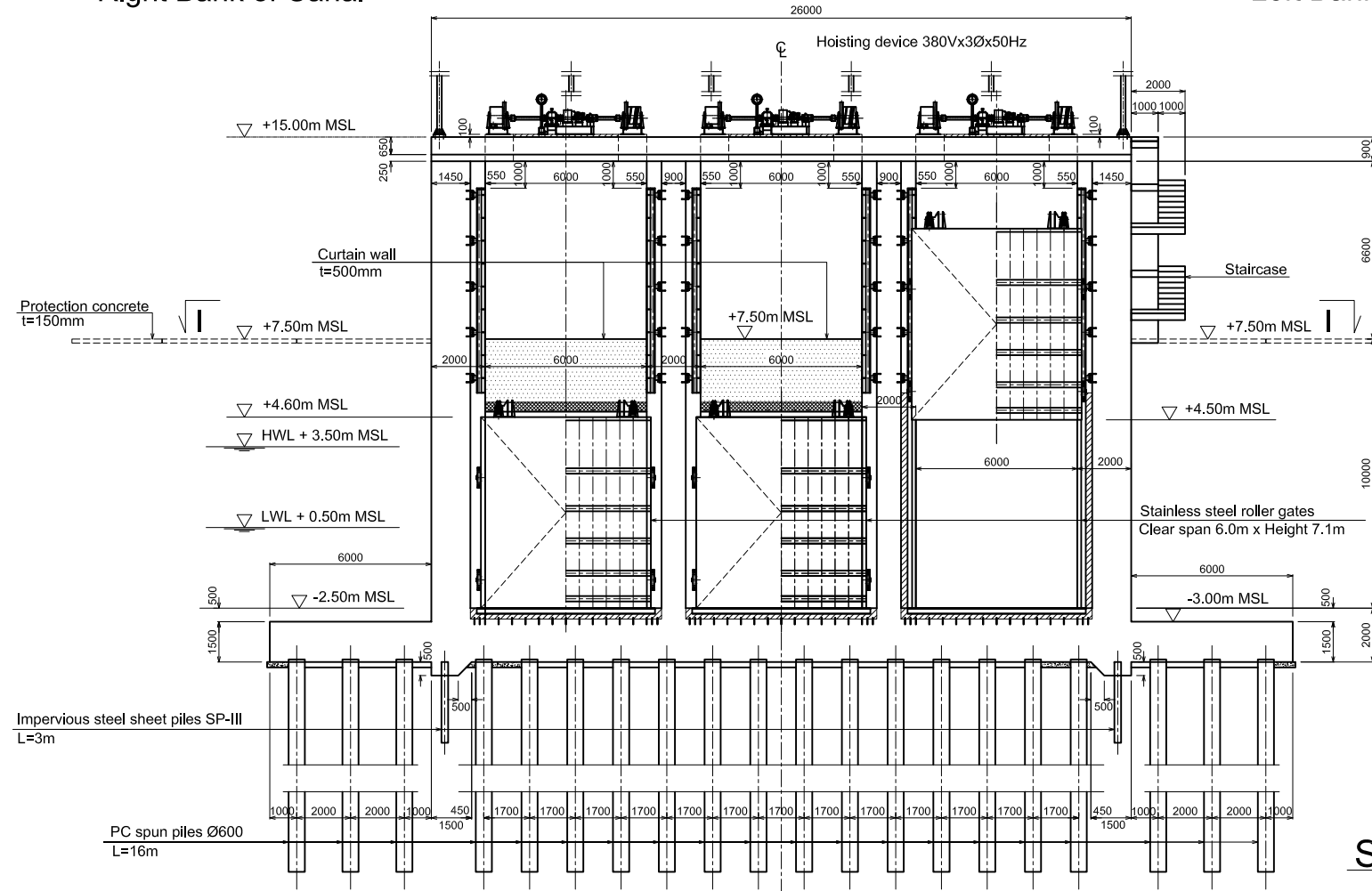


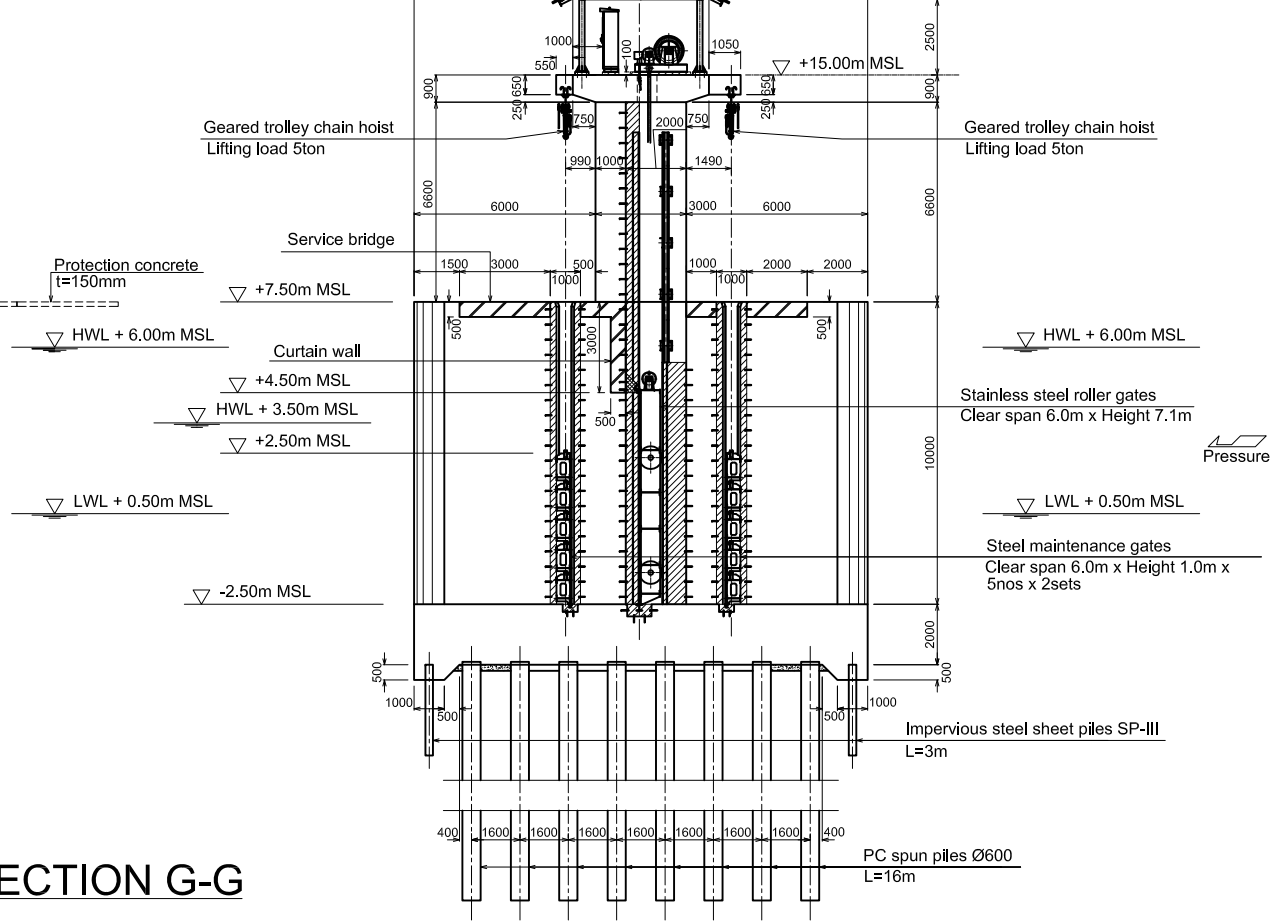
Right Bank of Canal

Left Bank of Canal



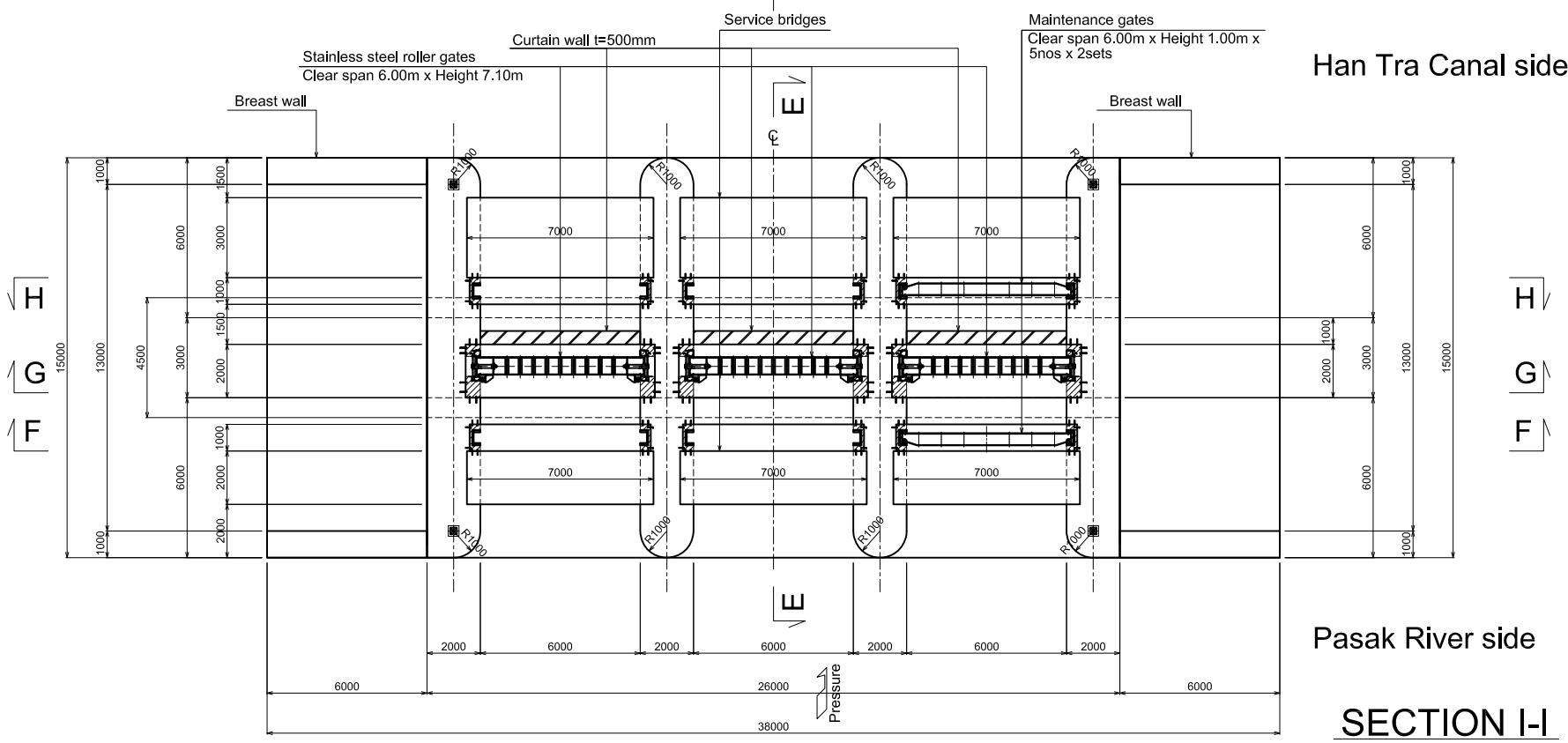
Han Tra Canal side

Pasak River side



SECTION G-G

SECTION E-E



Han Tra Canal side

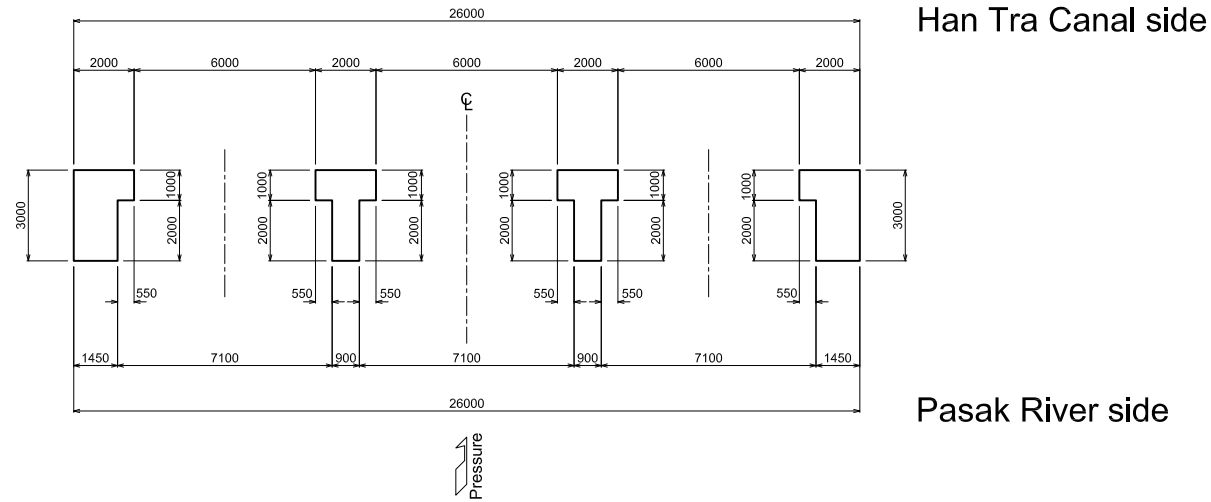
Pasak River side

SECTION I-I

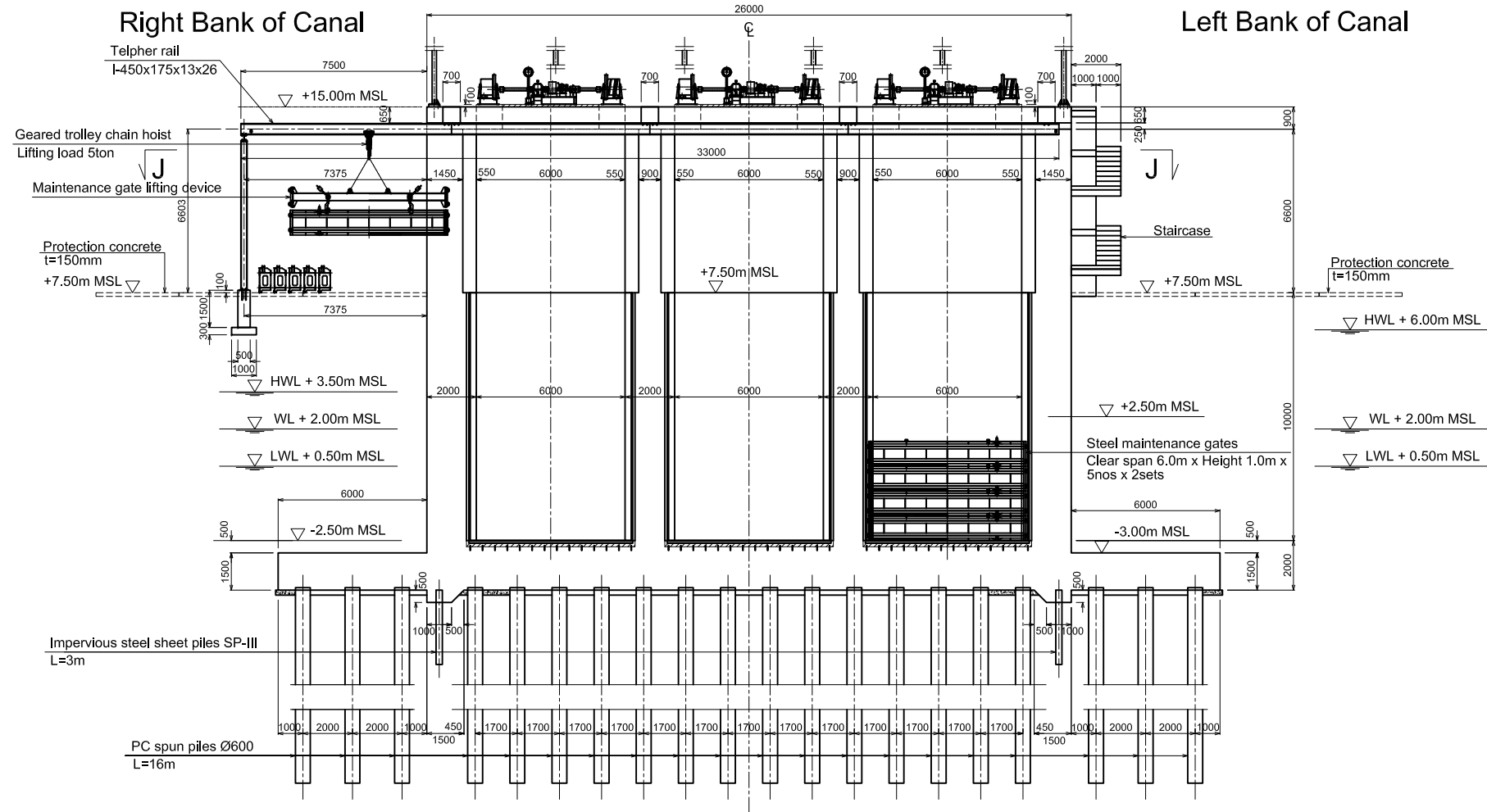
MAIN STRUCTURE OF HAN TRA FLOOD GATE

A8-8

REV. NO.	DESCRIPTION	CONSULTANT CHECKED	DATE	RID CHECKED	DATE	REV. NO.	APPROVED BY	<p>KINGDOM OF THAILAND MINISTRY OF AGRICULTURE AND COOPERATIVES ROYAL IRRIGATION DEPARTMENT</p>	SHEET CONTENTS	OWNER	PROJECT TITLE	<p>CTI ENGINEERING INTERNATIONAL CO., LTD. ORIENTAL CONSULTANTS CO., LTD. NIPPON KOEI CO., LTD. CTI ENGINEERING CO., LTD.</p>	DESIGNED BY	CHECKED BY	DATE	SCALE
