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ABOUT US

 C.E.O: RA JUNG HYUN [2 +84) 985 280 262]
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C.E.O Greeting

WELCOME TO KR VINA!



I would like to take this opportunity to express my sincere gratitude for your support of the Company. Here you will find a comprehensive, in-depth condition of our company, in our ongoing growth and current success.

Our mission and vision to become the Global Leader in Geo-Technical work. We have had the good fortune to serve many clients, most having worked with us since we opened our office in 2009 in Hanoi, Viet Nam.

Our commitment to the safety management, quality management, environmental preservation, service that's above and beyond and client satisfaction has been the driving force behind our success.

Our staff – from top management to junior employees – is on call 365days a year to meet our clients' needs.

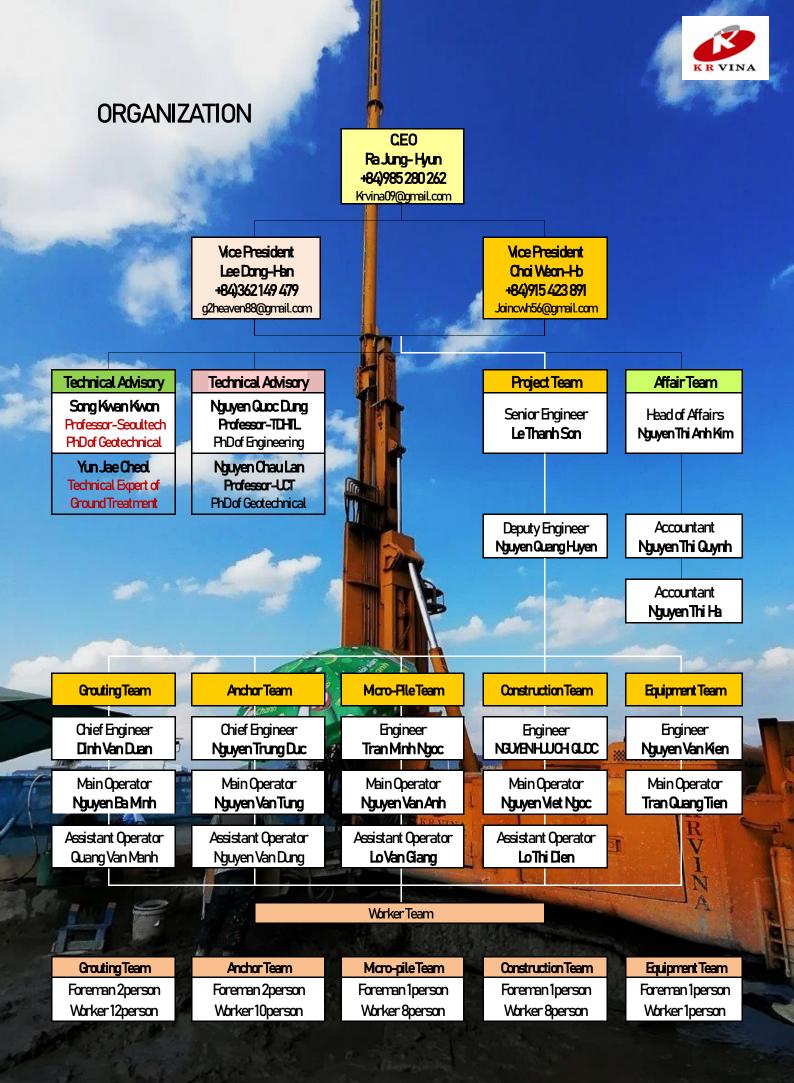
You can have confidence that we will deliver a project on time and within budget.

Above all, our biggest reward has been working with the many clients since 2009.

We look forward to every opportunity that will allow us to continue serving our present clients and extend our services to new clients.

C.E.O President Mr. RAJUNG HYUN







Performance in the construction





Successfully Executed Project Lists I

No.	Project Name	Work Item	Contract term	Contract Value (Inclued VAľ)	RM
1	Keangnam Ha Noi Lanmark ľower Project	Nylon service door installation	02/06/2010 - 14/07/2010	281,600,000	
2	Hotel Keangnam Ha Noi Lanmark ľower Project	Supply and Installation of SteelPipes for Hotel Lobby		2,634,742,000	
3	Keangnam Ha Noi Lanmark ľower Project	Supply and Install Light lubes for Outdoor Canopy	04/11/2011 - 21/11/2011	166,332,408	
4	Hyundai Marriott	Corrugated Iron Roofing on the5th floor	27/07/2011 - 27/08/2011	84,769,960	
5	Golden Palace Complex Project	Construction of Box Gate 1,2,3 with Roof	09/05/2011 - 29/11/2011	206,668,000	
6	Son Dung Port Project	Erection for Steel Structure	06/08/2012 - 05/11/2012	8,370,816,300	
7	Victoria Sapa Project	Soil nailing & Internal steelstructure	15/09/2012 - 25/10/2012	1,379,400,000	
8	Cleve - Deawoo Model houseProject	External steel structure		602,130,000	
9	Keangnam Ha Noi Lanmark ľower Project	Concrete Paving and Pavement		2,428,544,800	
10	Mong Dung Thermal Power Plant 2	Fabrication and Erection for Steel Structure	01/12/2012 - 15/12/2012	<mark>194,</mark> 760,050	
11	Mong Dung Thermal Power Plant 1	Drilling Anchor Hole for Ground Anchor	22/04/2013 - 21/06/2013	3,415,801,466	
12	Mong Dung Thermal Power Plant 2	Ground Anchor & Jet Grouting Φ1500	12/05/2013 - 16/07/2014	5,691,512,727	
13	Formosa caisson Floating Deck Project	Ground Ireatment L.W(Labiles Wasser Glass) D1200	22/10/2013 - 27/01/2014	6,000,000,000	
14	Mong Dung Thermal Power Plant 1	Ground Anchor & Jet Grouting Φ1500	05/12/2013 - 05/12/2014	9,612,825,160	
15	Booyoung International HanoiProject	Ground Anchor for Sheet Pile	18/11/2014 - 31/01/2015	7,498,750,000	
16	Hyundai, Sri-lanka waterfrontcolombo Project	Ground Anchor for Sheet Pile	30/10/2014 - 30/07/2015	32,137,500,000	
17	Hyundai, Sri-lanka waterfr <mark>ontcolom</mark> bo Proje <mark>ct</mark>	JSP Grouting for Water Curtain Φ1000	01/05/2015 - 30/08/2015	1,823,930,000	
18	The Garden Hill Project	Ground Anchor for Sheet Pile	15/05/2015 - 05/06/2015	-730,620,000	
19	Booyoung International HanoiProject	Ground Anchor for Sheet Pile	21/01/2015 - 31/05/2015	9,012,360,000	
20	219 l'rung Kính High-rise Building Project	Ground Anchor for Sheet Pile	21/08/2015 - 20/09/2015	2,169,517,900	
21	C.M.C Housing Project	Ground Anchor for Sheet Pile	14/12/2015 - 25/12/2015	1,476,000,000	
22	Truong Dinh Írade Center Project	Ground Anchor for Sheet Pile		1,842,500,000	
23	Hoa Binh Housing Project	Ground Anchor(Design, Survey,Verification)		4,743,200,000	
24	Green City Project	Ground Anchor(Design, Survey,Verification)	10/04/2016 - 30/05/2016	7,457,742,000	
25	Haengsung Electronic Project	Lifting to Slab by GroutingMethod Φ600		642,219,600	



