# Construction Revolution

## Implant Structure Changes Global Construction

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# Highly Systematic Work Changes Construction

# Case Studies of Implant Structure

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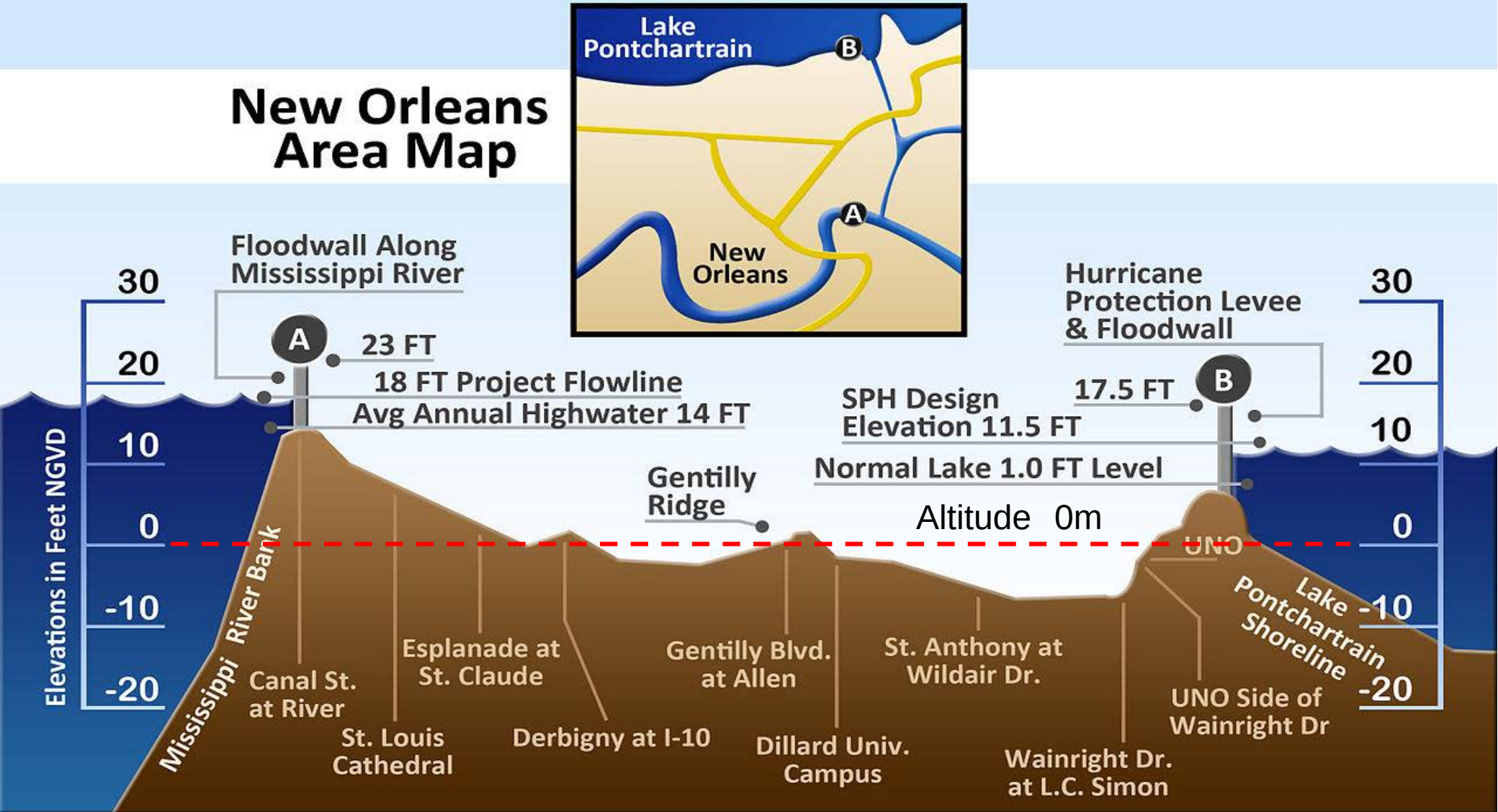
## New Orleans Hit by Hurricane Katrina



# Case Studies of Implant Structure

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## Situation of New Orleans Hit by Hurricane Katrina

# Case Studies of Implant Structure

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## Reinforced Embankment by Implant Structure