									<p>(CIVIL WORKS) HAN TRA FLOODGATE MAIN STRUCTURE SECTIONS</p>	<p>Royal Irrigation Department Ministry of Agriculture and Cooperatives</p>	<p>Preparatory Survey on the Flood Prevention Project of East Side of the Pasak River in Ayutthaya in the Kingdom of Thailand</p>		<p>ISHII Masaki STRUCTURAL ENGINEER</p>	<p>MISHINA Takahiro TEAM LEADER</p>	<p>AUGUST 2012</p>	<p>DWG. NO. HT-FG-004</p>



SECTION J-J



SECTION F-F

MAIN STRUCTURE OF HAN TRA FLOOD GATE

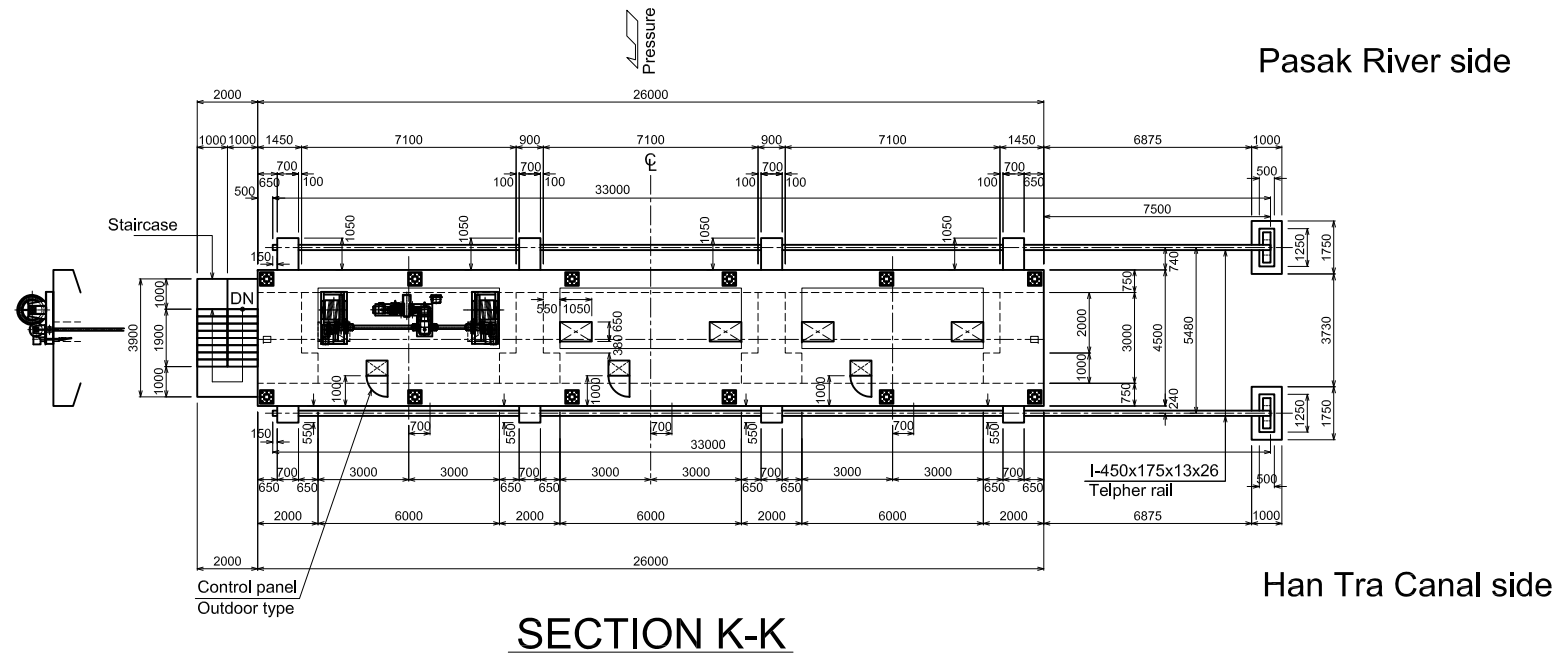
A8-9

REV. NO.	DESCRIPTION	CONSULTANT CHECKED	DATE	RID CHECKED	DATE	REV. NO.	APPROVED BY	SHEET CONTENTS	OWNER	PROJECT TITLE	DESIGNED BY	CHECKED BY	DATE	SCALE
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													DWG. NO. HT-FG-005	