Successfully Executed Project Lists II

No.	Project Name	Work Item	Contract term	Contract Value (Inclued VAľ)	RM
26	High-rise Building & Office B6Project	Construction of Under Ground-Sheet Pile, Ground Anchor, Earth work)	20/06/2016 - 20/08/2016	11,098,049,000	
27	HH1 High-rise Complex Project	Ground Anchor(Design, Survey,Verification)	01/10/2016 - 20/11/2016	4,709,930,000	
28	Centana Thu Thiem Project	Ground Anchor(Design, Survey,Verification)	07/10/2016 - 27/12/2016	3,073,693,700	
29	VC2-GOLDEN SILK Project	Construction of Under Ground Anchor, Jet Grouting for Water Curtain Φ 1000	25/07/2016 - 10/09/2016	4,114,000,000	
30	Rebuild 5-storey Apartment Phuc Hung Project	Ground Anchor for Sheet Pile	09/02/2017 - 20/03/2017	1,866,700,000	
31	HH05-HH06 High-rise Complex Project	Under Ground Work(Sheet Pile,Ground Anchor)		3,140,953,778	
32	Housing for employees of theGovernment	Construction of Under GroundPart (Ground Anchor, Sheet Pile)	01/08/2017 - 30/09/2017	12,374,000,000	
33	319 High-rise Building Project	Ground Anchor(Design, Survey,Verification)	28/06/2017 - 12/08/2017	8,994,150,000	
34	B5-3-Dong Hoi High-rese Building Project	Ground Anchor(Design, Survey,Verification)	21/08/2017 - 21/11/2017	<mark>3,342,</mark> 269,690	
35	E2 -Chelsea Residences Project	Ground Anchor(Design, Survey,Verification)	01/10/2017 - 05/12/2017	10,981,000,000	
36	B5-3-Dong Hoi High-rese Building Project	Ground Anchor(Design, Survey,Verification)	21/08/2017 - 21/11/2017	1,486,875,236	
37	Booyoung International HanoiProject	Construction of Metal Structure	01/11/2017 - 31/01/2018	14,500,000,000	
38	High-rise Complex Project	Ground Anchor(Design, Survey,Verification)		5,703,640,000	
39	Sushin solied Da Nang Project	Jet Grouting Ø800	05/05/2018 - 15/06/2018	3,461,700,000	
40	Medical Service Trade ľay Ho ľayProject	Ground Anchor for Sheet Pile	25/12/2017 - 24/01/2018	830,500,000	
41	Yangon inno city development	Ground Anchor for Sheet Pile	20/02/2018 - 20/04/2018	8,532,600,800	
42	Tay Ho Tay New Urban Project	Ground Anchor for Sheet Pile &Measurement Management for Shoring System	17/03/2018 - 30/03/2019	12,560,683,753	
43	Lotte Mall Hanoi	Ground Anchor for Sheet Pile	10/01/2019 - 30/06/2021	8,504,301,919	
44	Lotte Mall Hanoi	Ground Anchor for Sheet Pile & Steel Shoring(Wale beam, strurt, etc,)		26,279,848,753	
45	Nam Theun Hydraulic Power Project	Ground Anchor for Sheet Pile	23/02/2019 - 28/04/2019	7,899,152,250	
46	Rrorze Rebuild Bike Parking	Ground Anchor for Sheet Pile	10/07/2019 - 31/01/2019	283,900,000	
47	JSP Grouting for LPG TerminalUnder Ground Work	Jet Grouting Φ1500	01/08/2019 - 31/08/2019	2,167,000,000	
48	Sunbay Park Hottel & Resort- Ninh ľhuan	Ground Anchor for Sheet Pile	10/09/2019`- 30/11/2019	3,240,959,040	





Successfully Executed Project Lists III

No.	Project Name	Work Item	Contract term	Contract Value (Inclued VAľ)	RM
49	Construction of anti-erosion workson Hoang Dieu embankment route Sapa - Lao Cai	Ground Anchor for slope	20/10/2019 - 10/11/2019		
50	High-rise apartment buildings, parking lots and kindergartens -Panorama	Jet Grouting Φ1000	19/11/2019 - 20/11/2019	4,353,245,107	
51	Marina Hotel Hoang Gia Project	Ground Anchor for Sheet Pile	11/12/2019 - 11/01/2020	1,241,130,000	
52	HSHI HDEC LPG Terminal Project	Jet Grouting Φ1200	26/12/2019 - 15/01/2020	858,000,000	
53	HSHI HDEC LPG Terminal Project	Jet Grouting Φ1500	25/02/2020 - 15/03/2020	1,980,000,000	
54	HSHI HDEC LPG Terminal Project	Drilling for Blast hole of LNG Terminal Shaft	01/07/2020 - 07/07/2020	1,837,000,000	
55	Cai Dam New Urban Ha LongProject	Ground Anchor & Soil Nailing	10/06/2020 - 10/09/2020	3,643,200,000	
56	5 Star Project in Ha Long	Ground Anchor & Reinforcementof Slpoe	20/09/2020 - 30/06/2022	13,322,540,000	
57	5 Star Project in Ha Long	Stabilizing slopes for excavationand retaining wall construction	20/09/2020 - 30/06/2022	3,878,490,000	
58	5 Star Project in Ha Long	Stabilizing slopes of Inside andHill side	20/09/2020 - 30/06/2022	7,316,650,000	
59	5 Star Project in Ha Long	Ground Anchor & Reinforcementof Slpoe	20/09/2020 - 30/06/2022	17,960,450,236	
60	Ha Noi Me <mark>tro CP03, Nhổn-Ga</mark> HNHuyndai E&C - Ghella	Test Construction of DiaphragmWall	10/10/2020 - 25/12/2020	330,000,000	
61	Master <mark>i Central Point, Q9,</mark> HCMProject	Ground Anchor for Sheet Pile		4,248,728,000	
62	Haengsung Electronic Project	Jet Grouting Test Φ1000	21/05/2020 - 10/06/2020	100,000,000	
63	NAUS VINA Ha Nam Project- HaNam	Construction of Micropile	05/09/2020 - 12/09/2020	800,800,000	
64	Masteri Tay Ho Tay Project	Ground Anchor for Sheet Pile	10/10/2020 - 15/11/2020	5,316,062,400	
65	Lotte Mall Hanoi	Steel Sholing System	01/12/2021 - 31/12/2021	843,880,032	
66	An Lac New Urban ShymphonyProject	Ground Anchor(Design, Survey,Verification)	26/12/2020 - 15/01/2021	1,879,020,000	
67	5 Star Project in Ha Long	Ground Anchor & Soil Nailing		785,580,382	
68	Ha Long International Project	Ground Anchor	05/09/2022 - 20/12/2022	2,035,192,500	
69	Nui Phao Factory Project	Construction of Micro-pile	17/06/2022 - 01/07/2022	921,877,393	
70	Amkor Bac Ninh Viet Nam Project	Construction of PHC Pile	02/10/2022- 05/11/2022	3,265,579,567	
71	Hana Micron Vina Project 1st	JSP Grouting Φ1000	16/09/2022 - 15/10/2022	648,000,000	
72	Hana Micron Vina Project 2nd	JSP Grouting Φ1000	19/10/2022 - 19/11/2022	648,000,000	





Successfully Executed Project Lists IV

No.	Project Name	Work Item	Contract term	Contract Value (Inclued VAľ)	RM
73	Starlake B3CC1 Complex Project	Ground Anchor & Soil Nailing	20/11/2022 - 30/06/2023	24,000,000,000	
74	Ha Long International Project	Ground Anchor & Micro-pile	15/10/2023 - 30/12/2023	2,7000,000,000	





EQUIPMENT RESOURCE

1.Jet Grouting Rig – 2 set

	Manufacturer	GT	Industry
	Dimension	10.00m×	2.10m×2.65m
	Engine Type	Hydraulio	: Crawler Drill
	Drilling Size	mm	73~180mm
05	J.S.P Size	m	0.5m~3.0m
GD 800	Mast Length	m	28m
000	Max. Drilling Length	m	70m
	Inclination Range (Angle from vertical 90°)	degree	30

2.Mixing Plant – 2 set

	Mast Length	GTInd	ustry	
	Dimension	11.0m×2.2r	n×2.65m	MINACO_LTD
	Mixer Volume	M³	1.0	O THURSDAY HEADER
	Agitator Volume	M³	2.0	
GT 1000	Cap <mark>acity</mark> (water)	M³	18	
	C <mark>apacity</mark> (cement)	ton	50	
	Max. output	^{m°} /hr	18	

3.Grouting Pump – 1 set Manufacturer Soilmec Industry Dimension 6.0m×2.4m×2.6m 7T-600J Soil Mex 7T- 600J soilmec₀ Max. Water ℓ/min 350 delivery Max. Pressure Kg/cm² 600



4.Wate	er Pump – 2 se	et		
	Manufacturer	Soilmec I	ndustry	KEVINA Prezident Sinternan
Soil Mex	Dimension	6.0m×2.4	m×2.6m	
5T- 302	Max. Water delivery	ℓ/min	350	
	Max. Pressure	Kg/cm²	500	