# Implant Structure

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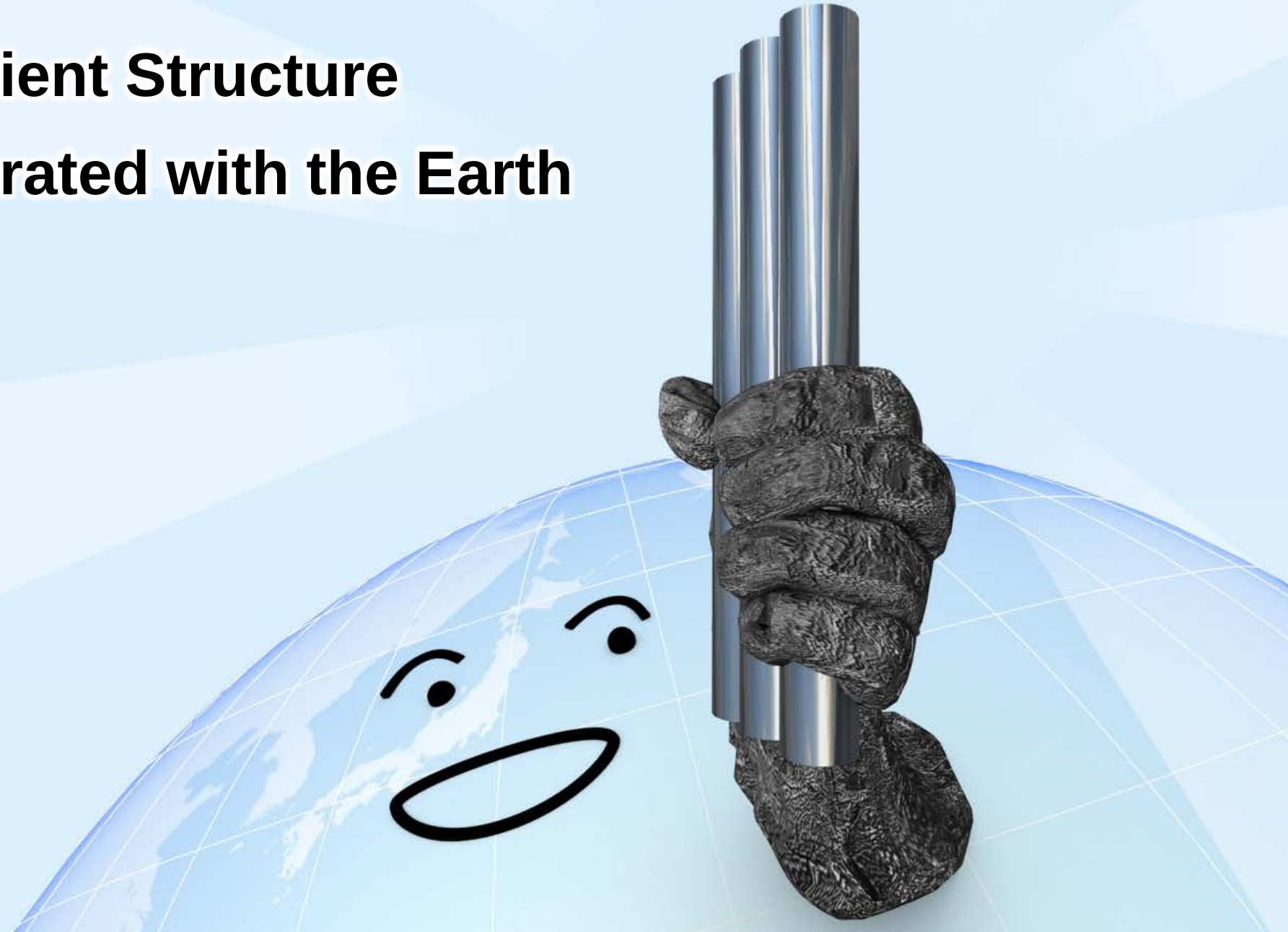
## Resilient Structure

## Integrated with the Earth



# Implant Structure

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## Destroyed