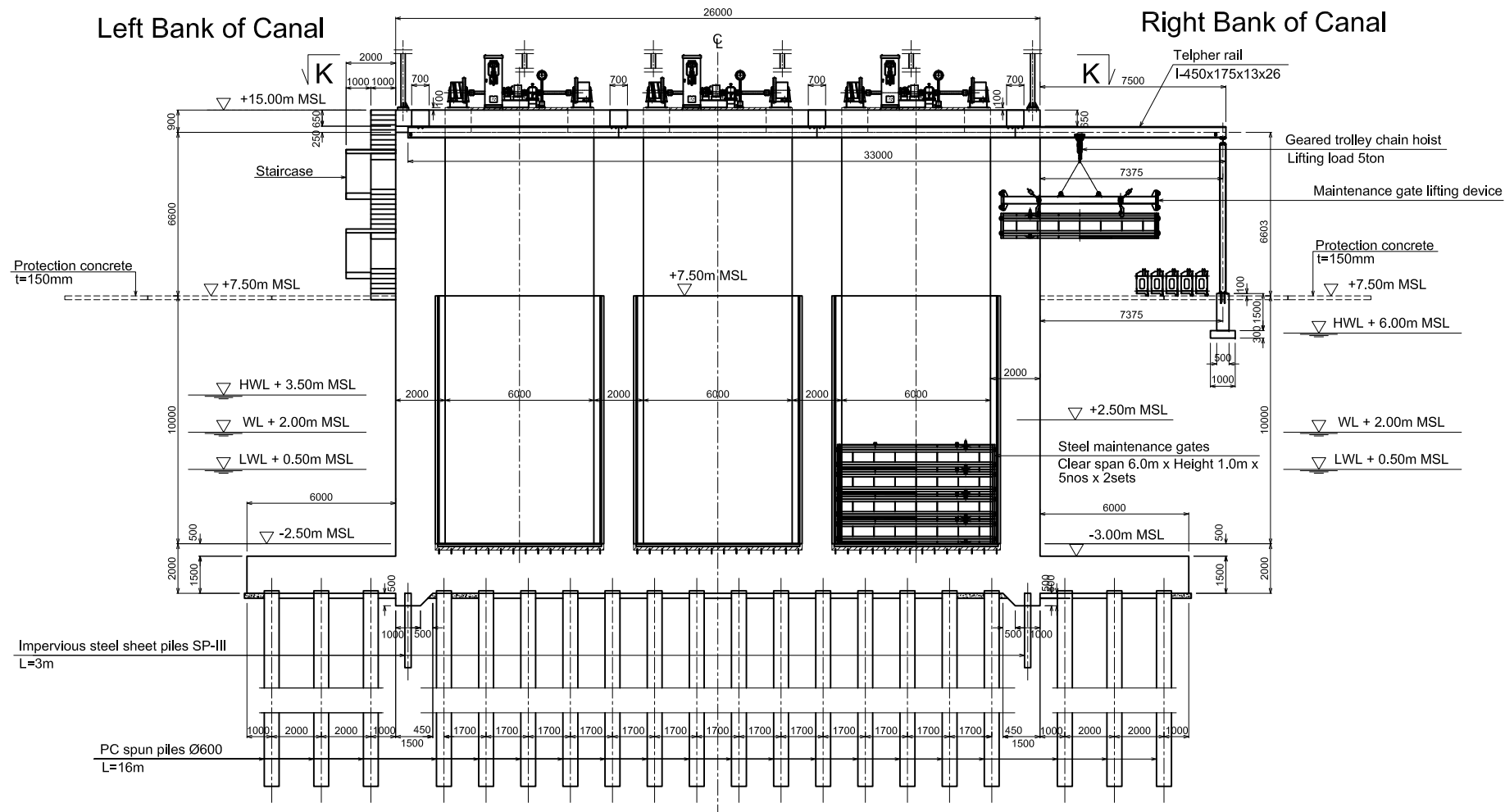


KINGDOM OF THAILAND
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ROYAL IRRIGATION DEPARTMENT

CTI ENGINEERING INTERNATIONAL CO., LTD.
ORIENTAL CONSULTANTS CO., LTD.
NIPPON KOEI CO., LTD.
CTI ENGINEERING CO., LTD.



SECTION K-K



SECTION H-H

MAIN STRUCTURE OF HAN TRA FLOOD GATE

A8-10

REV. NO.	DESCRIPTION	CONSULTANT CHECKED	DATE	RID CHECKED	DATE	REV. NO.	APPROVED BY	SHEET CONTENTS	OWNER	PROJECT TITLE	DESIGNED BY	CHECKED BY	DATE	SCALE
								(CIVIL WORKS) HAN TRA FLOODGATE MAIN STRUCTURE SECTIONS	Royal Irrigation Department Ministry of Agriculture and Cooperatives	Preparatory Survey on the Flood Prevention Project of East Side of the Pasak River in Ayutthaya in the Kingdom of Thailand	ISHII Masaki STRUCTURAL ENGINEER	MISHINA Takahiro TEAM LEADER	AUGUST 2012	SHEET NO.
													DWG. NO. HT-FG-006	

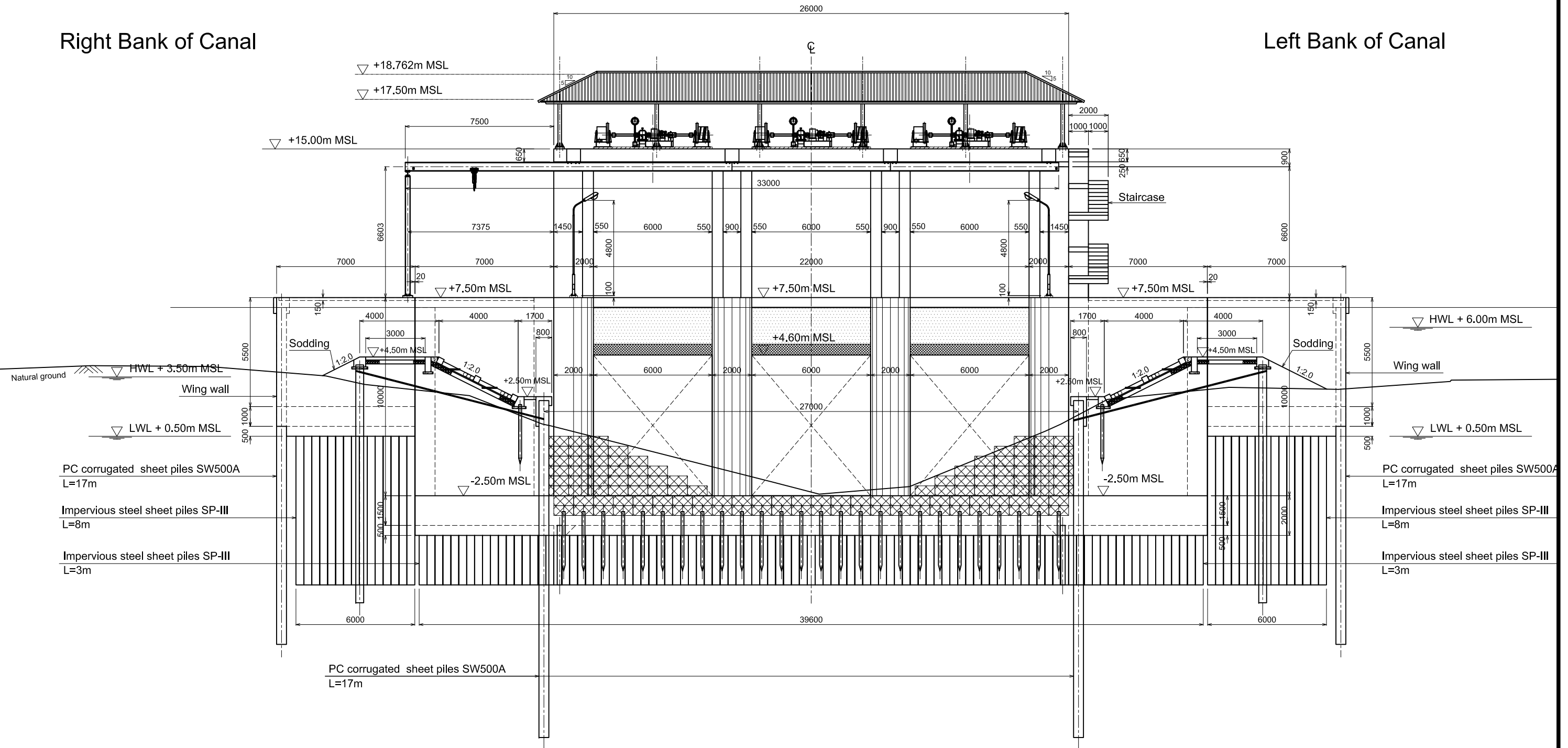


KINGDOM OF THAILAND
MINISTRY OF AGRICULTURE AND COOPERATIVES
ROYAL IRRIGATION DEPARTMENT

CTI ENGINEERING INTERNATIONAL CO., LTD.
ORIENTAL CONSULTANTS CO., LTD.
NIPPON KOEI CO., LTD.
CTI ENGINEERING CO., LTD.

Right Bank of Canal

Left Bank of Canal



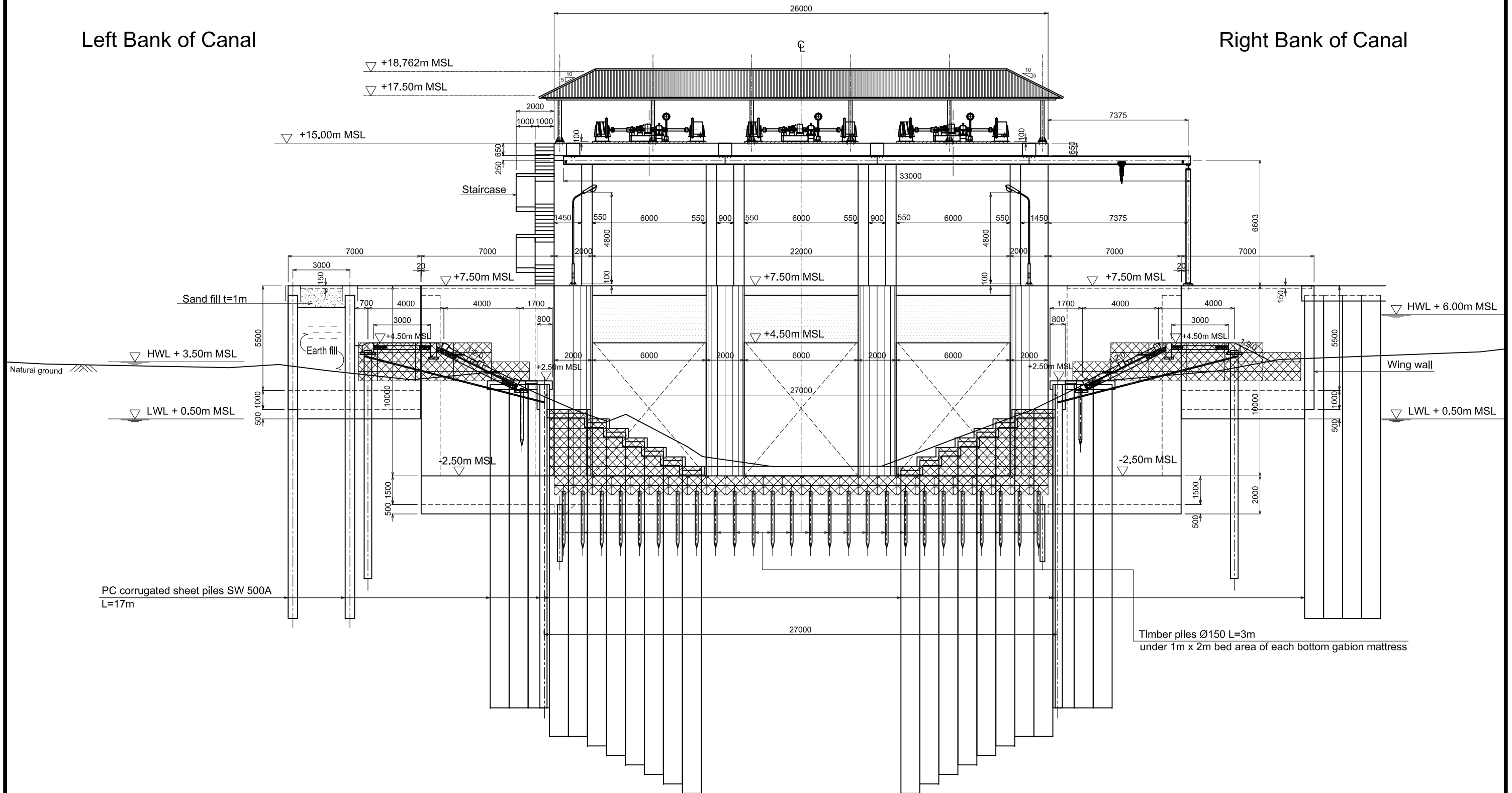
FRONT VIEW FROM REVETMENT OF PASAK RIVER SIDE