5. Air Compressor (J.S.P Grouting) - 1 set

	Manufacturer	Ingersol	I Rand		Fan Moler	Lee Kois Radd In Preux Sear
XHP 900	Dimension	sion 3.5m×1.8m×2.4m	Combine Air701 Cooler High Performance Ali Filter Total Enclosed Mator	Minimum Preznet Valle High Performance Selector Inde Valle High Performance Of Filter High Performance Of Filter Extentical Assed		
	Max. Pressure	CFM	900		Vibration Isolation Pad	

Manufacturer Doosan XP Dimension 3.5m×1.8m×2.4m Max. Pressure CFM 675

7. Drilli	ng Machine –	2 set		
	Manufacturer	BEA LONG		
	Dimension	10m×2.1m	×2.6m	
BHD 215	Engine Type	Hydraulic Cra	wler Drill	
	Drilling Size	Mast Length +D18th	73-200	
	Max. Drilling Length	m	90	



8. Drilling Machine – 1 set Manufacturer KOREA 10m×2.1m×2.6m Dimension RPD Engine Type Hydraulic Crawler Drill 130C Mast Length Drilling Size 73-200 +D18th Max. Drilling 90 m Length

9. Sky Drilling Machine – 1 set

	Manufacturer	GTINDER	STRE		
	Dimension	10m×2.1m	×2.6m	Sec. 1	
GT 200	Engine Type	Hydraulic Drill			
	Drilling Size	Mast Length +D18th	<mark>73</mark> -200		
	Max. Drilling Length	m	75		LEAD LO

10. PC Multi-Recording System – 1 set

	Manufacturer		DREA JNG ENG	
		Depth	0~70m	
DSR 1000	Measuring	Torque	0~500b	
	Range	R.P.M	0~100rpm	
		Verticality	-5°~0°~+5°	



Project Summary – MONG DUONG I COAL FIRED POWER PROJECT DOOSAN E&C-HYUNDAI E&C

- Location Mong Duong, Cam Pha, Quang Ninh, Viet Nam.
- Work Scope Jet Grouting, Completion of Ground Anchor for Pump House and Permanent Ground Anchor for Fore Bay Area(Wing Wall)
- Jet Grouting Diameter D1500mm/5,520m
- Tension Load D55~65ton / J55~73ton
- Anchor Type Permanent Anchor 15.4mm x 5
- Length/Holes 5,277m/225holes
- Geological Condition Weathered rock & siltstone
- Volume 3,042 m³





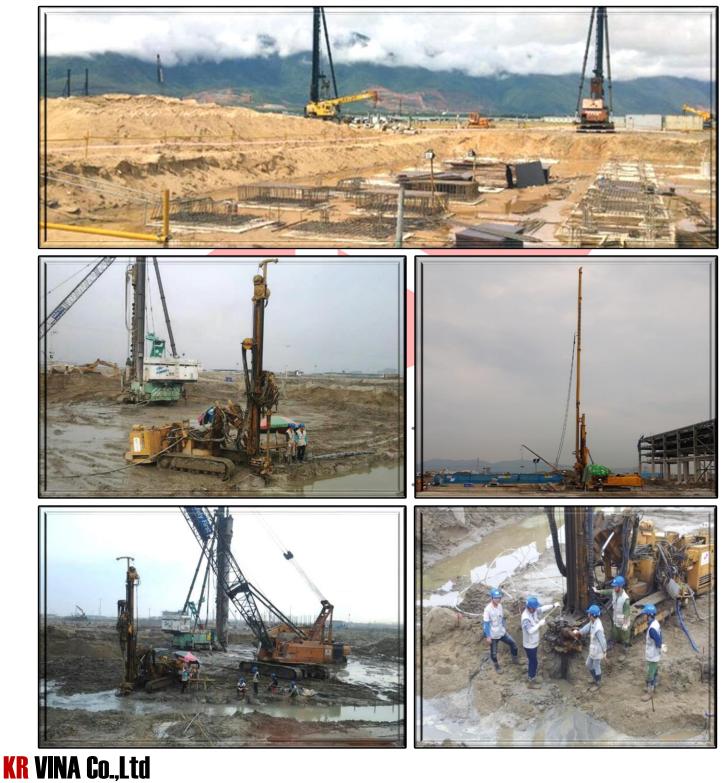
- $\hfill \label{eq:states}$ Project Summary MONG DUONG $\hfill \label{eq:states}$ COAL FIRED POWER PROJECT DOOSAN HEAVY INDUSTRY
- Location Mong Duong, Cam Pha, Quang Ninh, Viet Nam.
- Work Scope Micro-Pile for Intake Pumping Station, Construction & Temporary Work (Temporary Anchor)
- Micro-Pile Type Steel Bar D19mm x 4
- Design Load 25ton
- Length / Holes 4,373m / 198holes (D200mm)
- Temporary Anchor 1,825m / 86holes
- Jet Grouting Diameter D1500mm/1,840m



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- Project Summary FOMOSA HATINH STEEL MILL PROJECT POSOCO E&C
- Location Ky Ninh, Ky Anh, Ha Tinh, Viet Nam.
- Work Scope LW Grouting (Impermeable)
- Jet Grouting Diameter D1200mm/1.320m
- Diameter / Length D600mm / 4,211m
- Volume 4,372 m³



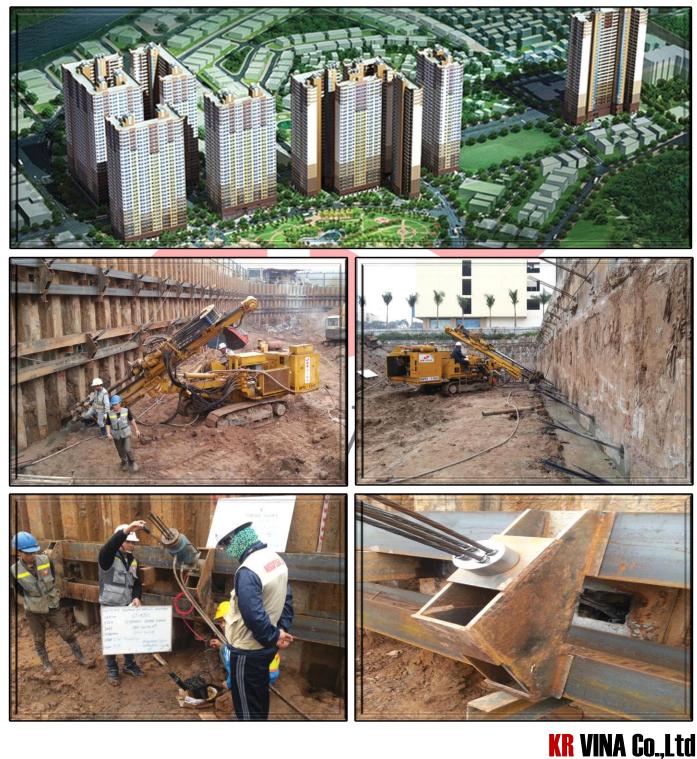


 Project Summary – BOOYOUNG VINA PROJECT HANOI (HA DONG) BOOYOUNG E&C

- Location Mo Lao, Ha Dong, Ha Noi, Viet Nam.
- Work Scope Underground Work, Ground Anchor, Sheet Pile, D-Wall, Bored Pie for CT04, CT07

Temporary Anchor – 12.7 x 4ea

- Tension Load D20ton, J25ton
- Length / Holes 5,952m / 326holes



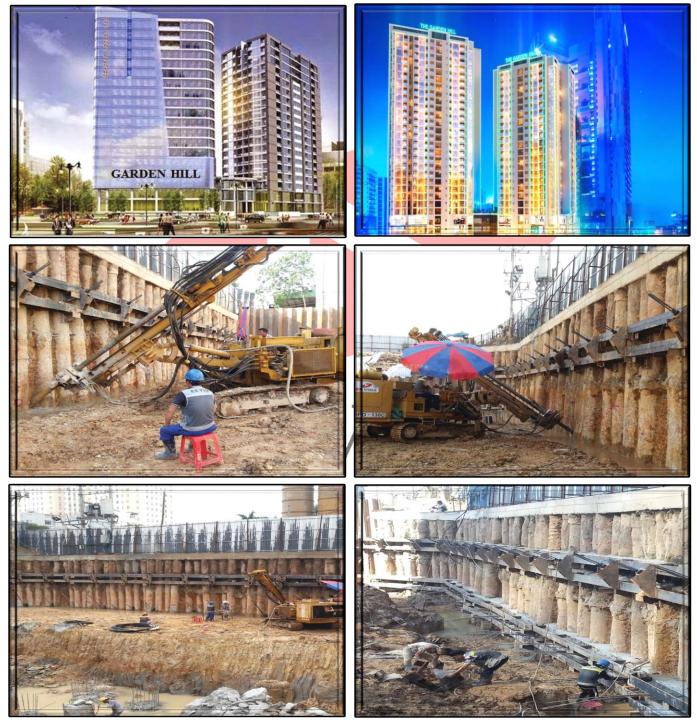


- Project Summary THE GRAND HILL PROJECT HA NOI BID VIETNAM JV COMPANY
- Location 99 Tran Binh, Nam Tu Liem Hq Noi, Viet Nam.
- Work Scope Underground Work, Ground Anchor for 2 Apartment Tower (29F, 2Basement)

