

ON-LAND CIVIL ENGINEERING

Operations

With a century-long history as a highly-reputed, reliable contractor in marine construction and engineering, TOA also has accumulated experience and expertise in on-land civil engineering through the completion of various projects. Among the projects are roads, bridges, railways, tunnels, water dams, river dikes and water gates, water supply and drainage systems, sewage collection and treatment facilities, land

development, and environmental mitigation and rehabilitation programs.

In each and every project, TOA has devoted all of its capabilities to faithfully execute its duties and responsibilities as a contractor, enhancing TOA's reputation as one of the most trustworthy contractors in Japan.

Shibakawa Aqua-duct Shield Tunnel

The Shibakawa River suffered from deteriorating water quality due to increases in domestic sewage from the growing population in its basin. As the channel slope of the Shibakawa River was too gentle for its natural flow to cope with the pollutants in the sewage.

TOA was awarded a contract to construct a shield tunnel having a total length of 2,330m and an inner diameter of 1,650mm to connect the two rivers. One of the key requirements of the contract was to recycle the shield sludge in order to minimize the adverse impact on the environment caused by the construction by-products. TOA's technical team properly responded to the requirement by developing plant to process 5,300m³ of soft and clayey shield sludge into a construction material with characteristics.



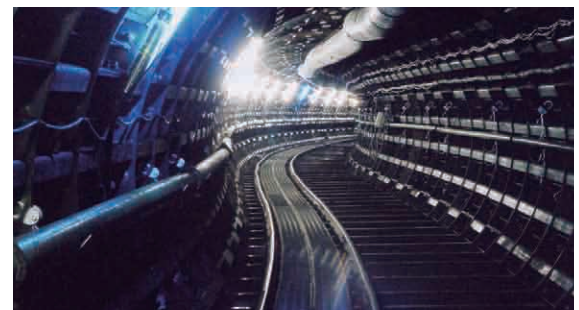
2nd Magsaysay Bridge and Butuan City Bypass Road in Mindanao, Republic of the Philippines

In the Republic of the Philippines, the road network bears 90% of the passenger traffic and 50% of the cargo transportation, but many roads in various areas are unpaved or too narrow to keep up with the growing volume of traffic. Funded by an aid-loan from Japan's ODA program, the Government planned a bypass road in Butuan City to improve traffic conditions and bolster the economy in the northeastern region of Mindanao Island. In this connection, the Philippines awarded a contract to a joint venture of TOA and Nippon Steel Corporation to build the 2nd Magsaysay Bridge, a steel cable-stayed bridge with a total length of 882m, a two-lane bypass road with a total length of 8.1km, and two link roads with a length of 1.33km and 2.9km respectively to connect the bypass road with the existing main road.



Rehabilitation of Sewage Drainage System in Chiyoda Ward, Tokyo

The sewerage network in downtown Tokyo, was constructed nearly one century ago. The Tokyo Metropolitan Government started a project to rehabilitate the sewage drainage network through reconstruction and refurbishment. TOA was awarded a contract to reconstruct the drainage system for surface runoff in Chiyoda ward. Against the construction site of narrow streets with heavy traffic and a dense concentration of buildings, TOA's highly-qualified engineers dealt with various difficulties and utilized the shield tunnel method to complete the drainage system, which measured 2,058m in length with an inner diameter of 2,200mm, on schedule without any accidents.



Emergency Restoration Works of Seisho Bypass Toll Road, Kanagawa Prefecture

A typhoon washed away the shoreline retaining walls of the Seisho Bypass, a four-lane toll road running along the coastline of Sagami Bay in Kanagawa Prefecture. As its closure caused severe congestion on the local roads, Central Nippon Expressway Co., Ltd., gave TOA an order to restore the damaged structures and reopen the road. TOA devoted all of its expertise and capabilities in marine engineering to provisionally reinforce the damaged structures, and tentatively reopened the bypass road after only 20 days. This was appreciated so much by the road administrator and the local communities.



Newly Completed Project

Joetsu Imaizumi Viaduct for the Hokuriku Shinkansen in Niigata

- Client Hokuriku Shinkansen Line Construction Bureau, Japan Railway Construction, Transport and Technology Agency
- Construction period ... December 2007 to May 2011
- Project outline Length: 532 m; RC piles made using in-situ method with diameters of 1200 to 1800 mm (L=24.5 m to 35.5 m) 201 piles
Bridge piers (RC construction) 15 piers

The Hokuriku Shinkansen is a newly-projected shinkansen bullet train, which starts from Tokyo and is scheduled to eventually extend as far as Osaka by way of Joshinetsu and Hokuriku, with the Tokyo to Nagano segment already in operation. At present, construction is underway on the Joetsu to Kanazawa segment.

The entire Tokyo to Kanazawa segment is scheduled to be completed in 2014.

Toa Corporation was in charge of construction of the 532-meter Imaizumi Viaduct, which was a part of the segment between Joetsu and Toyama. The work was completed after a period of construction of approximately four years.



Civil Engineering and Construction Work on Paiton III Power Plant at East Java, of Indonesia

- Client PT Paiton Energy
- Construction period ... August 2008 to April 2012
- Project outline Comprehensive civil engineering and construction work

The construction of a supercritical pressure coal-fired power generation plant was completed in Paiton, which is situated in East Java Province in the Republic of Indonesia, creating the largest coal-fired power plant in the country. Construction of the power plant was ordered by PT Paiton Energy, a company that was established through a joint venture as an IPP. Toa Corporation was in charge of the civil engineering and construction work for this project.