A8-11

REV. NO.	DESCRIPTION	CONSULTANT		RID		REV. NO.	APPROVED BY	SHEET CONTENTS	OWNER	PROJECT TITLE	DESIGNED BY	CHECKED BY	DATE	SCALE	
		CHECKED	DATE	CHECKED	DATE										
								KINGDOM OF THAILAND MINISTRY OF AGRICULTURE AND COOPERATIVES ROYAL IRRIGATION DEPARTMENT	Royal Irrigation Department Ministry of Agriculture and Cooperatives	Preparatory Survey on the Flood Prevention Project of East Side of the Pasak River in Ayutthaya in the Kingdom of Thailand	CTI ENGINEERING INTERNATIONAL CO., LTD. ORIENTAL CONSULTANTS CO., LTD. NIPPON KOEI CO., LTD. CTI ENGINEERING CO., LTD.	ISHII Masaki STRUCTURAL ENGINEER	MISHINA Takahiro TEAM LEADER	AUGUST 2012 DWG. NO. HT-FG-007	SHEET NO.

Left Bank of Canal

Right Bank of Canal



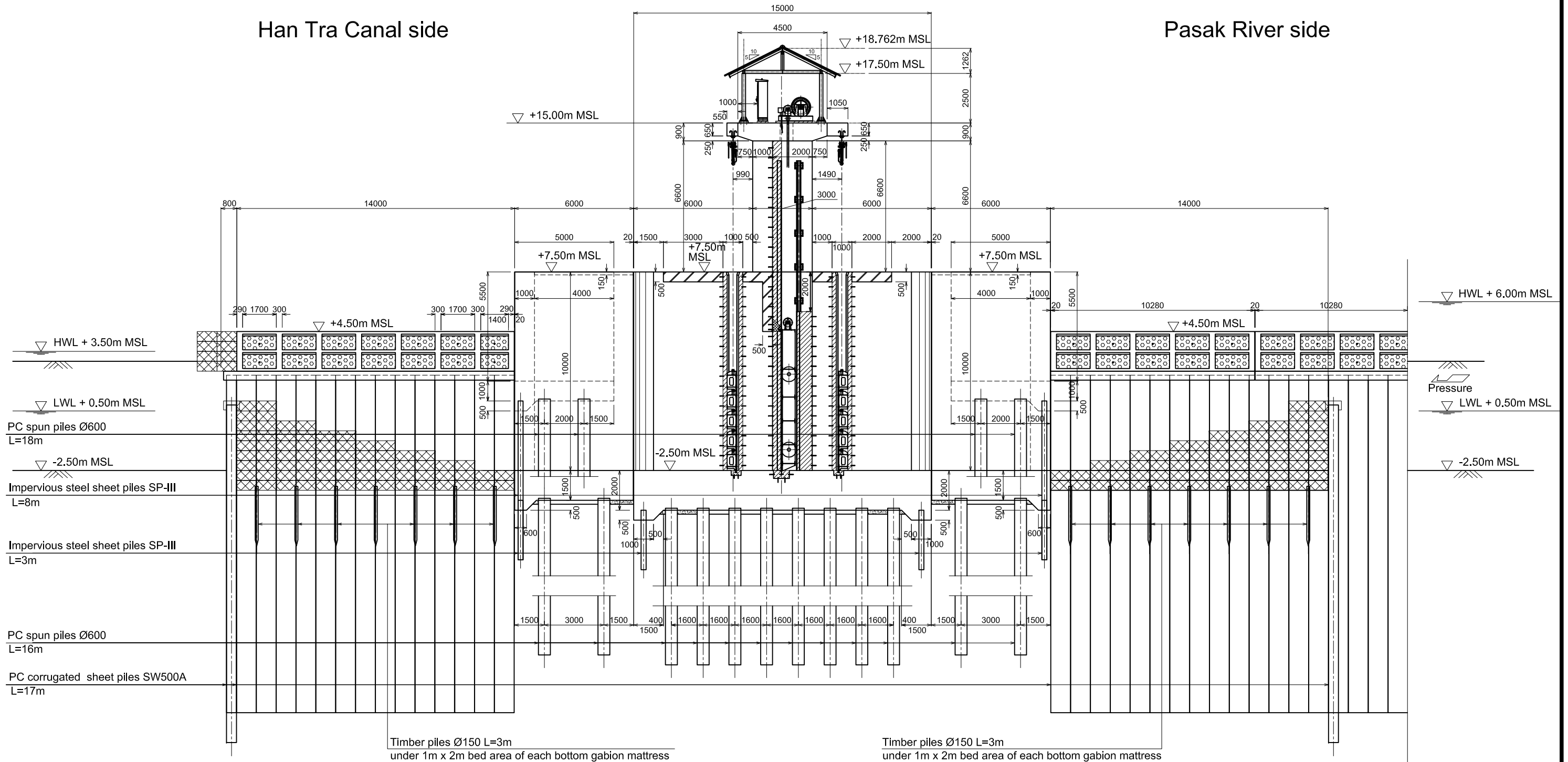
FRONT VIEW FROM HAN TRA CANAL SIDE

A8-12

REV. NO.	DESCRIPTION	CONSULTANT		RID		REV. NO.	APPROVED BY	SHEET CONTENTS	OWNER	PROJECT TITLE	DESIGNED BY	CHECKED BY	DATE	SCALE	
		CHECKED	DATE	CHECKED	DATE										
								KINGDOM OF THAILAND MINISTRY OF AGRICULTURE AND COOPERATIVES ROYAL IRRIGATION DEPARTMENT	Royal Irrigation Department Ministry of Agriculture and Cooperatives	Preparatory Survey on the Flood Prevention Project of East Side of the Pasak River in Ayutthaya in the Kingdom of Thailand	CTI ENGINEERING INTERNATIONAL CO., LTD. ORIENTAL CONSULTANTS CO., LTD. NIPPON KOEI CO., LTD. CTI ENGINEERING CO., LTD.	ISHII Masaki STRUCTURAL ENGINEER	MISHINA Takahiro TEAM LEADER	AUGUST 2012 DWG. NO. HT-FG-008	SHEET NO.