Temporary Anchor – 12.7 x 4ea

• Tension Load D25ton, J25ton

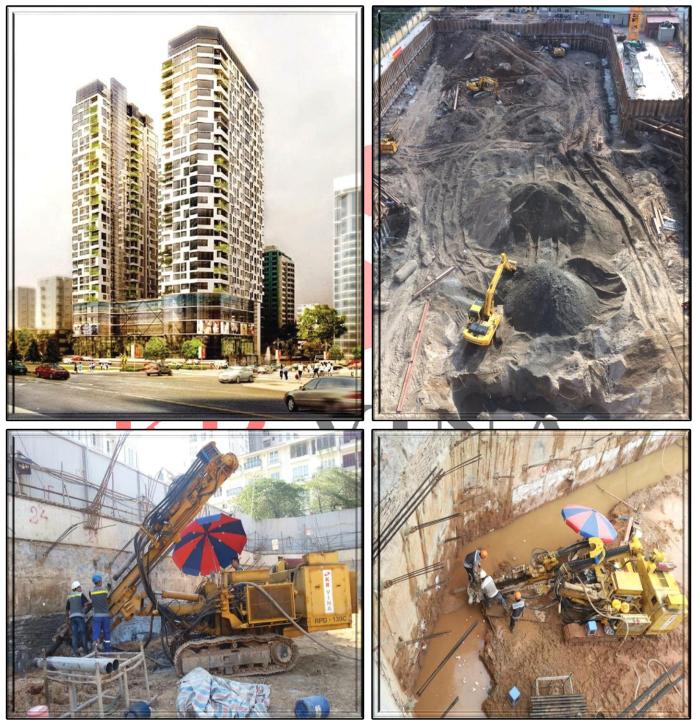
Length/Holes – 1,000m/50holes





- Project Summary 219 TRUNG KINH PROJECT HA NOI TNHH19-12 BAC HA COMPANY
- Location 219 Trung Kinh, Trung Hoa, Cau Giay, Hq Noi, Viet Nam.
- Work Scope Anchor Work for 3 Apartment Tower(29F, 2Basement)
- Temporary Anchor 12.7 x 4ea

- Tension Load D25ton, J25ton
- Length / Holes 4,000m / 200holes







- Project Summary WATERFRONT PROJECT COLOMBO SRI LANKA JONH KEELS HOLDINGS-HYUNDAI E&C
- Location Justice Akbar Mawatha, Colombo, Sri Lanka.
- Work Scope Under Ground Construction & Foundation Work for Jet Grouting, Sheet Pile, CDM, Steel supporting
- Jet Grouting

Sheet Pile







- Project Summary YANGON INNO CITY DEVELOPMENT PROJECT MYANMA INNO INTERNATIONAL DEVELOPMENT CO., LTD.
- Location Conner of Parami & Wayzayander Road, South Okkalapa, Yangon Myanmar.
- Work Scope Construction & Ground Anchor Work
- Temporary Anchor 12.7 x 4ea

- Tension Load D25ton, J25ton
- Length / Holes 4,592m / 260holes



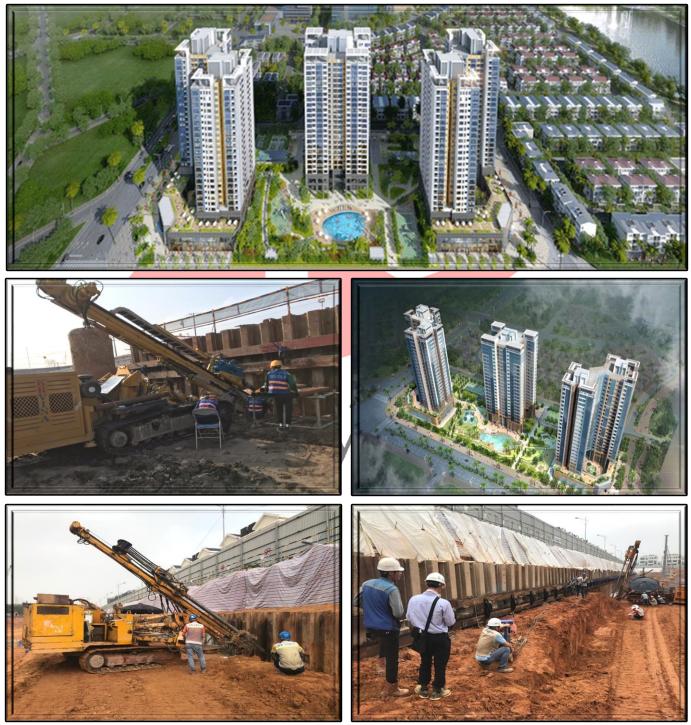
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- Project Summary CENTER WEST OF WEST LAKE TOWN PROJECT HA NOI T.H.T DEVELOPMENT CO., LTD.
- Location Center West of West Lake Town, H9 plot-CT01 Ha Noi, Viet Nam.
- Work Scope Construction & Ground Anchor Work
- Temporary Anchor 12.7 x 4ea

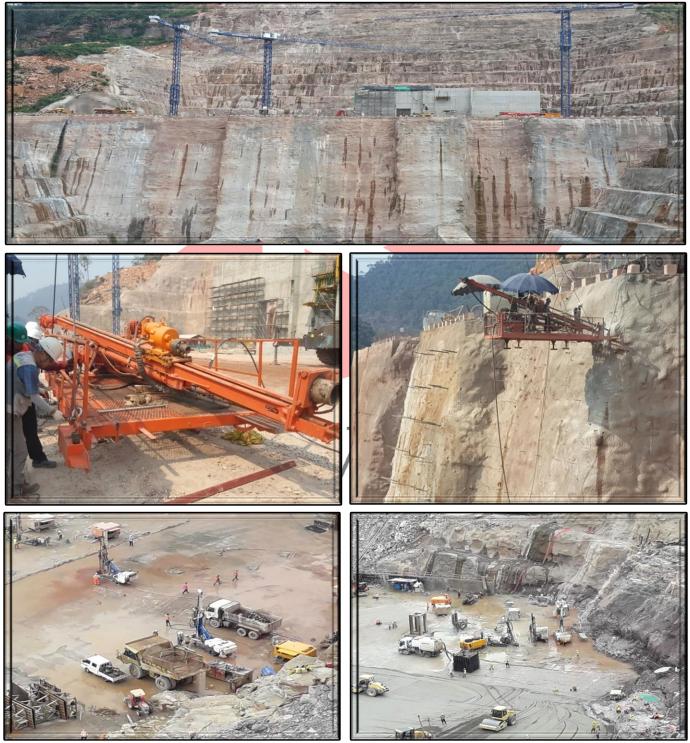
- Tension Load D25ton, J25ton
- Length / Holes 9,162m / 434holes





- Project Summary NAM THEUN1 HYDROPOWER PROJECT LAOS
 PHONESACK GROUP i.e. NAM THEUN1 HYDROPOWER CO., LTD.
- Location Ban Phone Nearm, Pak Kading District, Bolikhamxay Province, Laos PDR.
- Work Scope Construction & Tendon Anchor Work, Monitoring, Using Sky Drill
- Permanent Anchor 15.2 x 5ea

Length/Holes – 1,350m/90holes







- Project Summary LOTTE MALL HA NOI PROJECT (2019~2020) LOTTE E&C CO., LTD.
- Location Nhat Tan & Phu Thuong Ward, Tay Ho, Ha Noi, Viet Nam.
- Work Scope Construction & Ground Anchor Work
- Temporary Anchor 12.7 x 4ea