Objects by Great East Japan Earthquake Mar.11. 2011

# Implant Structure

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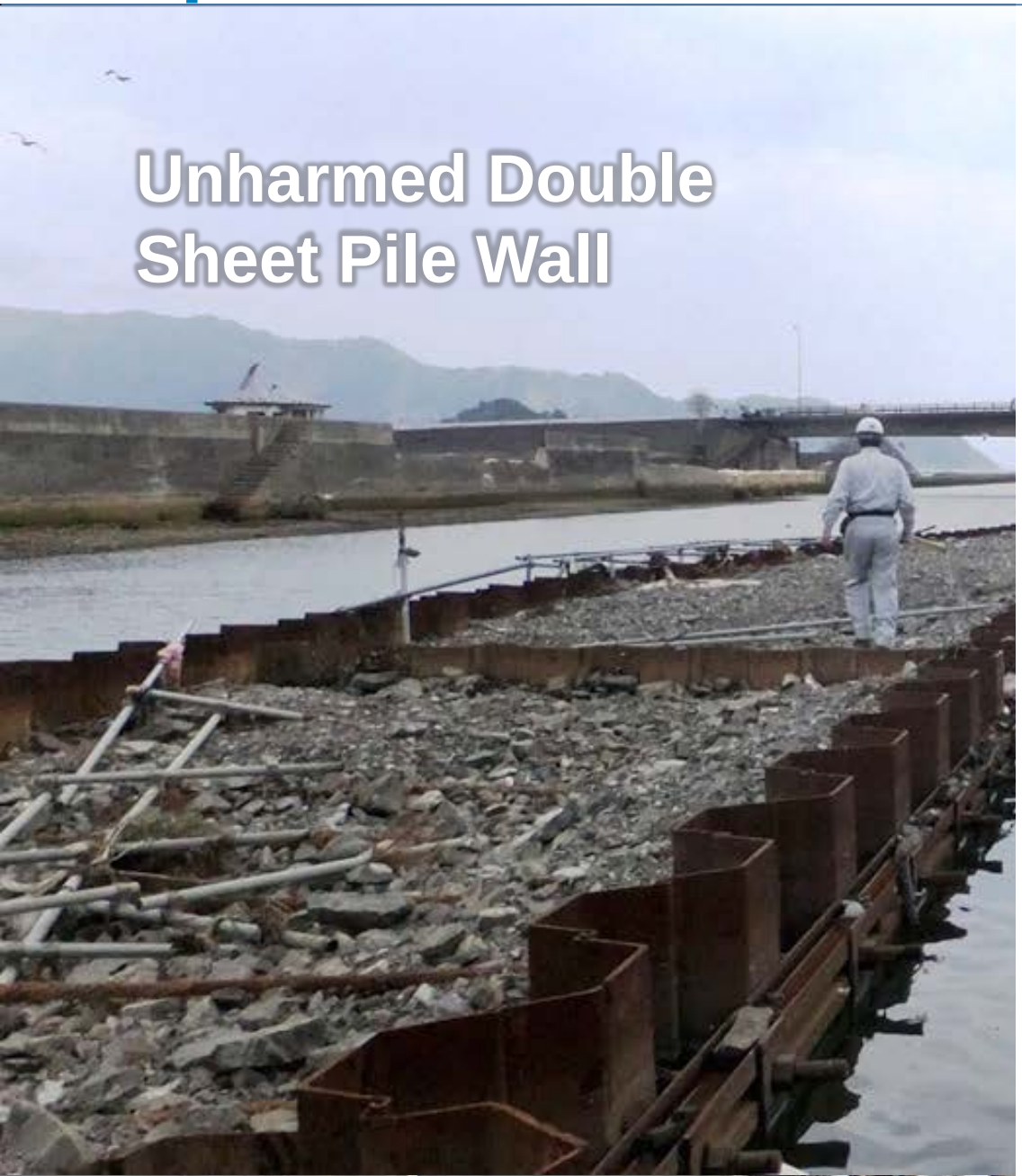
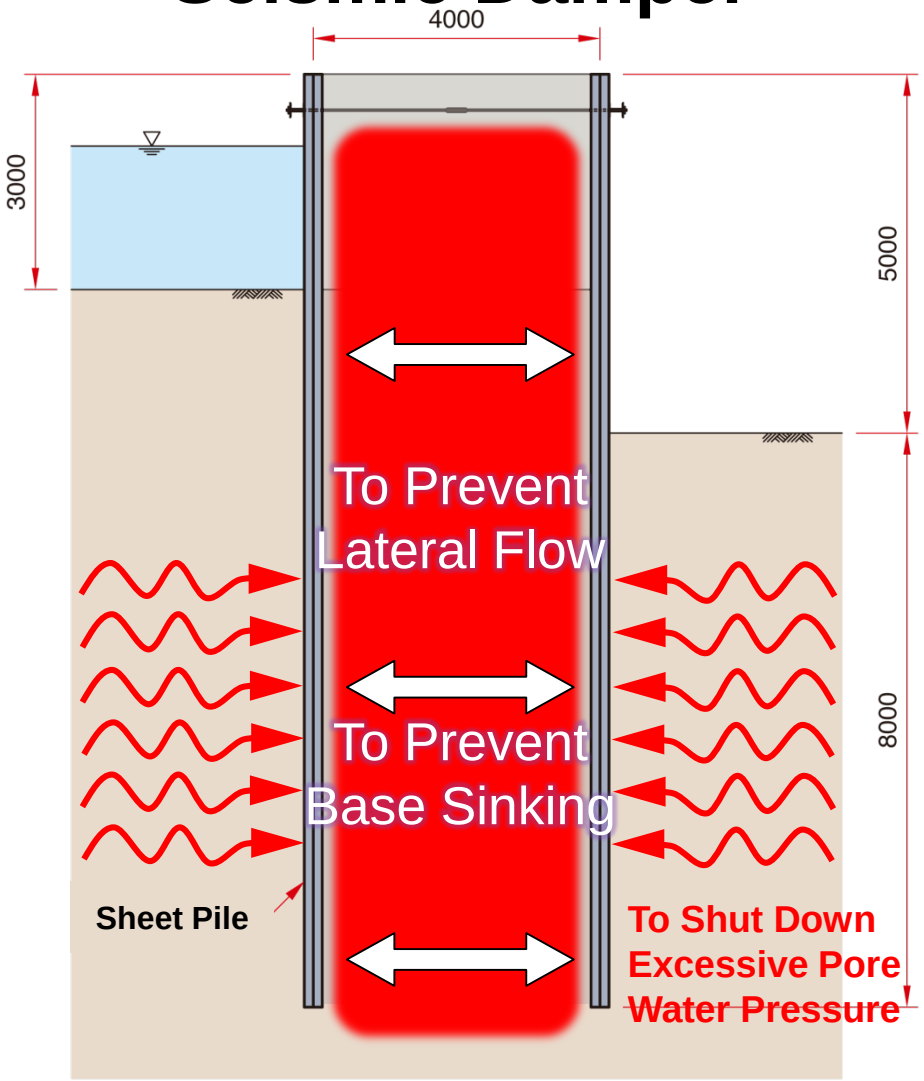