Han Tra Canal side

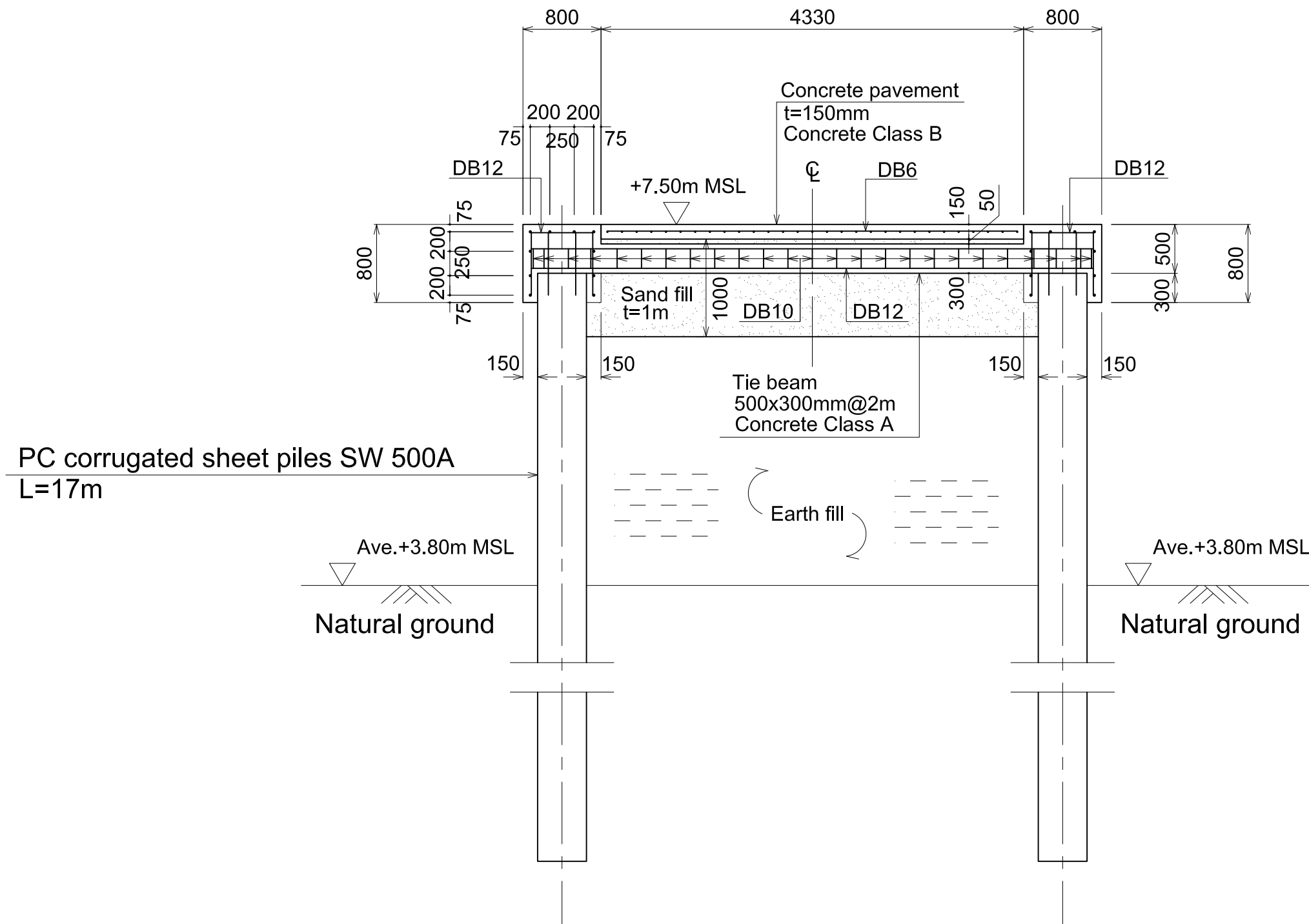
Pasak River side



LONGITUDINAL SECTION VIEWING LEFT BANK

A8-13

REV. NO.	DESCRIPTION	CONSULTANT		RID		REV. NO.	APPROVED BY	SHEET CONTENTS	OWNER	PROJECT TITLE	DESIGNED BY	CHECKED BY	DATE	SCALE	
		CHECKED	DATE	CHECKED	DATE										
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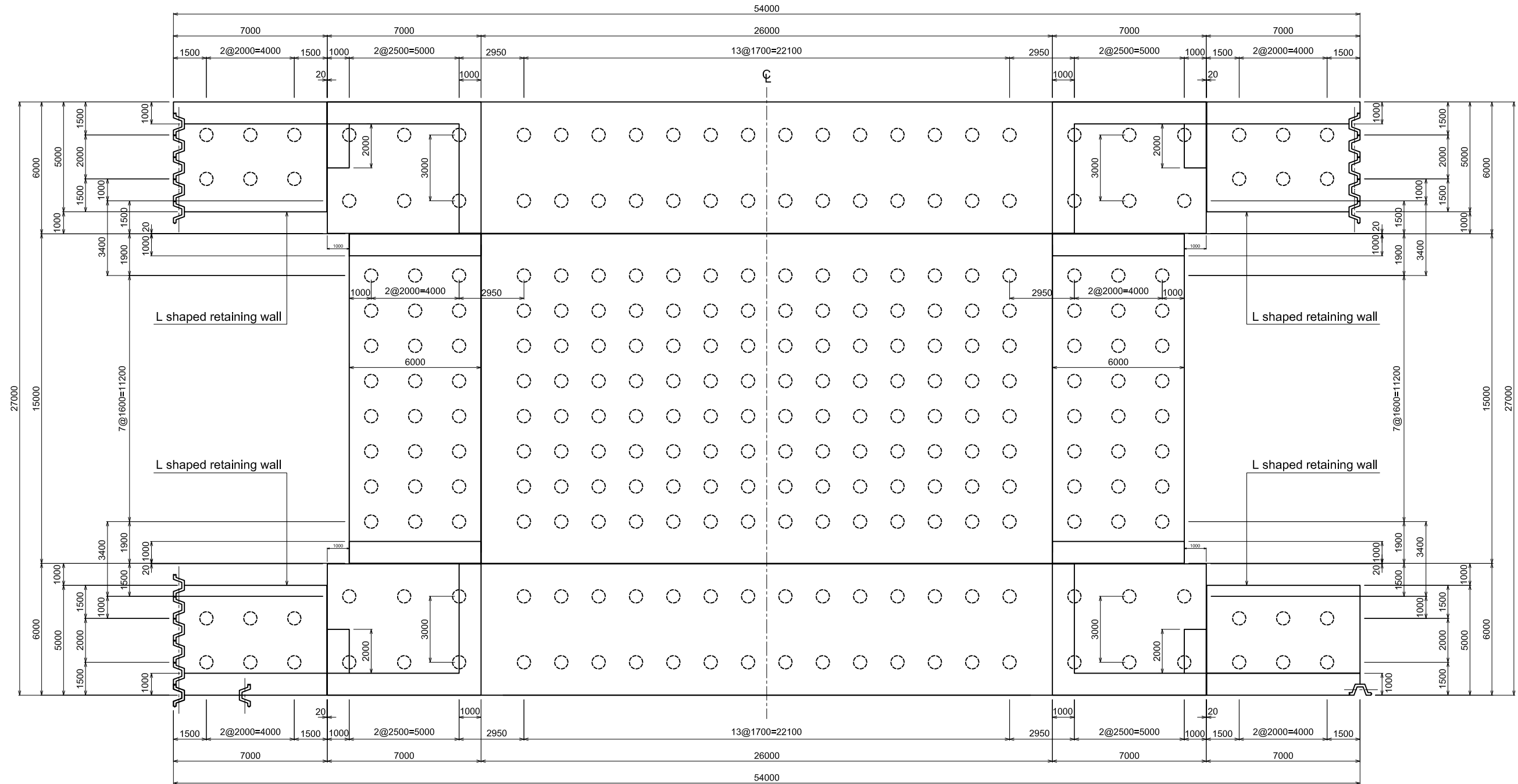
FLOOD WALL OF HAN TRA FLOOD GATE

REV. NO.	DESCRIPTION	CONSULTANT		RID		REV. NO.	APPROVED BY	SHEET CONTENTS	OWNER	PROJECT TITLE	DESIGNED BY	CHECKED BY	DATE	SCALE		
		CHECKED	DATE	CHECKED	DATE											
								KINGDOM OF THAILAND MINISTRY OF AGRICULTURE AND COOPERATIVES ROYAL IRRIGATION DEPARTMENT	Royal Irrigation Department Ministry of Agriculture and Cooperatives	Preparatory Survey on the Flood Prevention Project of East Side of the Pasak River in Ayutthaya in the Kingdom of Thailand	CTI ENGINEERING INTERNATIONAL CO., LTD. ORIENTAL CONSULTANTS CO., LTD. NIPPON KOEI CO., LTD. CTI ENGINEERING CO., LTD.	ISHII Masaki STRUCTURAL ENGINEER	MISHINA Takahiro TEAM LEADER	AUGUST 2012	HT-FG-010	SHEET NO.

Left Bank of Canal

Pasak River side

Right Bank of Canal



The foundation piles are to be PRESTRESSED CONCRETE SPUN PILE Ø600 which is in conformity with the accredited technical standards in Thai construction market.

Han Tra Canal side

AMOUNT OF PC SPUN PILE Ø600

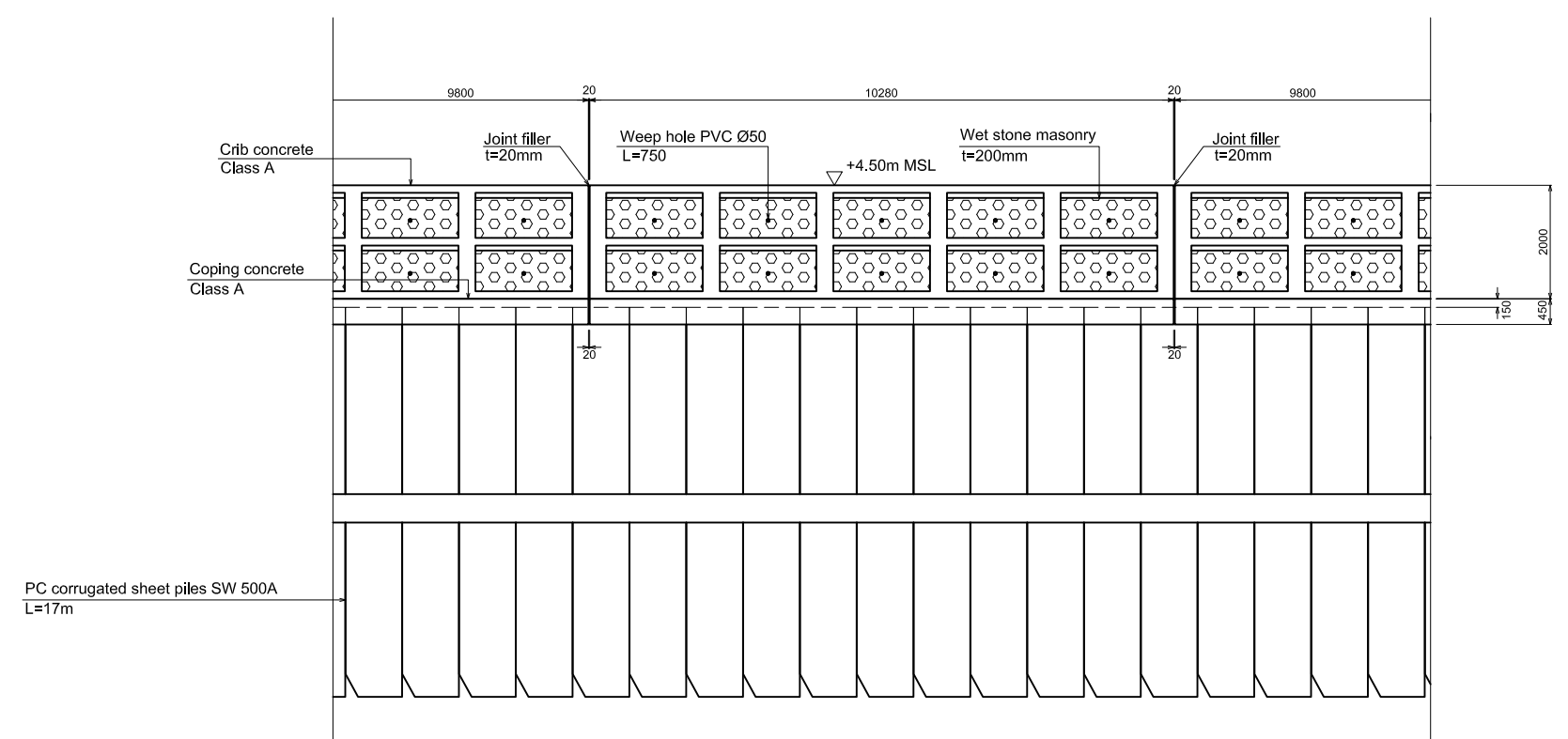
Structures	Length/piece	Numbers
L shaped retaining walls	18m	24
The others	16m	240

FOUNDATION PILE CONFIGURATION OF HAN TRA FLOOD GATE

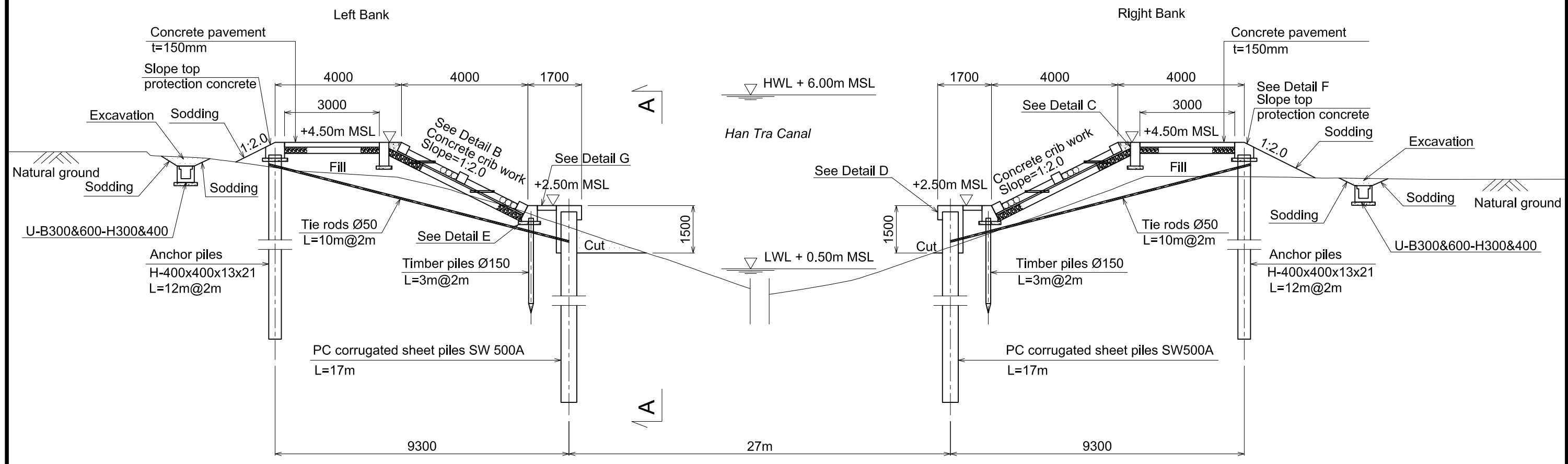
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													DWG. NO. HT-FG-011	