Tension Load ton, ton



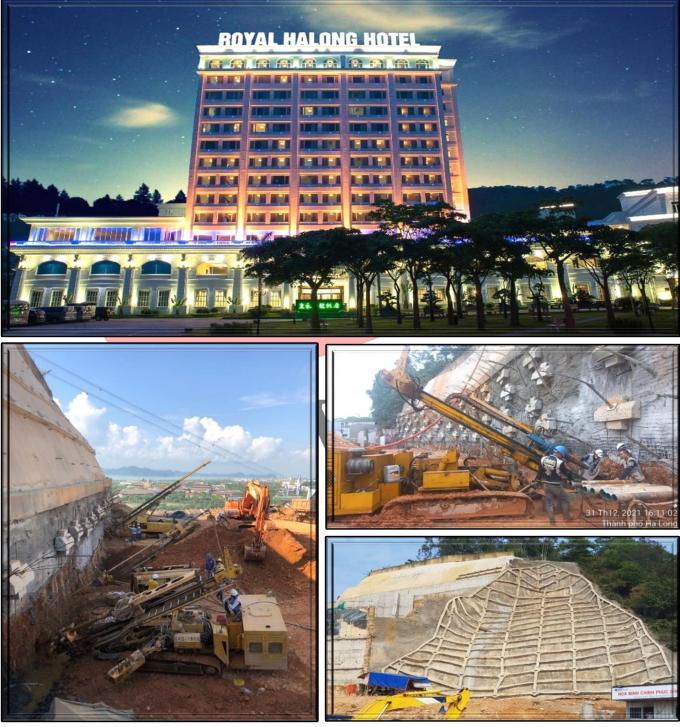


Project Summary – 5 STAR HOTEL(HYATT REGENCY2020-2021) DONG GIA JOINT STOCK COMPANY CO., LTD.

- Location Yen Ngua Hill, Bai Chay Ward, Ha Long, Quang Ninh, Viet Nam.
- Work Scope Construction & Ground Anchor, Soil Nailing, Micro-Pile, Slope Protection, Ground Treatment Monitoring & Demolish Work
- •Temporary Anchor 12.7 x 4ea

Tension Load ton, ton

Length/Holes - m/ holes







Major Project List Ongoing Project 13

Project Summary – HOTEL SHILLA HANOI PROJECT DAEWOO E&C CO., LTD.

Location – B3 CC1, Xuan Dinh, Tay Ho, Ha Noi, Viet Nam.

Work Scope – Ground Anchor Work

Temporary Anchor – 12.7 x 4ea
Length / Holes – m / holes

Tension Load ton, ton



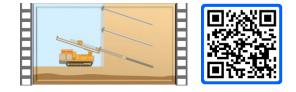




BUSINESS FIELD

Animation of working method

1. Earth Anchor.



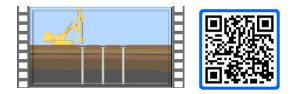
https://youtu.be/HFWLxsButuM https://www.youtube.com/watch?v=LkjzNwKWwl8

2. Ground Anchor.



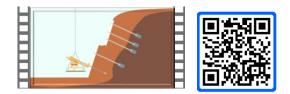
3. Jet Grouting. 4. Chemical Grouting. https://youtu.be/862LDr0SyY4 https://youtu.be/MuFwFb6AUQ4 5. Jacking Method - Building. 6. Jacking Method - Slab. https://youtu.be/pYgiroTwouw https://youtu.be/HDMKKbHaxS8

7. Micro Pile.



https://youtu.be/FiqhgZq5ibA

8. Rock Anchor.



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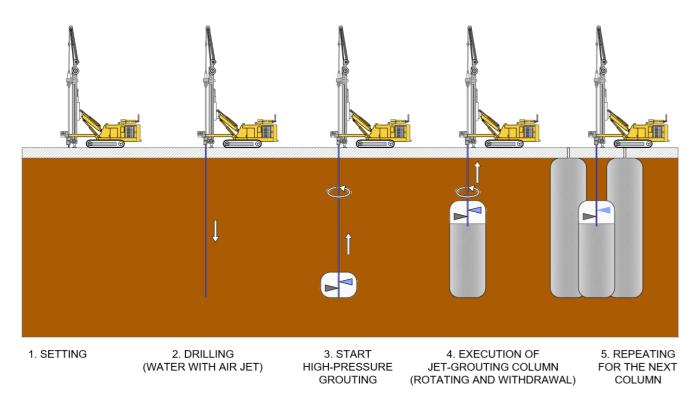


JET GROUTING

Jet grouting is a method of soil stabilization which involves the injection of a stabilizing fluid into the subsoil (or the soil under treatment) under high pressure under high velocity. The injection process involves a certain amount of site preparation as well as injection equipment. The soil stabilization by jet grouting is occurs due to the hardening of grouted fluid within the soil. These hardened bodies forms like cemented columns which are grouted in numerous numbers as per requirement, thus stabilizing the soil. These columns are called as jet columns or jet grouted columns.

Jet Grouting Procedure

Initially, the area where the soil has to be treated is chosen and a hole is drilled to the required depth. The depth depends upon how deep the weak subsoil exist. The hole drilled may be small of approximately 10 to 20 cm. Drilling can be done by rotating drilling system under high pressure to the desired depth. The next step is to place the equipment over the drill hole to conduct the injection process. The equipment consists of a jet grouting string of almost 7 to 10 cm diameter. At the end of this string, it possesses a nozzle in order have an injection at a higher velocity. The nozzle is small of diameter ranging from 1mm to 10mm.



Now at the start, the string is raised and rotated slowly to seal the whole column surface with soil and the fluid system that has to be injected. Now the main jetting starts. As it progresses the fluid is injected (through a rotary motion) and the string is raised. Now between the process, a part of mud within the pit created and the fluid mix rises to the top, which is called as spoil. This gives an indication that the bottom is fully sealed with the grout and soil mix. The raising of the string is done in between the process at a distance of 40 to 100mm depending upon the depth of treatment. For each raising, a rotation is performed. There are certain systems in which raising is a continuous process along with the rotation of the string. The speed of rotation of the equipment is kept constant irrespective of the method chosen, which will help in giving us a properly refined grouting column.





Which are classified based on the number of the fluids injected into the subsoil. The fluids are:

- Grout i.e. Water + Cement for single fluid
- Air + Grout for double fluid
- Water, air and grout for triple fluid

Based on the number of fluids employed the jet grouting strings are made up of different pipe types as shown in fig.3.

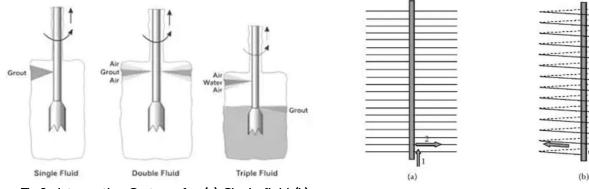


Fig.3: Jet grouting Systems for (a) Single fluid (b) Double fluid (c) Triple Fluid

Single Fluid Jet Grouting System

In the case of a single fluid system, the W-C grout is injected into the ground through one or more nozzles. Here the soil remolding and subsequent cementation are done by the same fluid. The functions of removing the excess spoil and the binding action are all conducted by a single fluid. This system has a limitation of losing a high amount of kinetic energy. This is because of high friction existing that a single fluid finds it difficult to manage alone.

Double Fluid Jet Grouting System

In double fluid system of jet grouting, the soil disaggregation and cementation are carried out by a single fluid i.e. the water-cement grout, but the difference is that the jet of grout is sent to an area of air that enhances the effectiveness of reducing the energy loss. For this, a more suitable air jet is provided through a coaxial annual nozzle place around the grouting nozzle. Here the excess soil is removed by the action of the airlift.

Triple Fluid Jet Grouting System

Here the soil remolding and cementation are clearly separated. The soil loosening is done by a high-velocity water jet and air. The water jet provided with the help of coaxial air jet, supplied by an annular nozzle similar to the one used for the double system. The water-cement grout is then taken from a separate nozzle that is placed on the lower part of the monitor or nozzle. The purpose of grout is in cementing the soil previously remolded by the water jet. Due to this reason the grout is delivered at a lower velocity.



Applications of Jet Grouting

Jet grouting finds is a method of ground improvement and finds applications in the following:

1. For construction of horizontal barriers

2. Control of groundwater

Jet columns can act as horizontal barriers to control the ground water around dams or areas of contaminated ground. This also decreases the soil permeability.