## Confined Ground Seismic Damper



# Implant Structure vs Gravity Foundations

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# Technologies for Disaster Reduction

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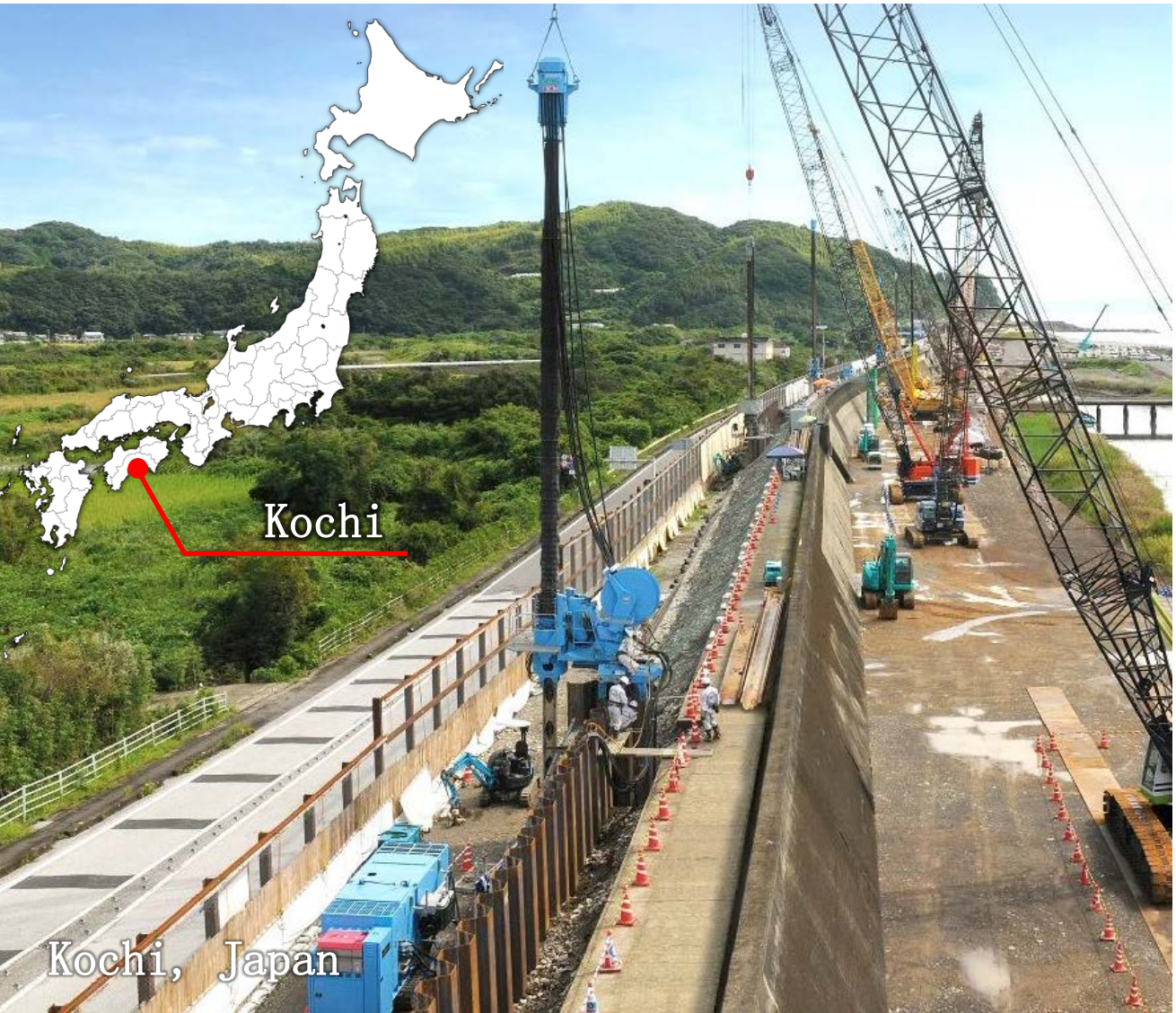
## Implant Levee against Earthquake and Tsunami




