Activities in Vietnam

SE Corporation

Who we are?

SE CORPORATION
Enginering with you

SEEE Corporation

- Start on 1967, SEEE method of PC anchorage system from France
- Main 1 Factory and subsidiary's 6 factories in Japan
- Sales: JPY 25 billion (VND 4 trillion)
- SEC Yamaguchi Factory
 / Cable Assembling: 20,000 pcs / year
 / Manufacturing anchorage parts
 / Tensile test capacity: 5500kN / cable

- Base in Vietnam
 / Representative office
 / VIETNAM - JAPAN ENGINEERING CONSULTANTS CO.,LTD.
  // Construction consulting services
  // New technology and material transfer services

Who we are?

SE CORPORATION
Enginering with you

SEC Group, 4 business segments

Manufacture Civil materials

- Material for Bridge, Slope, Structure, etc.

Manufacture Construction materials

- Material for Building, House, Steel structure, etc.

Consultant of Construction

- Consulting for Road, Bridge, Water, Energy, etc.

Repair and Reinforcement

- Consulting and Repairing works for Bridge and Tunnel.

Activities in Vietnam

SE CORPORATION
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History

2007 Established “Vietnam Japan Engineering Consultants (VJEC)”
- a construction consultant, in Hanoi

2010 Supervising of Hanoi-Hai Phong Expressway

2013 Established SEC Representative office in Hanoi

2014 (JICA) “SME Overseas Support Project, Case Study”
- Survey on Technology Dissemination Project for land slide prevention, Ground Anchor method.

2017 (JICA) “Disseminating Japanese Technology of Ground Anchor Method for Disaster Prevention of Road Slope Project”

2020 Restructuring VJEC business
- Outsourcing BIM/CIM work, - Technical Transfer
- Recruiting Highly Skilled Personnel

Background

Problem in Vietnam "Overcoming vulnerabilities in disaster preparedness"

In Vietnam, with a harsh natural environment, disaster management measures have not been drastically implemented due to some reasons.

Situation of road slope collapse in Vietnam and recurrence after countermeasures.

Dissemination project

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Background

Consistent with Japan's development policy towards Vietnam

Japan's aid policy for Vietnam identifies 'addressing vulnerability' and states that it will support the country's response to disasters, climate change.

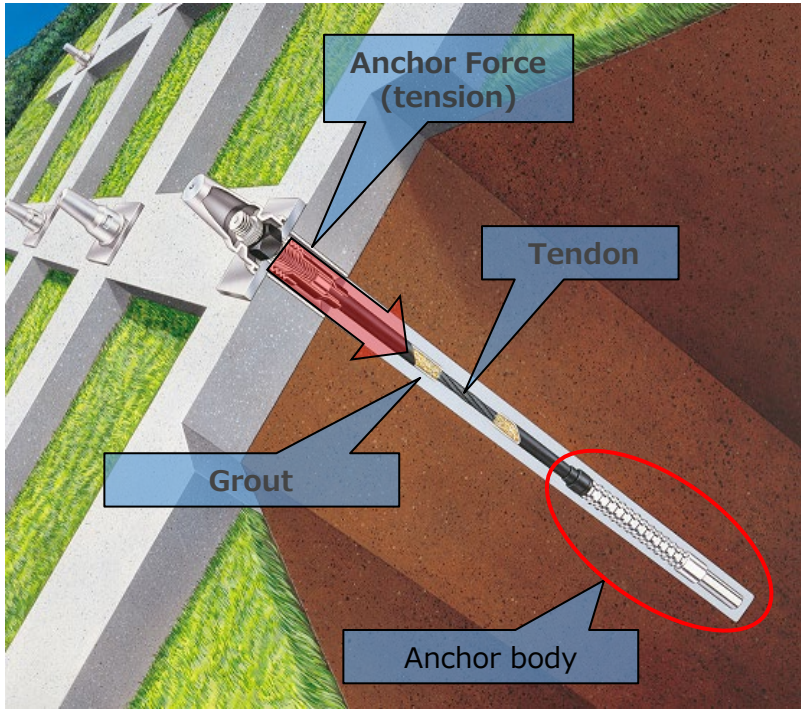
Conducting a “case study”

As a result of JICA's 2014 survey on technology dissemination projects for road slope disaster countermeasures “Ground anchor method”, the method is effective as a slope countermeasure method in Vietnam but found the need for pilot works and standards.