3. Underpinning

Jet grouting can be employed as a method to stabilize foundation systems mainly shallow ones. The procedure involves drilling through the nearby foundation and making a stable bed underneath the footing for better load distribution.

4. Tunneling

Jet grouting stabilizes the local area under tunnel construction so that heavy equipment required for tunneling can be used without destabilizing the nearby areas.

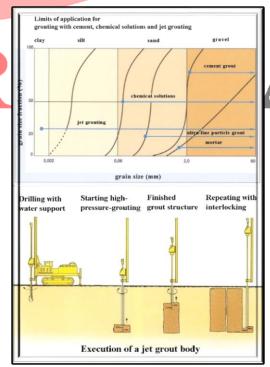
5. Support for excavation

Advantages of Jet Grouting

Jet grouting provides with the following advantages when implemented which are the root causes behind its success:

- Large cemented material column creation without causing huge ground disturbances (subsoil)
- Columns form continuous elements forming in different shapes thus improving the mechanical properties and decreasing porosity.
- Improvement in construction process thus emerging out with a better design philosophy
- It's attractive nature in terms of confined space working and under difficult site conditions







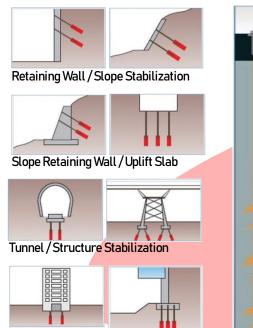


GROUND ANCHOR

Ground anchors are used for transferring tensile forces from a construction to the ground. They are applied to secure stability of sheeting constructions, to ensure stability of slope, rock-faces and cuttings, for anchoring building constructions, e.g. against upward hydrostatic pressure, etc.., A ground anchor consists of three main parts : a head, a tendon and a root.

The anchor tendon transfers tensile force deduced on the anchor head into the root, which is clamped by grouting in the ground.

The tensile force intensity direction of anchors in fluence the distribution of anchoring forces in the ground and are chosen according to the actual geotechnical conditions on the basis of knowledge about the static scheme of an anchored construction and construction composition of a bundle of a anchors.



Building Tiedown / Bridge Stabilization

CLOSE TYPE

Type of Anchor

Ground anchor can be categorizedby service period, supporting method, installation angle or injection, pressing method of grout material. Depending on the service period, anchor sare divided into temporary anchor and permanent anchor.

Temporary anchor is widely used to temporarily support soil-cement blocks or ground, while permanent anchor is for stabilization of slopes or prevention of roll-over and damage of permanent structures.

Depending on the support method of ground, it can be divided into frictional type anchor, pressure type anch or and complex type anchor. Frictional type anchor is supported by friction between grout and ground, and thus further categorized into tensioning anchor and pressing anchor, by the way the load is applied on the grout. Based on the load distribution, it can be divided to load-centric type anchor and load-distributing type anchor.



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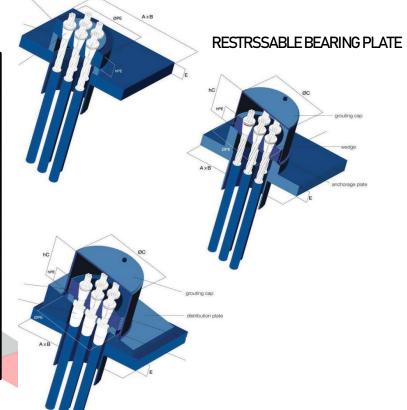
PERMANENT ANCHOR



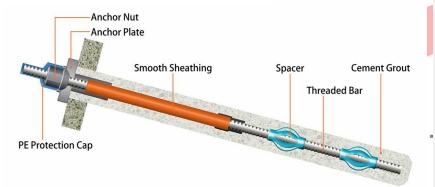
TEMPORARY ANCHOR HEADS



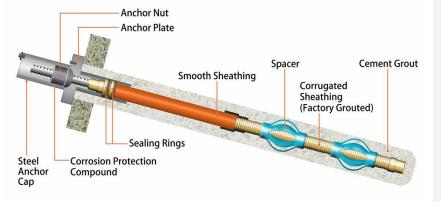
GROUND ANCHOR

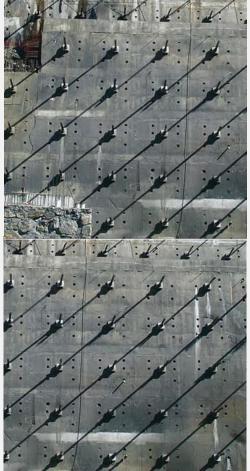


TEMPORARY GROUND ANCHORS PARTS



PERMANENT GROUND ANCHORS PARTS





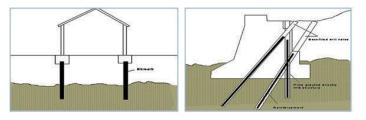


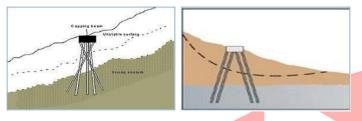


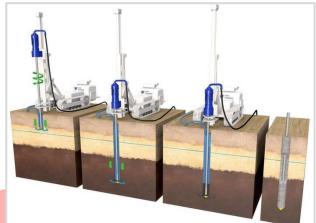
A micro pile is a slim foundation component that transfers axial loads (both compressive and tensile) from a structure into deeper and better bearing layers of foundation soil.

In principle is especially suitable in cases of foundation of work in construction ally confined spaces, reconstruction of works and their foundations, underpinning of existing foundations or securing driving of underground works.

A micro pile consists of three components : a head, which takes over the load of the building construction, a shaft that normally penetrates soft layers and a root fixed by grouting into the load on it.







APPLICATION OF MICROPIE

Construction sequence

Installation process in accordance with the requirements of the "NBN EN14199 : Micro piles" standard

1. Placement of the first section of the steel drill casing equipped with the drill bit fixed on a rod. Start of the boring process under fluid flushed inside the drill casing.

2. Coupling of the additional casing segments and continued boring under supporting drilling fluid until the required depth has been reached

3. After reaching the design depth, replacement of the drilling fluid by the primary grout

Injection of cement grout under pressure. The micropile is formed by single stage grouting under the so-called "unitary and global" grouting under low pressure or I.G.U. mode («Injection Global et Unitair») or the micropile is formed by multi-step grouting under the so-called "repetitive and selective" grouting under high pressure or I.R.S. mode ("Injection Repetitive et Selective").

4. Completed micro-pile





1. Grouting Method

The grouting method requires extensive experience and advanced techniques depending on the site situation.

1.1 Compaction Grouting

The low mobility (compaction) grouting involves the injection of a low slump, mortar grout to densify loose, granular soils and stabilised subsurface voids or sinkholes.

An injection pipe is inserted, typically to maximum treatment depth, and the grout then injected as the pipe is slowly removed in lifts, creating a column of overlapping grout bulbs.

The expansion of the grout bulbs improvement surrounding soils and the grouting increases the density, friction angle, and stiffness of surrounding granular soils.

Features: Soft ground improvement, differential settlement reinforcement, embankment/dam/breakwater reinforcement, work possible in narrow indoor spaces.

1.2 Jet Grouting

The jet grouting uses high velocity fluid jets to construct cemented soil of varying geometries in the ground.

Jet grouting creates in situ geometries of soilcrete (grouted soil), using a grouting monitor attached to the end of a drill stem.

The jet grout monitor is advanced to the maximum treatment depth. Then high velocity jets (cement grout with optional water and air) are initiated from ports in the monitor. The acrojets erode and mix the in situ soil with grout as the drill rod and monitor are rotated and raised.

1.3 Chemical Grouting

The jet grouting uses high velocity fluid jets to construct cemented soil of varying geometries in the ground.

Jet grouting creates in situ geometries of soilcrete (grouted soil), using a grouting monitor attached to the end of a drill stem.

The jet grout monitor is advanced to the maximum treatment depth. Then high velocity jets (cement grout with optional water and air) are initiated from ports in the monitor. The acrojets erode and mix the in situ soil with grout as the drill rod and monitor are rotated and raised.







1.4 Jacking Method

The concrete slab jacking is a general term that refers to a couple of types of concrete repair method that raises and returns sunkin concrete slabs to their original position.