A8-15

A8-16



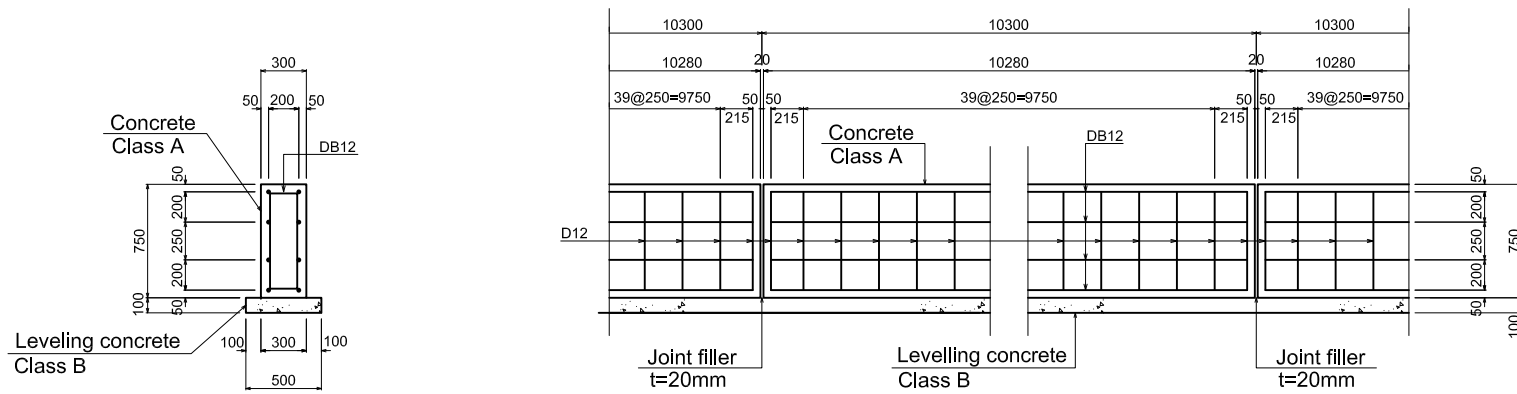
LONGITUDINAL SECTION A-A



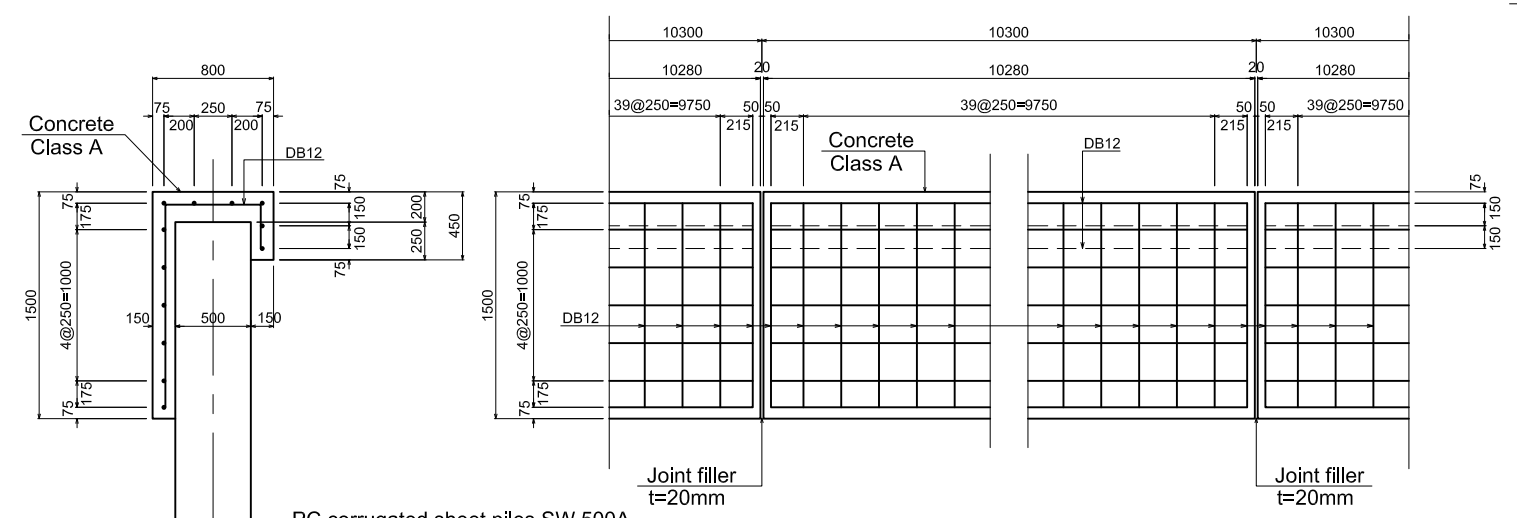
TYPICAL CROSS SECTION OF BANK PROTECTION

REV. NO.	DESCRIPTION	CONSULTANT		RID		REV. NO.	APPROVED BY	SHEET CONTENTS	OWNER	PROJECT TITLE	DESIGNED BY	CHECKED BY	DATE	SCALE	
		CHECKED	DATE	CHECKED	DATE										
								KINGDOM OF THAILAND MINISTRY OF AGRICULTURE AND COOPERATIVES ROYAL IRRIGATION DEPARTMENT	Royal Irrigation Department Ministry of Agriculture and Cooperatives	Preparatory Survey on the Flood Prevention Project of East Side of the Pasak River in Ayutthaya in the Kingdom of Thailand	CTI ENGINEERING INTERNATIONAL CO., LTD. ORIENTAL CONSULTANTS CO., LTD. NIPPON KOEI CO., LTD. CTI ENGINEERING CO., LTD.	ISHII Masaki STRUCTURAL ENGINEER	MISHINA Takahiro TEAM LEADER	AUGUST 2012 DWG. NO. HT-BP-001	SHEET NO.