# Topic① Resilient IMPLANT Structure

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## Kochi Coast Reinforcement of Sea Walls with IMPLANT

# Technologies for Disaster Reduction

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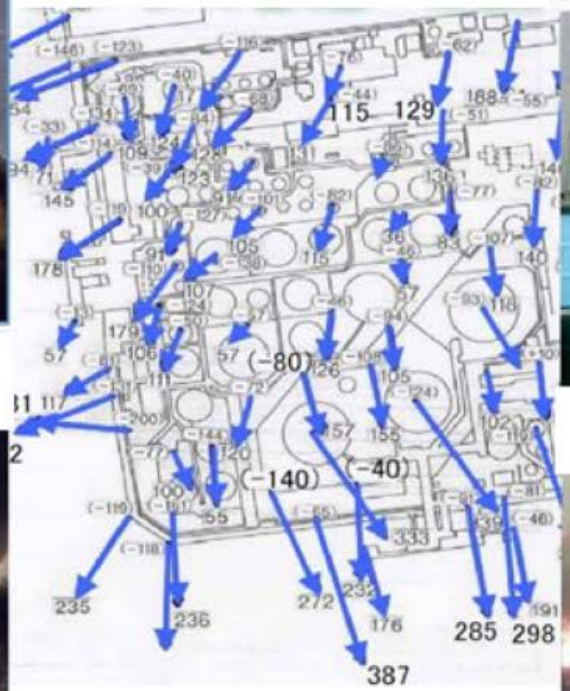
## Collapse of Bank


## Outflow of Flammable Liquid




## Declination of Tank

## Expansion of Fire

※ 図、写真は濱田研究室の濱田正則教授の著作物より引用

# Technologies for Disaster Reduction

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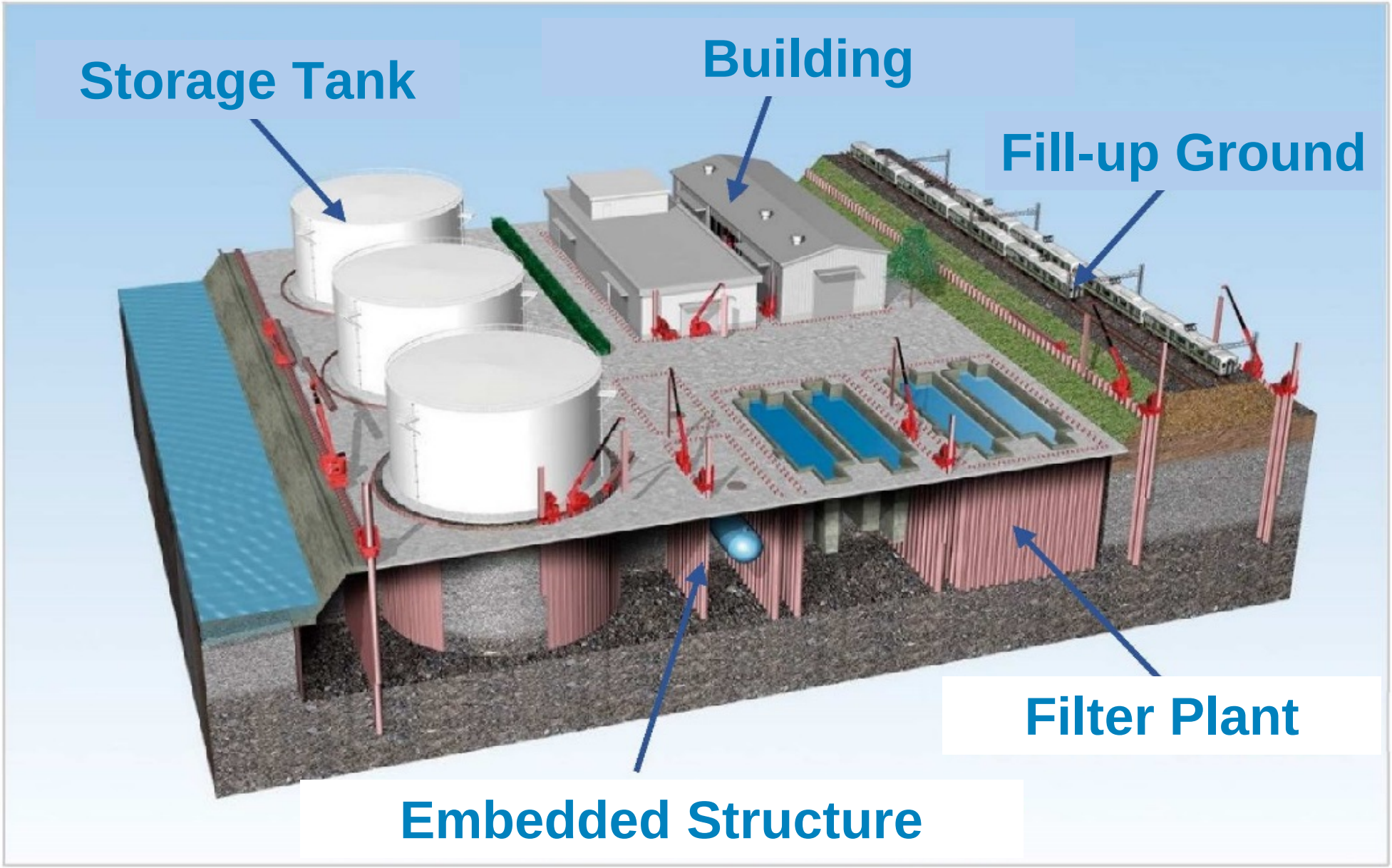