Concrete slab jacking works to raise the sunken slab back to its original elevation and slope by JSP Column+Injecting underneath the sunken surface; Sunken concrete slab applying the slab jacking method, the following effects can be achieved permanently.

- 1)Concrete slab leveling
- 2)Concrete slab raising
- 3)Concrete building lifting
- 4)Repairing uneven concrete slab.

2. Tie Back Anchor Method

2.1 Ground (Earth) Anchor

The ground Anchors are basically devices used to transmit the forces to the soil by means of prestressed tendons to anchor the Structure to the ground or to retain the slopes from collapsing.

The ground anchor can be used to stabilise a retaining wall by transferring the forces caused by the natural thrust of the ground and the working loads beyond the slip circle. Forces are transmitted to the ground via the bond length. It is generally prestressed to control the movement of the retaining wall during the various construction phases.

Earth anchors are used in both temporary or permanent applications, including supporting retaining walls, guyed masts, and earth retaining wall.

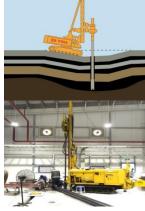
2.2 Rock Anchor

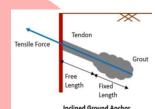
The rock anchors in civil and mining structures to counteract uplift forces acting on foundations and post-tension existing concrete structures. Rock anchors are made of high tensile steel, and typically they are anchored in sound bedrock by means of high strength cementitious grouting for foundations and through holes drilled into or through a structure for posttensioning applications. For most applications the rock anchors are tensioned to a force higher than what is necessary to resist the foundation "Dift force. When no tensioning is applied to the rock anchors they are illed rock bolts. Both rock anchors and rock bolts are eventually grouted in their full length, however rock anchors may be grouted in two steps to



allow for a certain free tensioning length after the first step.

2.3 Vertical (Buoyancy prevention) Anchor













The Vertical (buoyancy prevention) anchor method is to stabilize the structure against excessive stress, deformation, displacement, etc. that occurs in the structure by installing permanent anchors on the foundation floor and lower rock layer and fixing both ends for the buoyant part that is not in balance with the dead load of the structure.

In this method, the stability of the structure's buoyancy, the internal stability of the anchor, the stability of the tensile member's design load, the stability of the adhesion between the grout and the rock, and the stress holding capacity according to load and time must be carefully reviewed, especially over time.

3. Pile Method

3.1 PHC (Pretensioned spun High strength Concrete Pile) Pile

PHC piles are usually constructed by driven pile or pressing pile methods. However, in complex geological conditions, piles need to be pressed down to a great depth, providing piles with large diameter. If not, the pressing pile method is not possible.

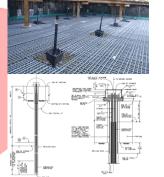
To overcome these limitations, the pile drilling method can be used. Firstly, create the borehole to its desired depth, whose diameter is larger than that of the PHC pile, then lower the PHC pile in the borehole and execute cement grout, filling the gap between the borehole edge and the PHC pile edge. This method has been used for several decades in developed countries, such as South Korea and Japan. In Vietnam, this technology has only been introduced in recent years.

3.2 Bored Pile

Bored piles are a very effective, state-of-the-art construction element with many applications in foundation and civil engineering. As heavy foundations, securing deep excavation especially close to existing buildings as well as stabilising and retaining slopes.

In a variety of infrastructure projects such as tunneling, road or bridge construction as well as flood protection.

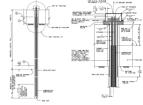
Retain ground alongside an excavation pit or close to adjacent buildings, often combined with other techniques such as ground anchors or soil nails. For slope stabilisation to prevent landslides, or protect existing buildings.

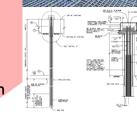












The micro-pile application has significantly extended to slope protection, ground improvement, and bearing capacity for various superstructures. Typically, the micro-pile diameter varies up to 300 mm.

It can be cased or uncased, reinforced cage(re-bar cage) or Thread bar of designed diameter inside the micro-pile depending upon the type of application and loading conditions.

Micro-pile performs as an excellent replacement for conventionally drilled shaft piles. Pile drill rigs allow installation in restricted access and low headroom interiors, allowing facility upgrades with minimal disruption to normal operations.

3.4 Sheet Pile

The micro-pile application has significantly extended to slope protection, ground improvement, and bearing capacity for various superstructures. Typically, the micro-pile diameter varies up to 300 mm.

It can be cased or uncased, reinforced cage(re-bar cage) or Thread bar of designed diameter inside the micro-pile depending upon the type of application and loading conditions.

Micro-pile performs as an excellent replacement for conventionally drilled shaft piles. Pile drill rigs allow installation in restricted access and low headroom interiors, allowing facility upgrades with minimal disruption to normal operations.

4. Slurry Wall

The slurry wall is a civil engineering technique used to build reinforced concrete walls in areas of soft earth close to open water, or with a high groundwater table.

This technique is typically apply to build diaphragm (water-blocking) walls surrounding tunnels and open cuts, and to lay foundations. Slurry walls are used at large project sites to contain the waste or contamination and reduce potential future expansion of pollution of waste constituents, often with other waste treatment methods. Slurry walls may need to be used in conjunction with other construction methods to meet project objectives.















UBND THÀNH PHỐ HÀ NỘI C SỞ KẾ HOẠCH VÀ ĐẦU TƯ

CỘNG HÒA XÃ HỘI CHỦ NGHĨA VIỆT NA Độc lập - Tự do - Hạnh phúc

GIÂY CHỨNG NHẬN ĐĂNG KÝ ĐẦU TU

Mã số dự án: 7660523279 Chứng nhận lần đầu: Ngày 06 tháng 11 năm 2009 Chứng nhận thay đổi lần thứ 05: Ngày 10 tháng 01 năm 2022

Căn cứ Luật Đầu tư số 61/2020/QH14 ngày 17/06/2020;

Căn cử Nghị định số 31/2021/NP-CP ngày 26/3/2021 của Chính phủ quy định chi tiết và hướng dẫn thi hành một số điều của Luật Dầu tự;

Căn cứ Thông tư số 03/2021/TT-BKHĐT ngày 09/4/2021 của Bộ Kế hoạch và Đầu tư quy định mẫu văn bản, báo cáo liên quan đến hoạt động đầu tư tai Việt Nam, đầu tư từ Việt Nam ra nước ngoài và xúc tiến đầu tư;

Căn cử Quyết định số 24/2016/QĐ-UBND ngày 01/8/2016 của UBND thành phố Hà Nội về việc quy định chức năng, nhiệm vụ, quyền hạn và cơ cấu tổ chức của Sở Kế hoạch và Đầu tư thành phố Hà Nội;

Căn cử Giảy chúng nhận đăng kỷ dầu tự số 7660523279 do Sở Kế hoạch và Đầu tự thành phố Hà Nội cấp ngày 06/11/2009, thay đối lần thứ 04 ngày 08/10/2018 (thay thế nội dụng dự án đầu tự tại Giảy chúng nhận đầu tự số 011023000199 do UBND thành phố Hà Nội cấp ngày 06/11/2009, thay đối lần thứ 2 ngày 03/10/2014);

Căn cứ Văn bản đề nghị điều chính Giấy chíng nhận đầu tư và hồ sơ kèm lheo do nhà đầu tư nộp ngày 08/12/2021 và giải trình bổ sung nộp ngày 25/12/2021;

SỞ KẾ HOẠCH VÀ ĐẦU TƯ THÀNH PHÓ HÀ NỘI

Chứng nhận:

DƯ ẤN KR VINA, Giấy chứng nhận đăng ký đầu tư số 7660523279 do Sở Kế hoạch và Đầu tư thành phố Hà Nội cấp ngày 06/11/2009, thay đổi lần thứ 04 ngày 08/10/2018 đăng ký điều chính các nội đung sau: tăng tổng vốn đầu tư, vốn góp thực hiện dự án, điều chính tỷ lệ gôp vốn của nhà đầu tư; thay đổi thông tín về hộ chiếu của nhà đầu tư; thay đổi địa điểm thực hiện dự án.

Thông tin dự án đầu tư sau khi điều chỉnh như sau:

Nhà đầu tư:

 Ông Ra Jung Hyun; sinh ngày: 17/7/1956; quốc tịch: Hàn Quốc; hộ chiếu số M95093785 do Bộ Ngoại giao Hàn Quốc cấp ngày 30/8/2018; địa chi thường trú: Số 224 – 85 Te Woon 2, Dong Young San Gu, Seoul, Hàn Quốc; chỗ ở hiện tại: P18.3, tòa nhà Vimeco, lõ E9, đường Phạm Hùng, phường Trung Hòa, quận Cầu Giấy, thành phố Hà Nội; Điện thoại: 0985.280262; Email: <u>krvina09@gmail.com</u>.