Proposed Technology

Ground Anchor Method

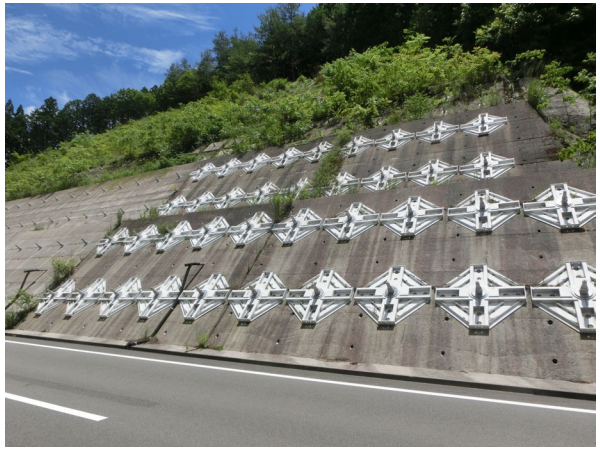
- A method of stabilizing slopes by using PC steel strands. to connect the underground rock to the ground surface and apply tension to stabilize the slope or structure.
- Introduced to Japan 1950s and has been popular as an effective method of landslide prevention.
- The advantages of diverse designs, use in a limited area and reduced time of works.



Proposed Technology

SEEE Ground Anchor Solutions

- 60% of share in domestic market in Japan and has delivered more than 700,000.
- It features a 'nut fixing system' , easy to adjust the tension, and the PC steel strand wire is double anti-corroded with oil and polyethylene for enhanced durability.
- SEEE anchors have advantages, in terms of ease of installation and maintenance.



Proposed Project

1. Objective

- Pilot works using SEEE ground anchors is carried out in Vietnam to conduct activities to demonstrate the effectiveness of the technology and product, and to prepare draft technical standards for the method.
- Using SEEE ground anchors, the project aims to contribute to the sustainable and stable socio-economic development of the country of Vietnam by solving the country's development challenge of overcoming its vulnerability to disasters.

Dissemination project

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Proposed Project

2. Detail

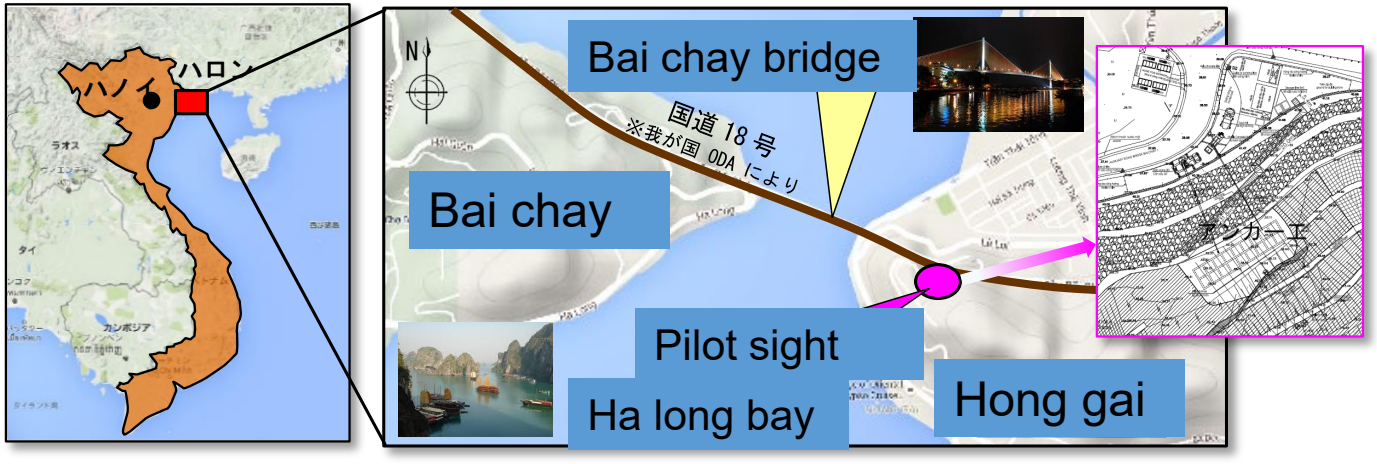
1. Pilot construction and monitoring using SEEE ground anchors. “Demonstration”
2. Preparation of standards for the methods in Vietnam. “Promotional activities”
3. Market research ”Business development”

