible for the pavement restoration of the tiles etc. (Please confirm about the range to be charged before construction work.)

(*2) As for repair of the water leakage between the meter and the faucet, the trustee (Water Supply Repair Works Center) will repair as a paid service of independent business.

We recommend the direct water supply

In order to use fresh tap water, we recommend the direct water supply system that does not install the water receiving tank. In the place where the water pressure is sufficient, a direct water supply is possible directly to the building of about six stories. In addition, a boosted-pressure direct water supply by installing the booster pump is possible directly to the building of about 10 stories.



3. Subsidy and financing system for water supply device construction

The Waterworks Bureau has established subsidy system such as the maintenance and management expenses for water supply device. Please contact the center (see the back cover) responsible for each area for details.

Construction for installing main water supply pipe

In the following cases, if certain conditions are met, the Waterworks Bureau will lay down the main water supply pipe on the condition that half of the construction cost is paid by customer.

- ① In the case where the water supply pipes used jointly by two or more households are replaced under the road
- ② In the case where new water supply pipes are laid in the road area and water supply pipes are congested etc.

Subsidy system

In the following cases, if certain conditions are met, we will subsidize a maximum of 20,000 yen per household.

* Not applicable to apartment buildings

- ① Improvement construction on aging water supply pipes: Construction of replacing water supply pipes and lead pipes which caused red water to come out due to aging, or where water flow became worsened
- ② Meter adjustment construction: Construction to relocate the meter to a position that is easy to read meter
- ③ Auxiliary stopcock installation construction: Construction to install stopcock which can be easily opened and closed in the meter box

Financing system

In the following cases, if certain conditions are met, we will finance 50,000 to 2,000,000 yen for the funds for construction etc.

- ① In the case where the city water supply is newly laid to an existing house built in the area where no water supply is served.
- ② In the case where a private simplified water supply is newly replaced by the city water supply.
- ③ In the case where for improvement the receiving tank water supply system is replaced by the direct water supply system.
- ④ In the case where aging water supply pipes (including lead pipe) are replaced.

4. Publicity of the water supply business

So you can feel even closer to the water supply business

We are engaged in various publicity activities such as events, homepages, videos, etc.

Waterworks Bureau Website

We are delivering information on water and life.

(Waterworks Bureau event information and procedures, business related things etc.)

Tour of water supply facilities

We accept group tours and also provide regular tours.

Talk meeting on demand

The Waterworks Bureau visits your town and we will talk about the history of Kobe water supply, and business situation / water charges system.

Waterworks Bureau Character "Itteki chan" and "Mist chan"

We play an active part in the Waterworks Bureau events etc.! Please be friend us when you see us!