6. Tiến độ thực hiện dự án đầu tư:

- Tiến dộ góp vốn:

+ Nhà đầu tư đã góp 2.000.000VNĐ theo ghi nhận tại báo cáo tài chính năm 2020 của doanh nghiệp đã được kiểm toán.

+ Phần góp vốn tăng thêm: 1.200.000.000VNĐ được góp ngay sau khi được cấp Giấy chứng nhận đăng ký đầu tư điều chỉnh lần thứ 05.

- Tiến độ triển khai dự án: Dự án đã đi vào hoạt dộng.

Điều 2. Các ưu đãi, hỗ trợ đầu tư:

Dự án được hướng các ưu đãi, hỗ trợ theo quy định pháp luật hiện hành. Điều 3. Các quy định đối với nhà đầu tư thực hiện dự án:

- Có trách nhiệm làm thủ tục đăng ký cấp tài khoản sử dụng trên Hộ thống thông tin quốc gia về đầu tư nước ngoài theo quy định của pháp luật, tuân thủ và đáp ứng các điều kiện đầu tư theo quy định pháp luật Việt Nam và các diều ước quốc tế mà Việt Nam là thành viên.

- Chỉ được triển khai hoạt động đối với các lĩnh vực đầu tư kinh doanh có điều kiện khi đáp ứng các điều kiện và/hoặc được cấp giẩy phép/giẩy chứng nhận/chứng chi hành nghề hoặc văn bản xác nhận theo quy định pháp luật tvề dầu tr, pháp luật về doanh nghiệp, pháp luật về thuế, Giẩy chứng nhận đăng ký đầu tư và các quy định về bảo vệ môi trường, an toàn lao động; đảm bảo điều kiện an toàn về phòng cháy chữa cháy theo quy định của Luật phòng chứy chữa cháy theo quy định và hoàn đặng ký.

- Thực hiện chế độ báo cáo hoạt động đầu tư theo quy định tại Điều 72 Luật Đầu tư 2020 và các quy định hướng dẫn có liên quan về biểu mẫu thực hiện thủ tục đầu tư và báo cáo hoạt động đầu tư tại Việt Nam; cập nhật đầy đủ, kịp thời, chính xác các thông tin liên quan vào Hệ thống thống tin quốc gia về dầu tư và chịu sự kiểm tra, giám sát của các cơ quan nhà nước có thẩm quyền theo quy định của pháp luật.

 Chịu trách nhiệm trước pháp luật về địa điểm thực hiện dự án, tính hợp pháp, chính xác, trung thực của nội dung hồ sơ đăng ký đầu tư và hoạt động đầu tư kinh doanh tại Việt Nam.

- Cơ quan đăng ký đầu tư và cơ quan quản lý nhà nước không giải quyết tranh chấp giữa các Nhà đầu tư và tranh chấp giữa Nhà đầu tư với các tổ chức, cá nhân có liên quan trong quá trình hoạt động đầu tư kinh doanh.

Điều 4. Giấy chứng nhận đăng ký đầu tư có hiệu lực kể từ ngày ký và thay thể Giấy chứng nhận đăng ký đầu tư số 7660523279 do Sờ Kế hoạch và Đầu tư thành phố Hà Nội cấp ngày 06/11/2009, thay đổi lần thứ 04 ngày 08/10/2018.

2. Ông Ra Kyungdo; sinh ngày: 03/8/1988; quốc tịch: Hân Quốc; hộ chiếu số M26855721 do Bộ Ngoại giao Hàn Quốc cấp ngày 19/4/2021; địa chỉ thường trứ: số 224-85 Te Woon 2, Dong Young San Gu, Seoul, Hân Quốc; chỗ ở hiện tại: Phòng 812, CT3-1, Khu đô thị Mễ Trì Hạ, phường Mễ Trì, quận Nam Từ Liêm, thành phố Hà Nội; Điện thoại: 0975.507074; Email: skrudehl@naver.com.

Tổ chức kinh tế thực hiện dự án đầu tư: Công ty TNHH KR Vina, mã số doanh nghiệp: 0104254619 do Phòng Đăng ký kinh doanh, Sờ Kế hoạch và Đầu tư thành phố Hà Nội cấp ngày 06/11/2009, thay đổi lần thứ 6 ngày 18/10/2018.

Đăng ký thực hiện dự án đầu tư với nội dung như sau:

Điều 1. Nội dung dự án đầu tư

1. Tên dự án đầu tư: DŲ ÁN KR VINA

2. Mục tiêu và quy mô dự án:

 Dịch vụ quản lý máy cơ khí, xây dựng; Dịch vụ quản lý trạm trộn bê tông tươi, trạm trộn bê tông nhựa nóng; Dịch vụ gia công, lắp ráp thiết bị cơ khí tại các công trình xây dựng.

 Thi công xây dựng các công trình dân dụng, công nghiệp, thuỷ lợi và giao thông (CPC 513); Lắp đặt hệ thống điện, hệ thống cấp thoát nước, điều hoà, ống hút, khí đốt, hệ thống cứu hòa, thông tin và camera quan sát (CPC 514, 516).

- Các dịch vụ cho thuê liên quan đến trang thiết bị xây dựng hoặc tháo dỡ, dập bỏ các công trình xây dựng hay thiết kế dân dụng có người vận hành (CPC 51800); Dịch vụ tư vấn và kiến trúc trước khi thiết kế (CPC 86711); Dịch vụ thiết kế kiến trúc (CPC 86712); Dịch vụ thiết kế kỹ thuật cho việc xây dựng móng và kết cấu tòa nhà (CPC 86722); Dịch vụ thiết kế kỹ thuật cho việc lấp đặt cơ khí và lấp đặt điện cho các tòa nhà (CPC 86723).

3. Địa điểm thực hiện dự án: Số nhà 65 Ngô 54 Đường Lê Quang Đạo, phường Phú Đô, quận Nam Từ Liêm, thành phố Hà Nội, Việt Nam

4. Tổng vốn đầu tư của dự án: 3.200.000.000 VNĐ (Ba tý hai trăm triệu đồng Việt Nam); trong đó vốn góp thực hiện dự án là 3.200.000.000 VNĐ (Ba tý hai trăm triệu đông Việt Nam) dược nhà đầu tư góp 100% vốn bằng tiền mặt theo gía trị và tý lệ như sau:

+Ông Ra Jung Hyun góp 3.000.000.000 VND (Ba tỷ đồng Việt Nam), chiếm tỷ lệ 93,75% phần vốn góp;

 + Ông Ra KyungDo góp 200.000.000 VNĐ (Hai trăm triệu đồng Việt Nam), chiếm tỷ lệ 6,25% phần vốn góp.

 Thời hạn hoạt động của dự án: 20 (hai mươi) năm kể từ ngày được cấp chứng nhận đầu tư (ngày 06/11/2009).

Điều 5. Giấy chứng nhận đăng ký đầu tư này được cấp theo đề nghị của nhà đầu tư, có hiệu lực từ ngày ký và dược lập thành 04 (bốn) bản gốc; mỗi nhà đầu tư được cấp 01 (một) bản, 01 (một) bản cấp cho Công tự TNHH KR Vina và 01 (một) bản được lưu tại Sở Kế hoạch và Đầu tư thành phố Hà Nội. \mathcal{J}_{i}

Nơi nhận: - Như Điều 5; - Đội, KH&ĐT, TC; - UBND thành phố Hà Nội; - UBND thành phố Hà Nội; - Các ngành: Thuế, Thống kế, Ilải quan, Công am TP Hà Nội; - Các Sớ: Xây dựng, Công Thương; - UBND quản Nam Tử Liễm; - Phông ĐKKD (ph); - Lưu YI, KTĐN. KT. GIÁM ĐÓC SIÔ SIÂM ĐÓC SIÔ SIÂM ĐÓC NH HOẠCH VÀ Đ ĐAU TU ĐINH ÂN MUNH

Nguyễn Ngọc Tú

"Our Clients are at the heart of everything KR VINA does and key to its success."



KR VINA Co., Ltd.

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