

Advanced Construction Technology (Top Down Construction) introduced by



CONCORD at WORLD TRADE CENTRE



in Chittagong (for the 1st time in Bangladesh)



A World Trade Centre, in any city, is the symbolization of fantastic local economic boom and its intense relation with the globalized world economy. A World Trade Centre proudly heralds its concerted forward movement keeping business and Government agencies on the same rail that are involved in exerting impetus to international trade and extends essential trade services by infusing necessary stimulation to the growth of regional economy.

Historically and geo-strategically Chittagong has always been an important trade centre. It is currently a very important commercial and manufacturing centre and is the largest seaport of Bangladesh. By all considerations it is the most appropriate choice for developing a trade centre of international stature which will promote domestic trade and commerce through increasing opportunities for local and foreign investment.

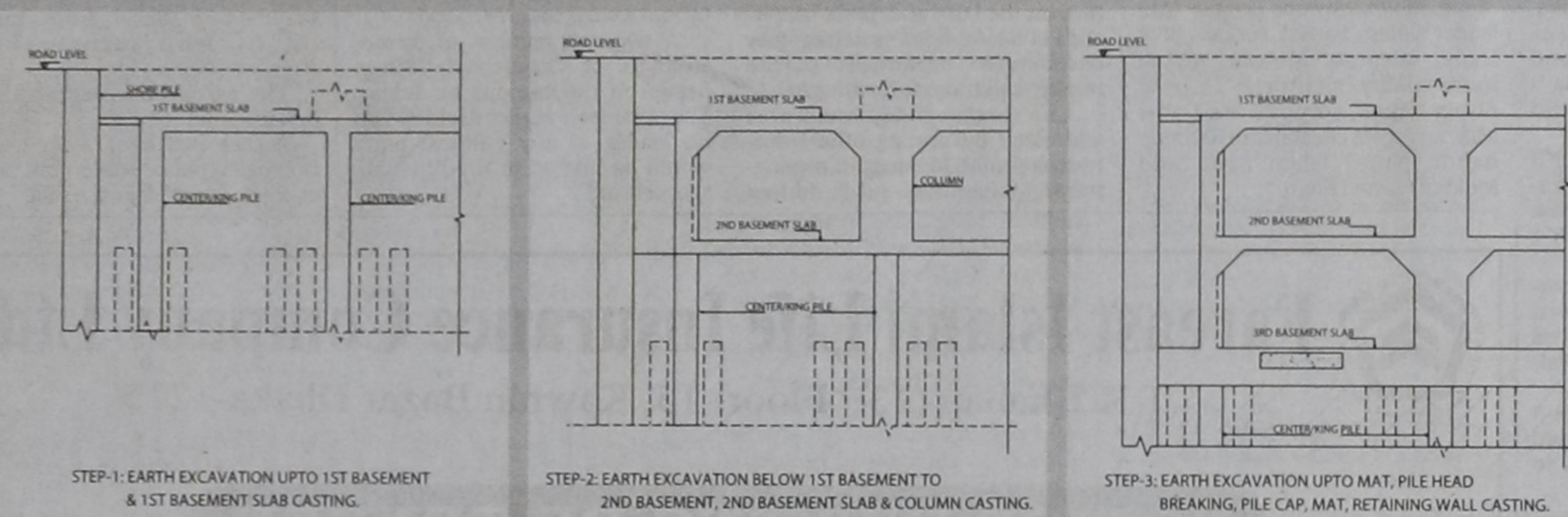
An effort to establish a World Trade Centre will help the overall economic growth of the country. Keeping this in mind, the Chittagong World Trade Centre was designed to accommodate a wide range of ultra modern facilities and services to facilitate all kinds of business. More than a building or an organization, a World Trade Centre (WTC) brings together business and government agencies involved in international trade, provides essential trade services and stimulates the economy of the region it serves. A WTC puts all the services associated with global commerce under one roof. A WTC address gives a business prime and continuous access and exposure to all the services, organizations and individuals essential for success in world trade.

The World Trade Centre will be one of the largest and tallest buildings in Chittagong. It is a 21-storey structure with 3 basements adjacent to a huge water body. Given the location, the poor soil conditions and proximity to the large water body, it would have been extremely difficult to construct 3 basements using conventional methods. Instead, Concord undertook the "Top Down Construction" method to successfully construct the foundation and 3 basements at the WTC project. This building is being constructed by Concord Engineers and Construction Ltd. and was designed by Concord Architects and Engineers Ltd.