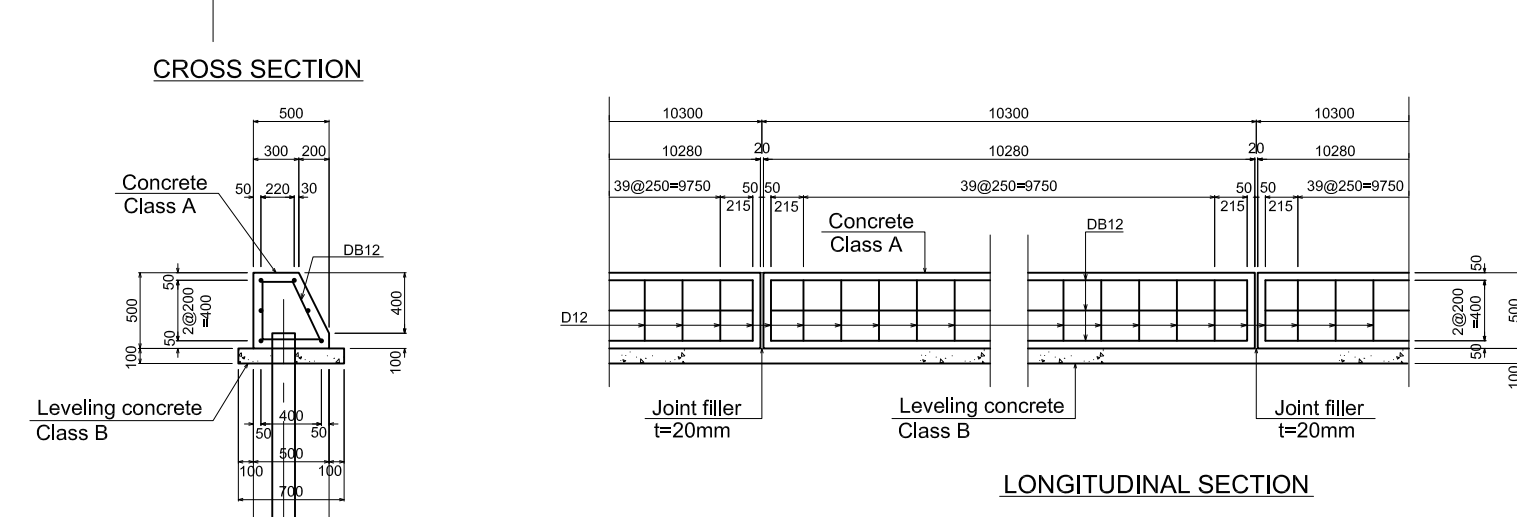
A8-17



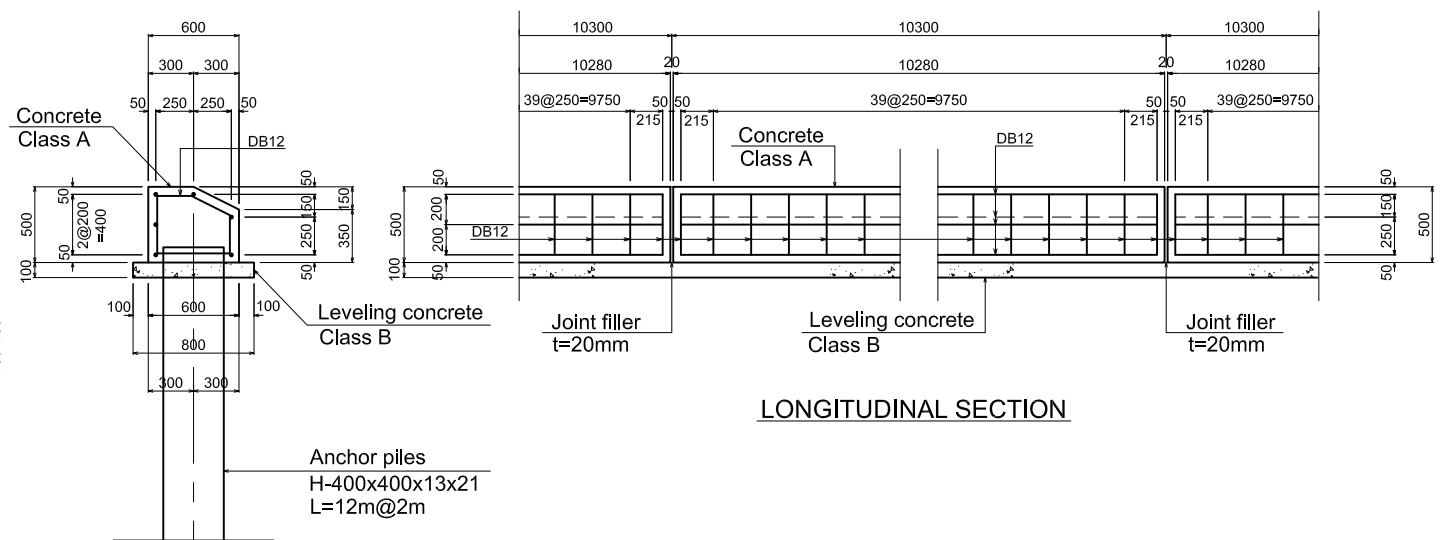
DETAIL C: GIRDLE CONCRETE



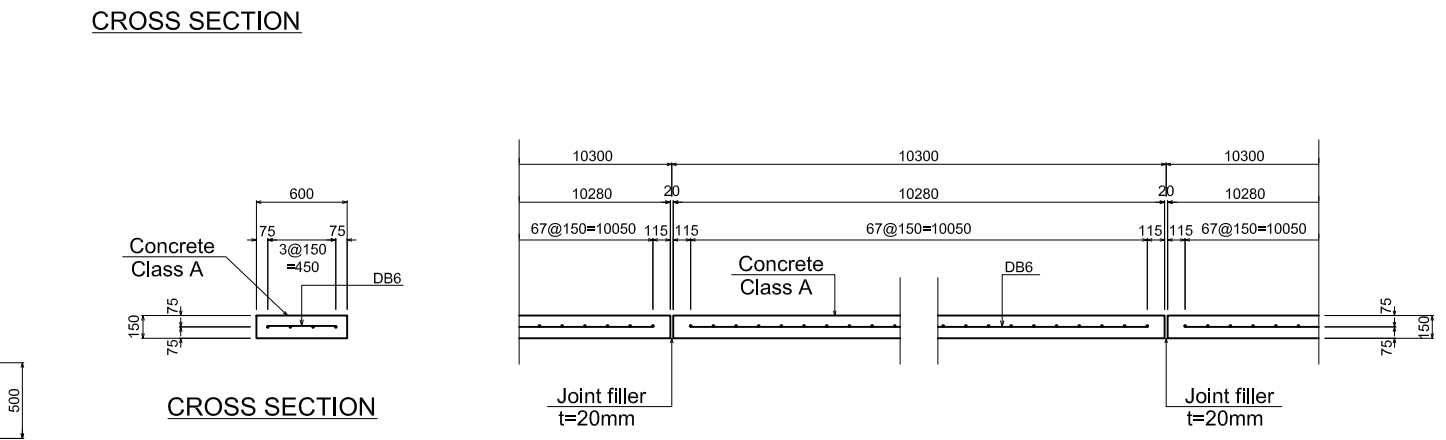
DETAIL D: COPING CONCRETE



DETAIL E: BASE CONCRETE

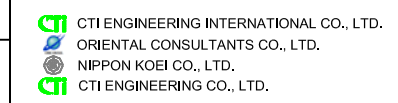


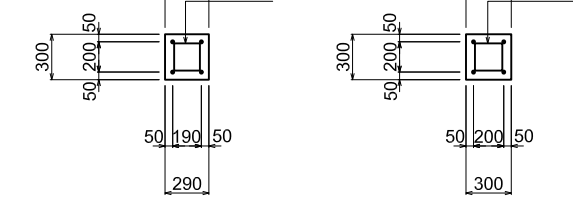
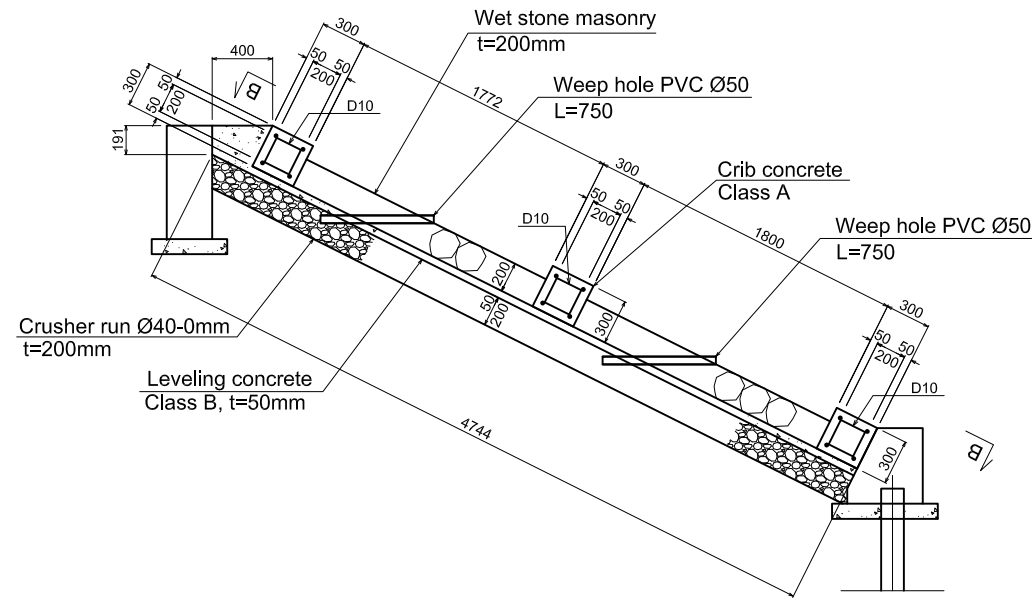
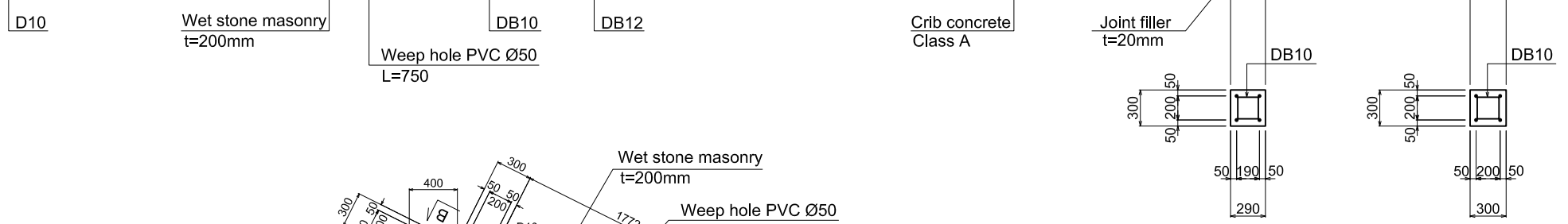
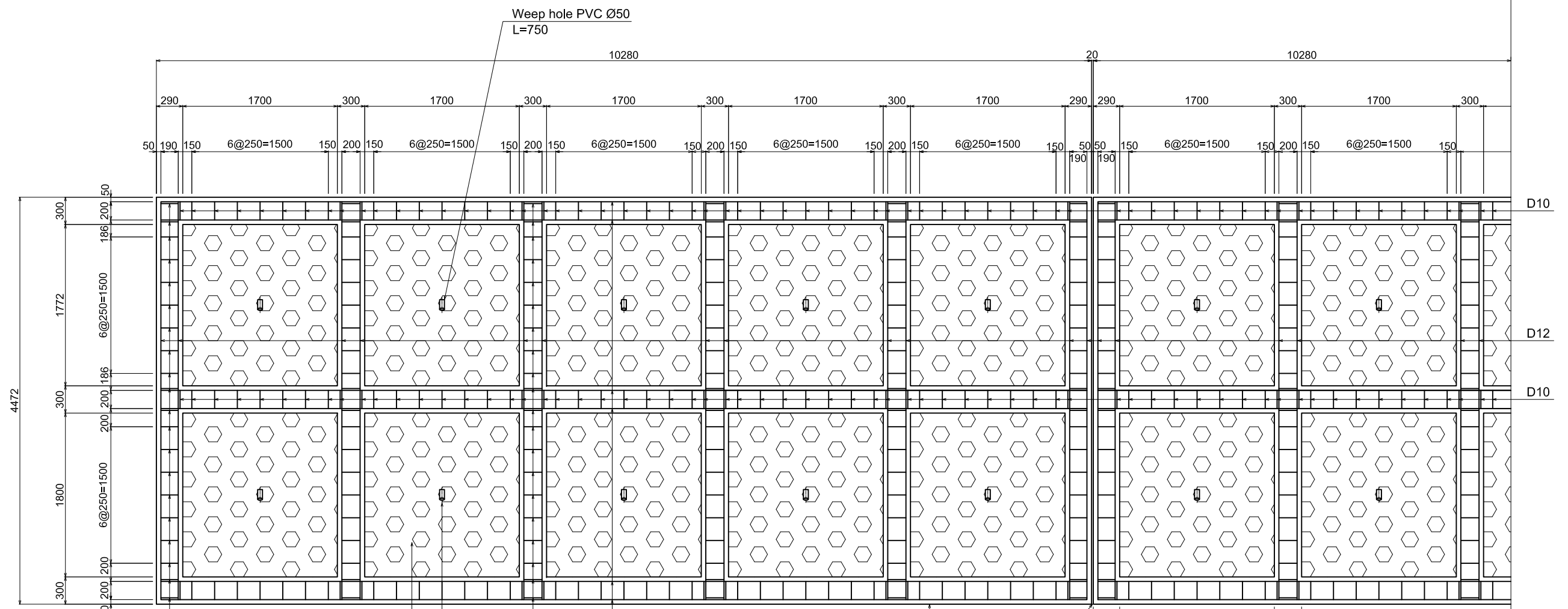
DETAIL F: SLOPE TOP PROTECTION CONCRETE



DETAIL G: PLATFORM CONCRETE

REV. NO.	DESCRIPTION	CONSULTANT CHECKED	DATE	RID CHECKED	DATE	REV. NO.	APPROVED BY	SHEET CONTENTS	OWNER	PROJECT TITLE	DESIGNED BY	CHECKED BY	DATE	SCALE
								(CIVIL WORKS) BANK PROTECTION OF HAN TRA CANAL DETAILS	Royal Irrigation Department Ministry of Agriculture and Cooperatives	Preparatory Survey on the Flood Prevention Project of East Side of the Pasak River in Ayutthaya in the Kingdom of Thailand	ISHII Masaki STRUCTURAL ENGINEER	MISHINA Takahiro TEAM LEADER	AUGUST 2012	SHEET NO.
													DWG. NO. HT-BP-002	