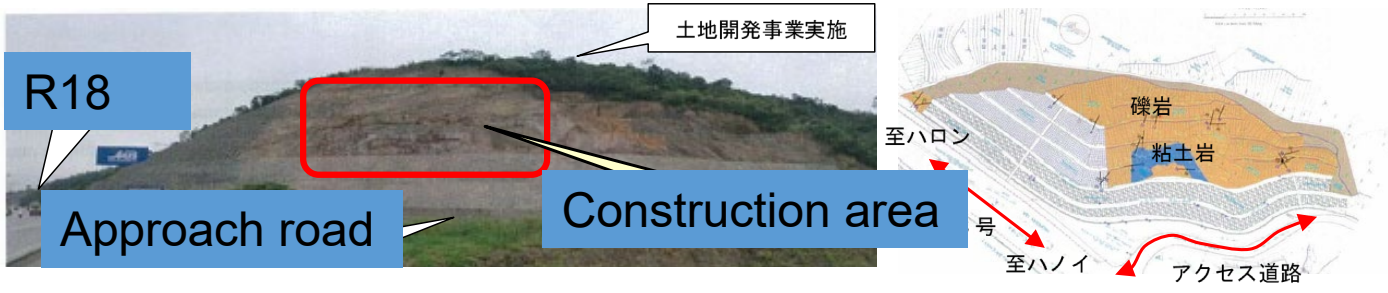
3. Expected Result

1. The advantages of Japanese ground anchor method and SEEE ground anchor are understood and demonstrated to be an effective solution to the Vietnamese national development challenge of 'overcoming vulnerability to disasters’.
2. Technical standards for ground anchor methods in Vietnam are developed based on Japanese technical standards, taking into account the regional characteristics of the country, and their content is recognized by Vietnamese stakeholders, thereby promoting the spread of anchoring technology and products.

Site information

Located at national load 18, close to Bai Chay bridge in QNPC.





Pilot Project

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Overview

Before Construction (2018-Sep.)

After Completion (2019-Mar.)

Product： SEEE Ground Anchor Method / TIBLE Anchor U-type
Standard： F40UA （1×ϕ15.2, tensile strength 261kN, PC strand JIS G3536
Quantity： 30 units（L=12.5m×20, L=12.0m×10）

Implementation Policy

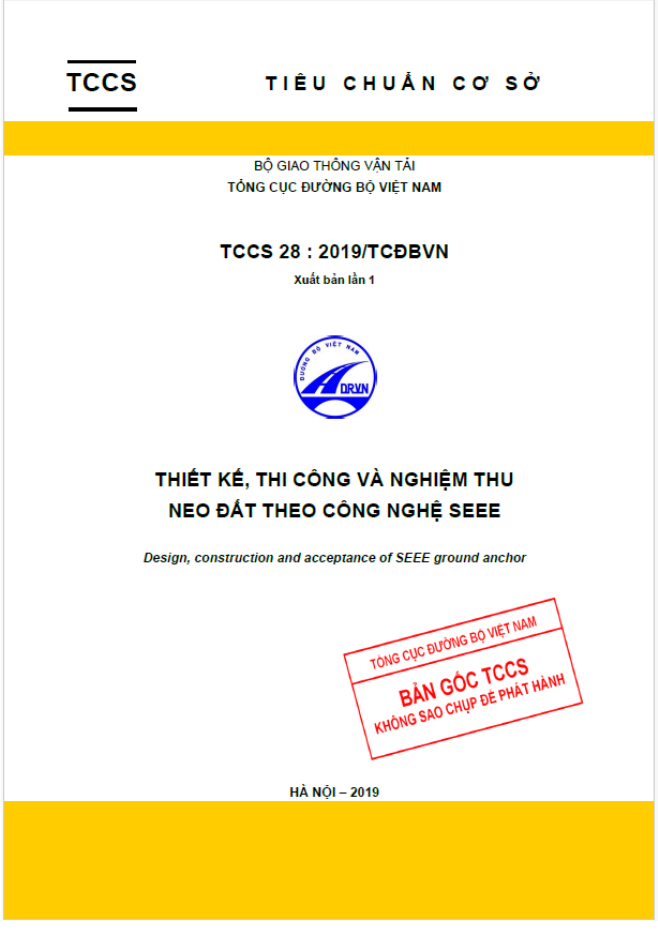
1. The technical standards shall be commensurate with the basic standards (TCCS) in the Vietnamese national standards.