The World Trade Centre is designed to have maximum exposure; accessibility and street frontage have been afforded to the banking sector and shopping centre which will dominate the ground floor. The building elevation and character present an elegant, majestic and modern image. There is a Convention Hall on the seventh floor. There are health and fitness/recreation facilities. An international standard luxury hotel will provide convenient and comfortable accommodations for the business travellers.

The Chittagong World Trade Centre will become a landmark for Bangladeshi commerce, worthy of the World Trade Centre heritage. With the range of facilities that are designed to be provided, the Chittagong World Trade Centre, as we hope, will be the standard bearer for the World Trade Centre Association and an ideal icon for international and domestic trade and commerce.

Concord's Contribution in Construction Industry: 1. First Basement & First High Rise Building: Shilpa Bank Bhaban at Motijheel, 2. First Three Basements Structure: Jibon Bima Tower at Motijheel, 3. First Ready-Mix Concrete Plant at Tejgaon, 4. First Environment Friendly Concrete Block Plant in Bangladesh, 5. First Reinforced Concrete Block Masonry High Rise Building - Lake City Concord, 6. First Sewerage Treatment Plant in Residential Building at Lake City Concord, 7. First Revolving Restaurant (71 meter high) at Zia Smriti Complex, Kalurghat, Chittagong, 8. First to introduce Top Down Construction in World Trade Centre, Agrabad, Chittagong.



TOP DOWN CONSTRUCTION

This is an interesting method of basement construction which avoids total excavation up to the mat in a wide area and suitable for all kind of soil. Construction starts from top (1st basement) and gradually down up to the foundation mat. This system allows the simultaneous construction of superstructure and basement floors with considerable saving of time. The method starts with the construction of shore protection piles (R.C.C. or Steel) with consideration of lateral bracing/strut with permanent basement floor slab to attain more relative stability against earth and water pressure. This is followed by establishing piles which are to serve as columns supporting intermediate slabs. The work starts at the top by pouring the first slab (1st basement). It is cast on natural soil below, duly prepared which acts as its form. When the slab has achieved the desired strength, the soil from below is excavated up to next level. The next floor now laid on the soil below and the process is continued until the last basement slab is completed.

Engr. A.K.M. SAIFUL BARI, PEng.
Chief Engineer, Concord Architects & Engineers Ltd.

Message



Concord always had a pioneering role in introducing modern and state of the art construction methods and techniques in the field of construction in Bangladesh. We have been known for innovation and setting standards in our respective fields. Over the years, Concord has achieved many firsts in Bangladesh. We were the first to introduce Ready-Mix Concrete, to use environment friendly Concrete Blocks, to build the first Theme Park in Bangladesh and so on.

In keeping with our tradition of bringing innovation and setting standards in the industry, Concord has applied the "Top Down" construction method for the first time in Bangladesh in the construction of the foundation and basements of the World Trade Centre project in Chittagong.

"Top Down" construction method offers substantial advantages over conventional techniques. It is particularly effective in bad soil conditions or where foundations require deep excavation and where there are many uncertainties involved.

TOP DOWN Construction, though an accepted practice in other countries, was absolutely new for our country. We have very successfully executed foundation work with 3 basements of the 21-storied World Trade Centre Building Complex using the advanced technology (Top Down Construction Method). This is definitely an engineering feat for us and an example for our new generation of engineers. I am sure Top Down Construction method will be found highly beneficial for high-rise construction works by Real Estate Developers, Builders, Government and Semi Government sectors, Corporations, Private Industries and other bodies involved with such construction works and the method will soon find wider application in Bangladesh.

(S. M. Kamaluddin)
Chairman,
Concord Group of Companies

Message



Chittagong Chamber of Commerce & Industry, the leading and most vibrant Chamber of the country is proud to have the privilege of getting the opportunity to build the first and only World Trade Centre (WTC) in Bangladesh. World Trade Centre, Chittagong is expected to emerge as a world-class establishment in this region with modern architectural layout and design. Concord Engineers & Construction Ltd. (CECL) was selected to undertake the construction work of this massive and prestigious multipurpose complex. CECL having a three decade experience and wide reputation of constructing skyscrapers in Bangladesh is using state-of-the-art technology in construction of WTC.

In their pursuit of applying the latest know-how and technology in their construction works, they have very effectively and successfully applied the Top Down Construction Method that is also for the first time in Bangladesh, in executing the complex foundation works of the World Trade Centre.