# Implant Ground Encapsulation Method

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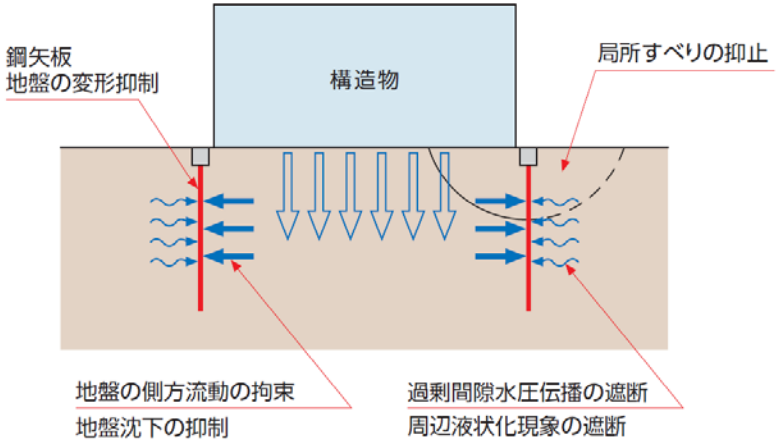
Eliminate risks of liquefaction by encapsulating the base ground with sheet piles




**Effects of liquefiable ground encapsulating**

**1) Shutting out of dissipation of excess pore water pressure**

**2) Prevention of ground deformation**

# Non-staging Method

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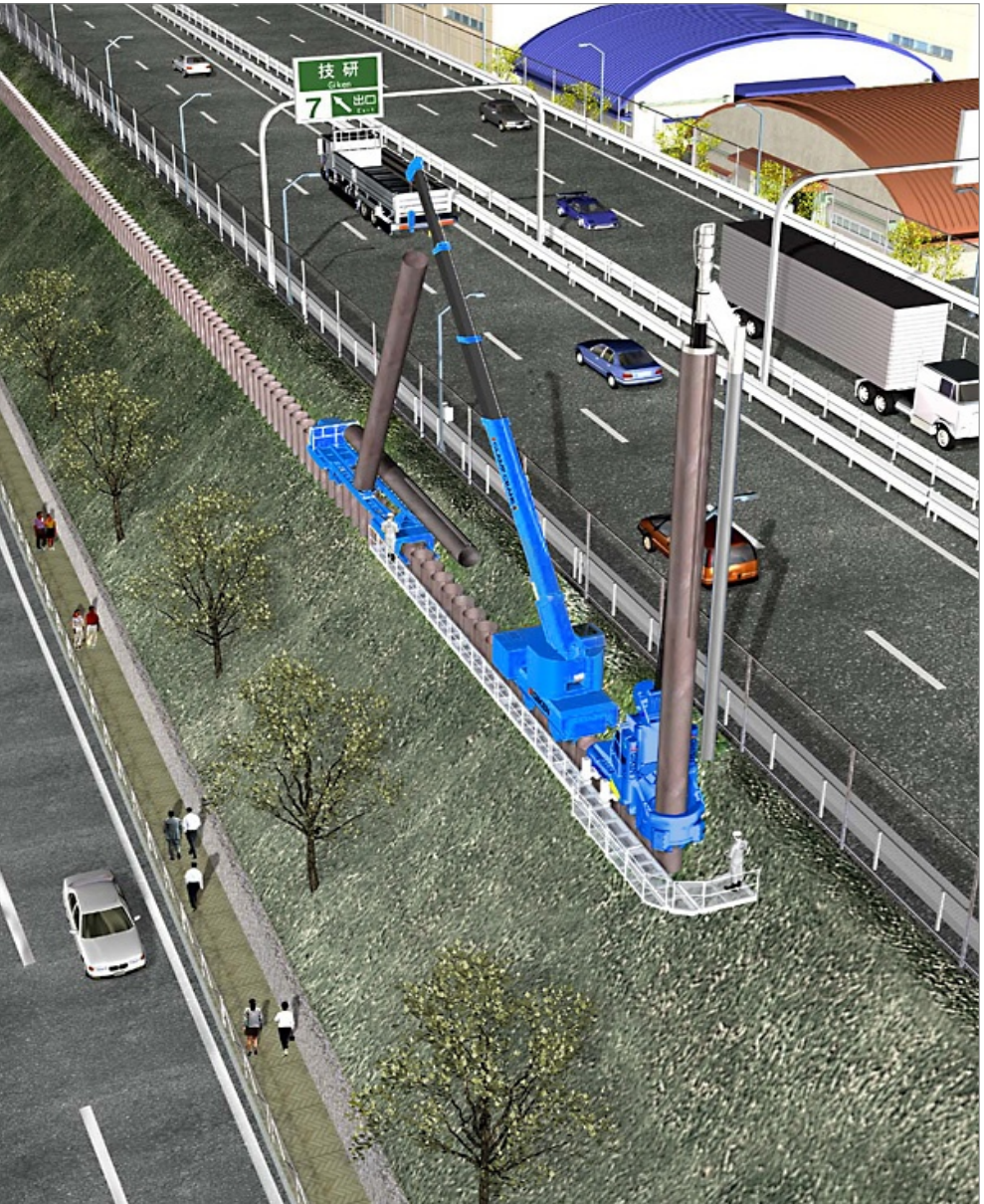
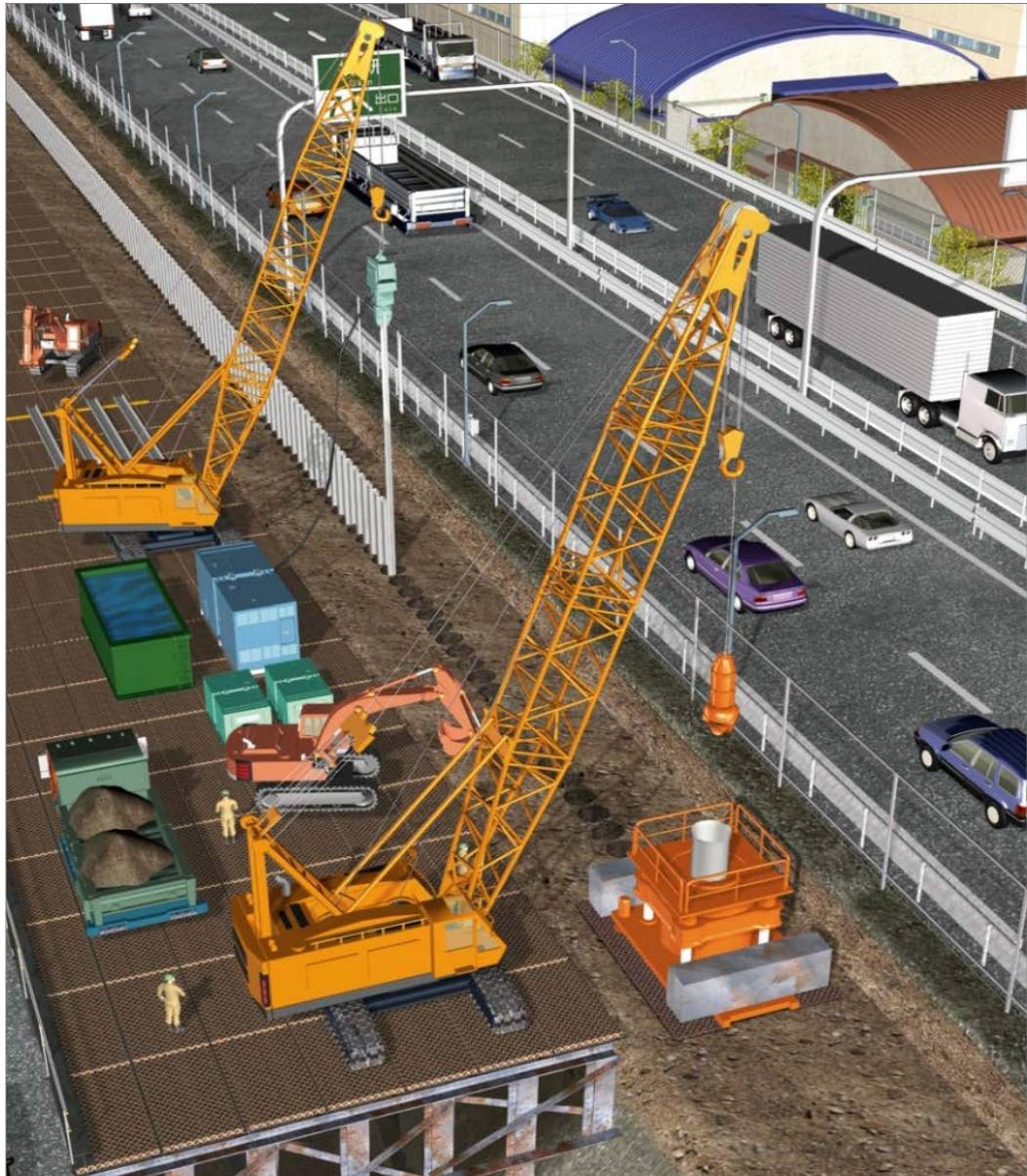
## GRB System




## Conventional Method



# Advantages of Press-in Method

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## Non-Staging Method = Entire Work on Piles


**GRB System** (Giken Reaction Based System)

# Topic② Resilient IMPLANT Structure

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## GRB System＋GYRO Press（Kitakyushu）