2. The technical standards are based on “the Ground Anchor Design and Construction Standards and Commentary” and “the SEEE Ground Anchor Method Design and Construction Manual”.

3. The draft technical standards will fully incorporate the regional characteristics of the Vietnamese country and the findings from the pilot works.

4. Form technical committees with DRVN, counterpart and ITST to prepare draft technical standards.

Applied as TCCS in 2019



TCCS TIÊU CHUẨN CƠ SỞ

BỘ GIAO THÔNG VẬN TẢI
TỔNG CỤC ĐƯỜNG BỘ VIỆT NAM

TCCS 28 : 2019/TCĐBVN

Xuất bản lần 1

THIẾT KẾ, THI CÔNG VÀ NGHIỆM THU
NEO ĐẤT THEO CÔNG NGHỆ SEEE

Design, construction and acceptance of SEEE ground anchor

TỔNG CỤC ĐƯỜNG BỘ VIỆT NAM
BẢN GỐC TCCS
KHÔNG SAO CHỤP ĐỂ PHÁT HÀNH

HÀ NỘI – 2019

Plans in the future

SE CORPORATION
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- Climate change will increase demand for land slide prevention in Viet Nam and surrounding countries.

- In the extension and demonstration project, a Basic standard (TCCS) on SEEE ground anchors has been completed and approved by the MOT.

- With these background, we will try to promote the use of ground anchors for slope protection.

Plans in the future

SE CORPORATION
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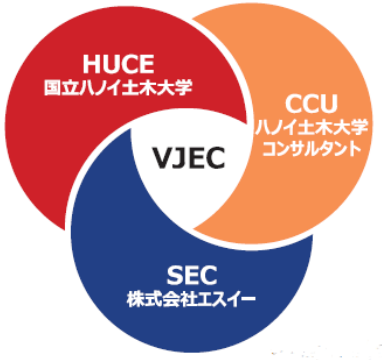
- Designing “ASEAN Model Anchor” and planning to manufacture products in Vietnam.

- Transferring Various Japanese technologies for slop protection from Japan to Vietnam. Not only ground anchor technologies.

⇒Contribute to Build National Resilience Against for Disasters in Vietnam.

VIETNAM - JAPAN ENGINEERING CONSULTANTS CO.,LTD.

◆Cooperation with VJEC



- A construction consultancy company in Vietnam established by SE Corporation and Hanoi University of Civil Engineering.
- Consultants as an industry-academia-university joint venture.

Advantage of SEC and HUCE

To be a bridge for technology and human resources between Japan and Vietnam.

- CAD BIM/CIM offshore drawing business
  Japanese architectural drawings in Vietnam.

- Technology transfer from Japan to Vietnam
  Bridge repair and reinforcement, land slide prevention, etc.
  In cooperation with several Japanese and Vietnamese companies.

- Introducing highly skilled engineers to Japanese companies
  Preparing an education project 'language skills to work in Japan'.
  Solve the barrier to utilizing high-level human resources in Japan.

Appreciate you all !