I am quite optimistic that this new method will find wider application in Bangladesh. I wish all the success of the construction work of WTC.

(Saifuzzaman Chowdhury)
President,
Chittagong Chamber
of Commerce & Industry

Message



Concord Engineers & Construction Ltd. emerged in 1972 as a construction firm. Their history is closely linked to the reconstruction of Bangladesh after the Independence War. In time, Concord has grown to be one of the largest construction conglomerates in Bangladesh. Their credibility and dedication to quality is well established and has won them the reputation to build some of the most prestigious and technically challenging projects in Bangladesh.

Concord has always believed in qualitative improvement of construction - be it technology, be it products, be it finishing in general. Concord constructed the 1st Basement in the 1st High Rise Building in Bangladesh at the Shilpa Bank Bhaban at Dhaka, Building with three Basements again for the first time in Bangladesh Jibon Bima Tower, Dhaka. Concord introduced and popularized use of Ready-Mix Concrete in construction, Environment friendly Concrete Blocks both Load bearing and Non-load bearing, ones that reduces use of steel to a considerable extent, RCBM (Reinforced Concrete Block Masonry) Technology that is more resistant to Earthquake. Concord has to its credit the experience of constructing the first Revolving Restaurant on a 71 meter high Tower at Zia Smriti Complex, Chittagong.

For the prestigious 'World Trade Centre' project of Chittagong Chamber of Commerce & Industries, Concord conceived that the prevalent Method of Sub-structure Construction might not be suitable due to very poor soil condition and close proximity of a vast water body. The concept of Top Down Construction practiced in similar situations in advanced countries came up during one of the many pre-construction Meetings.

Concord's design engineers toyed with the novel idea, made extensive studies of the technology, made up their mind and approached the Management that they will like to go for it. Eventually the time came for final decision. Mr. S. M. Kamaluddin, Chairman, Concord Group gave a patient hearing to the Team, closed his eyes and pondered for a couple of minutes, finally asked just one question. 'Do you think, you can do it? Yes was the answer.

'I will go for it. Do it' the giant decision of introduction of a new technology - in Bangladesh was made in a split second by Chairman, Concord Group of Companies.

Concord feels proud to be a partner of this prestigious project 'World Trade Centre'. Let it develop to be a symbol of pride and prosperity of Bangladesh in the coming years.

(S. K. Lala)
Managing Director,
Concord Group of Companies

Message

Concord Engineers and Construction Ltd. was selected by Chittagong Chamber of Commerce & Industry to implement the very prestigious project "THE WORLD TRADE CENTRE" on design-build basis. Concord Engineers and Construction Ltd. requested Civil Engg. Department of BUET for the advisory services of Prof. Dr. S. Z. Bosunia and Prof. Dr. Syed Fakhru Ameen and BUET accepted their request.

The project is a 21 storied structure with 3 basements which involve deep excavation and construction.

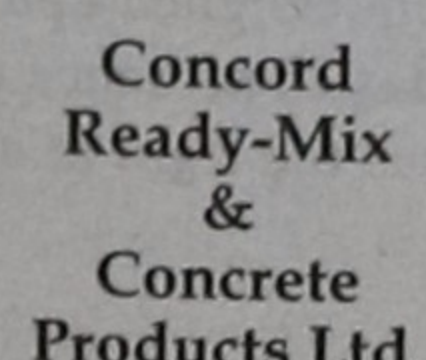
The sub-soil investigation report revealed very poor soil strata comprising of very loose silt and clay with SPT value of 0 to 2 up to 25 ft depth. The conventional excavation maintaining sloped berm was not possible. The full excavation up to mat, apart from intricate shore protection involves risk of shore failure in many ways. Search for such particular conditioned situation and a compatible construction solution, we agreed the TOP-DOWN (using the basement slabs for supporting the shore piles) construction method practiced in other countries in such situation. Safety of excavation and shore protection was prime concern.

Isolated problems evolved during construction were meticulously analysed and remedial measures undertaken. Finally the underground constructions have been successfully completed.

We have all appreciation for Concord Engineers and Construction Ltd. in pioneering such new method of TOP-DOWN Construction in our country.

Prof. Dr. S. Z. Bosunia
Prof. Dr. Syed Fakhru Ameen
Department of Civil Engineering
Bangladesh University of Engineering & Technology

Our valued associates:



&