# Case Studies of Implant Structure

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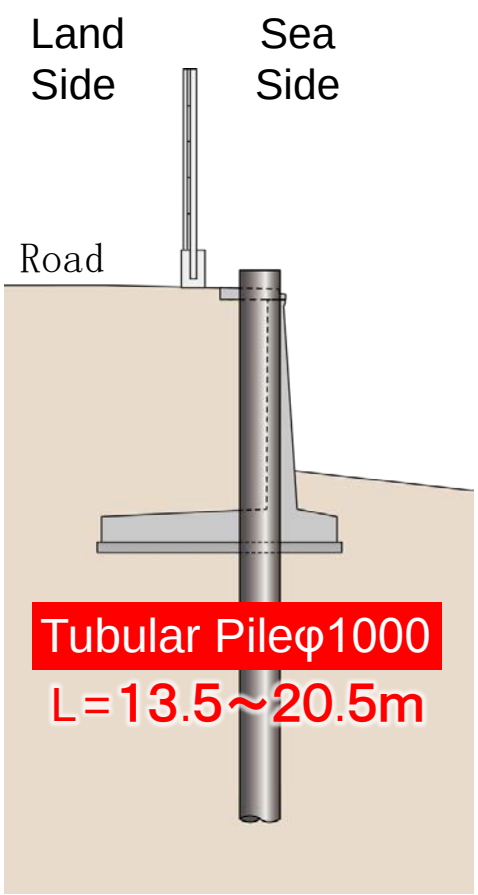
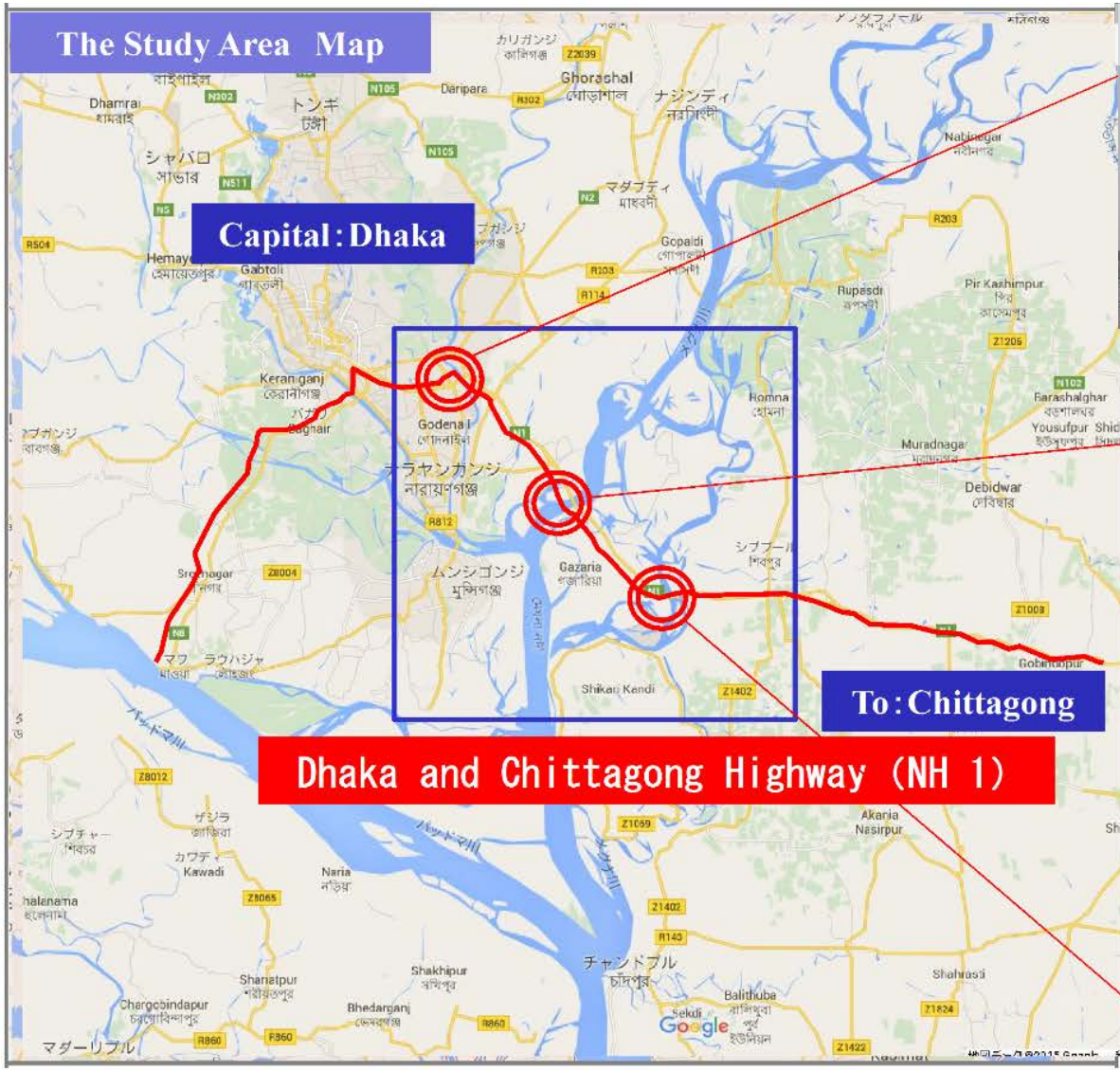
## Without Disturbing Traffic, Renovate Levee


Cross Section



# Bangladesh Case Study

## Project Location






# Bangladesh Case Study

## Meghna Bridge

**Length: approx. 930m**
**Number of Piers: 11 (9 for STPCF)**
**765no. Tubular Piles φ1000mm x t14mm**
**PP Interlock L=45.5～56.0m (1-14 splices)**

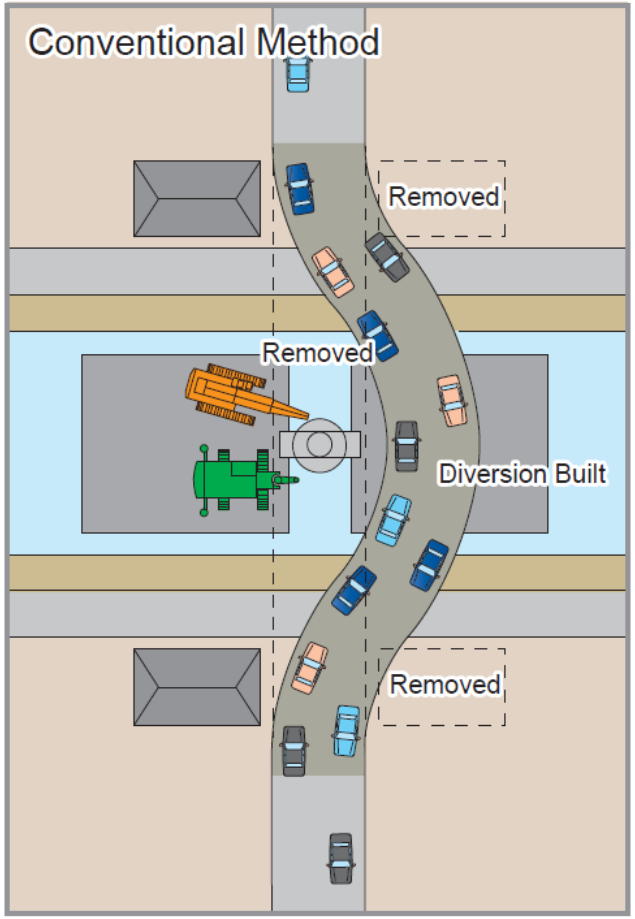
**Existing Bridge**

**Completion Image**

# Bangladesh Case Study

## Method Selection Point 1:
## No Interruption of Normal Activities

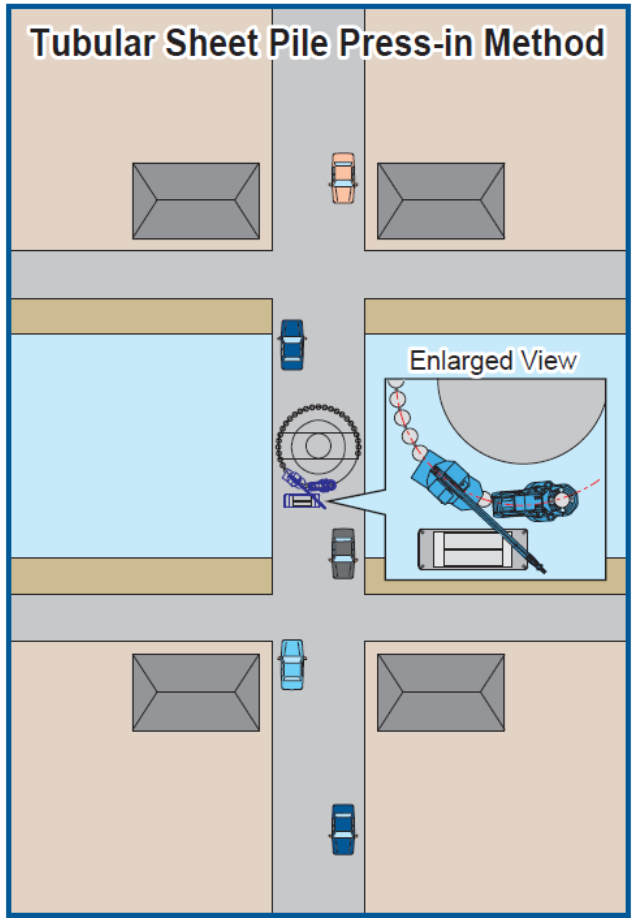
## Conventional Method: Unfeasible (Traffic Diversion)

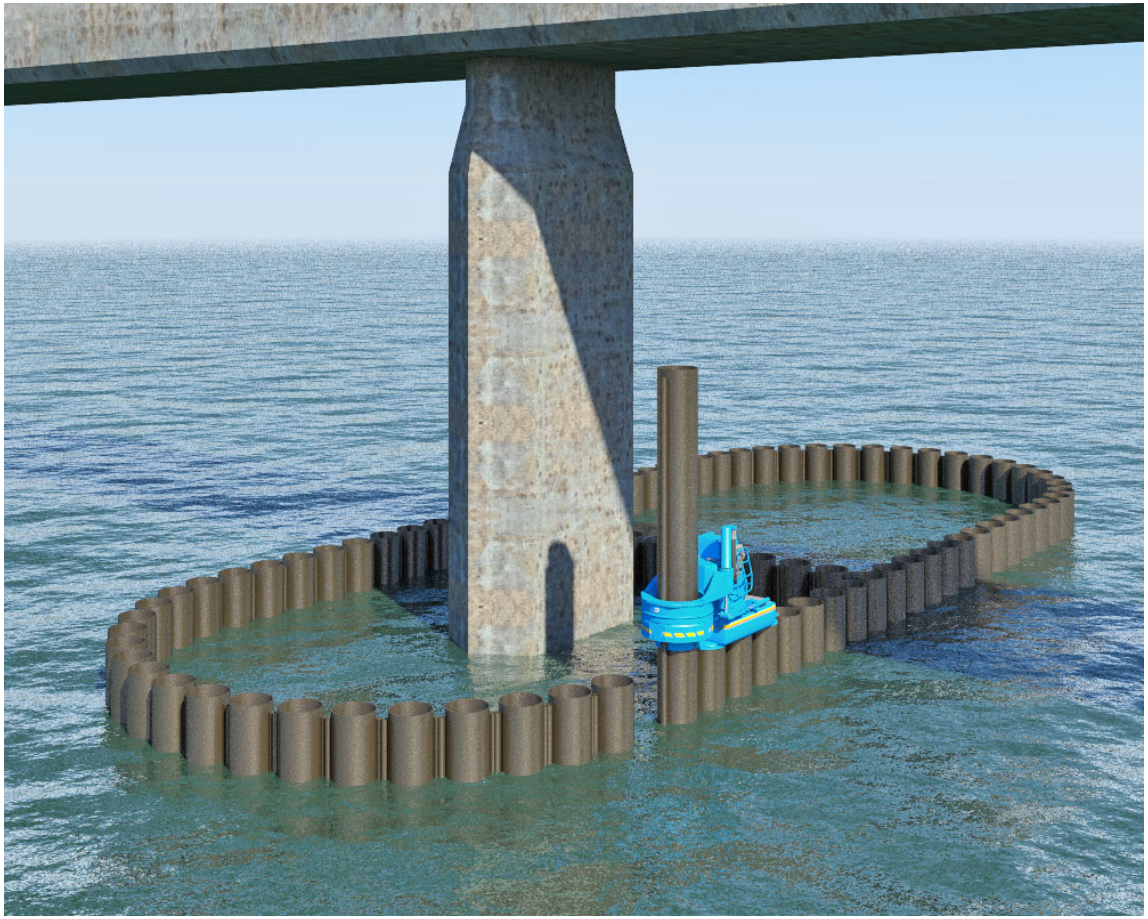



# Bangladesh Case Study

## Method Selection Point1:-
## No Interruption on Normal Activities

## Press-in Method: Feasible without Interruption



# Bangladesh Case Study



# THANK YOU

## Construction Revolution

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