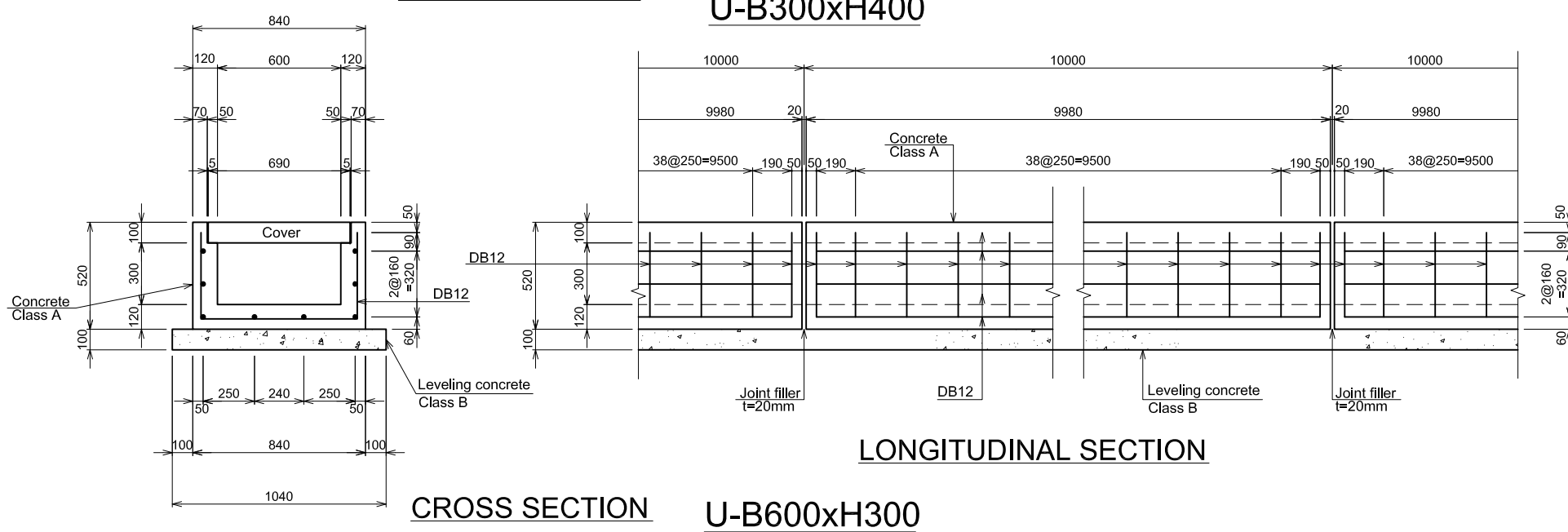
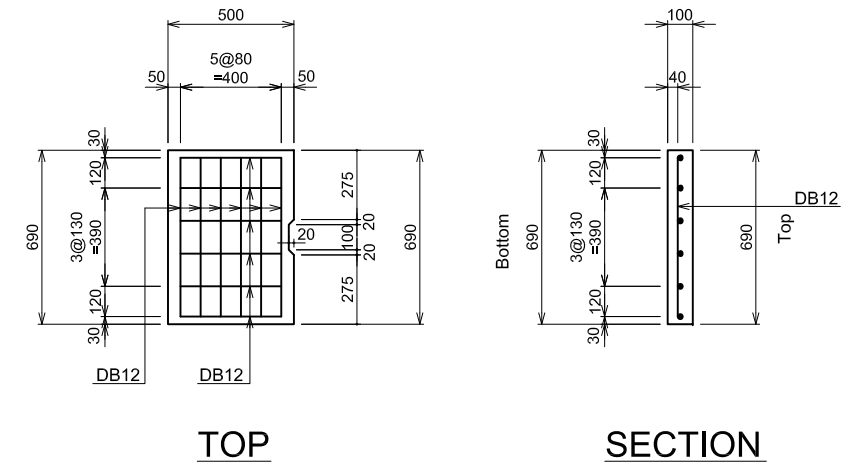
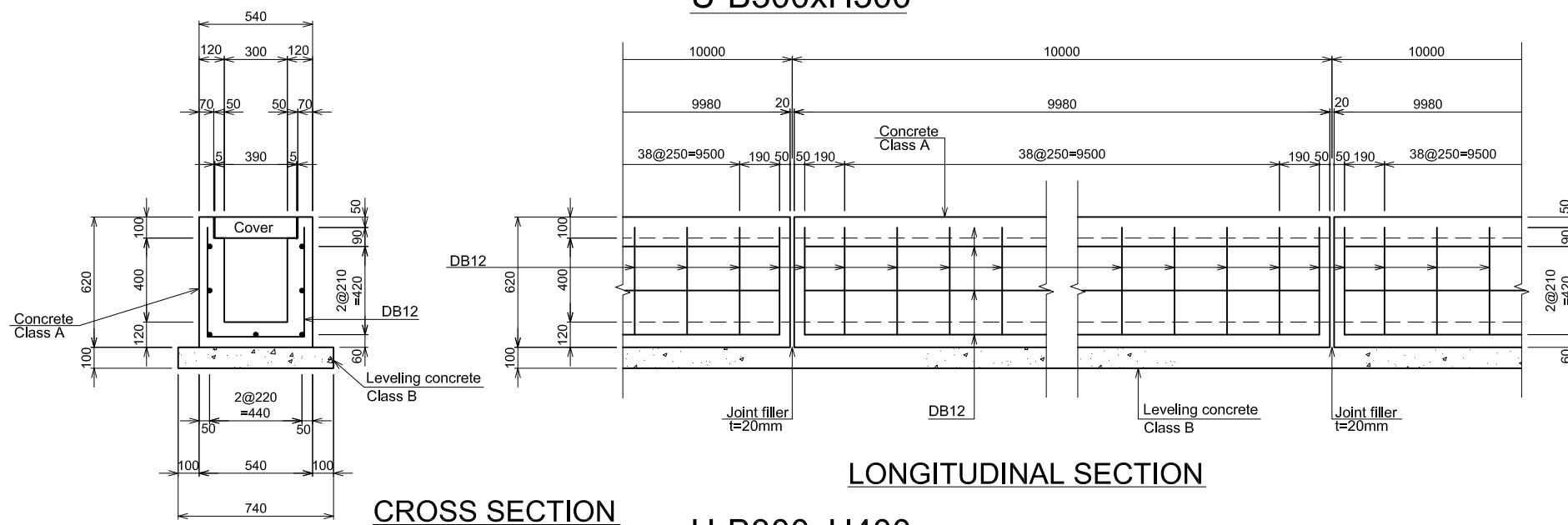
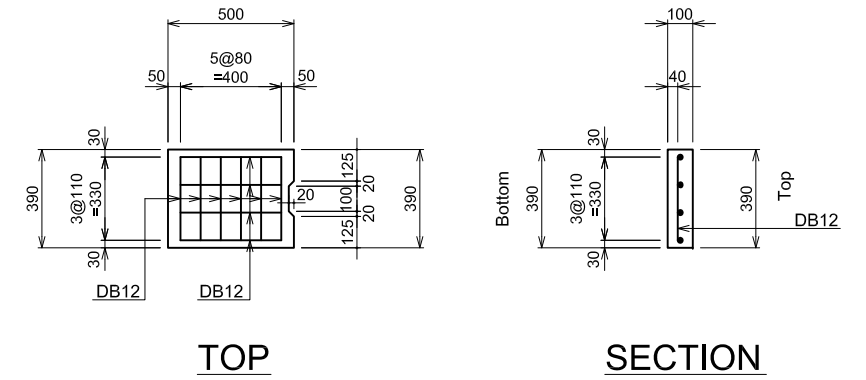
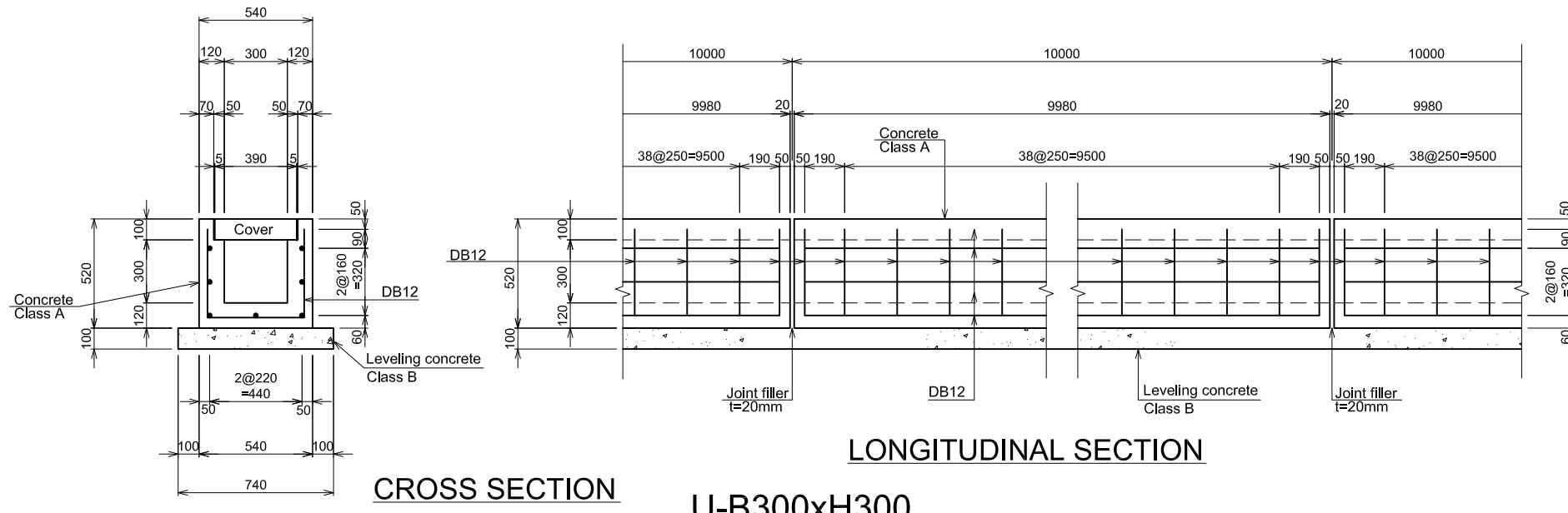


SECTION B-B

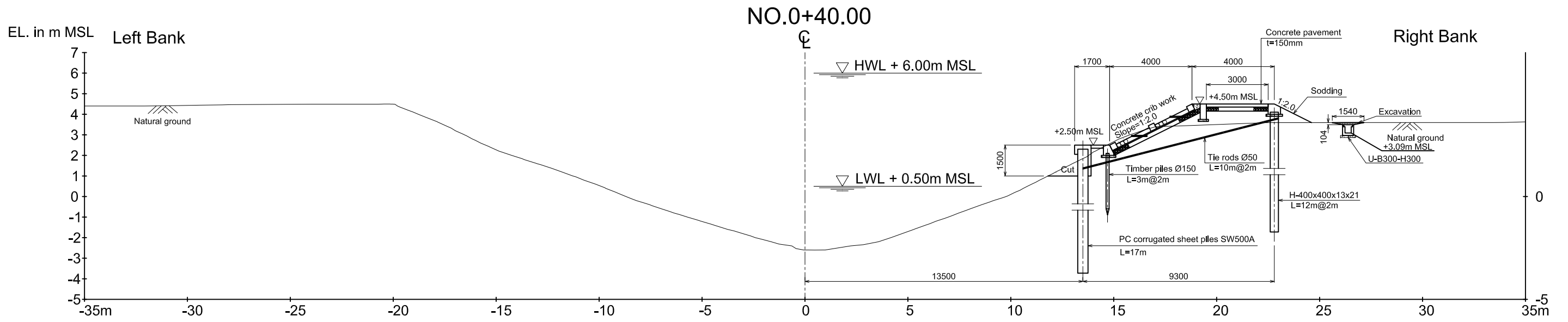
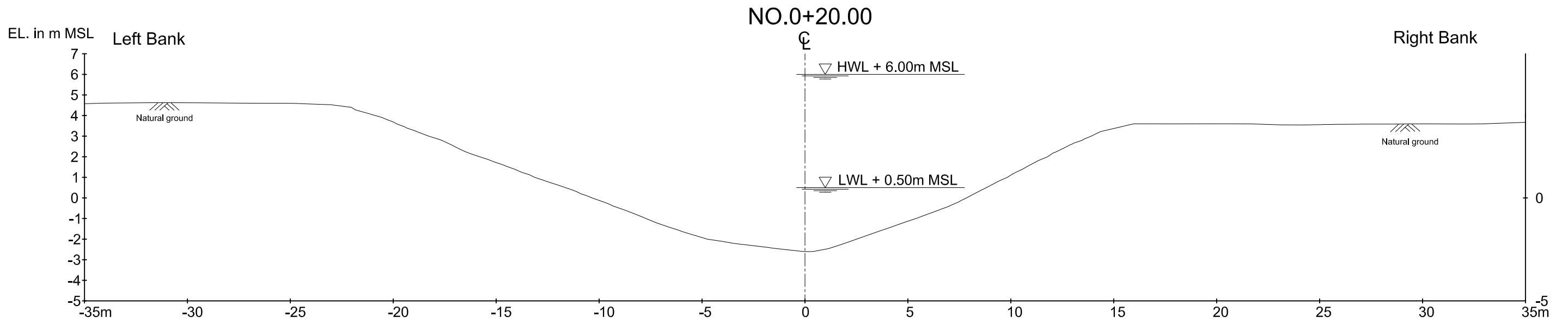
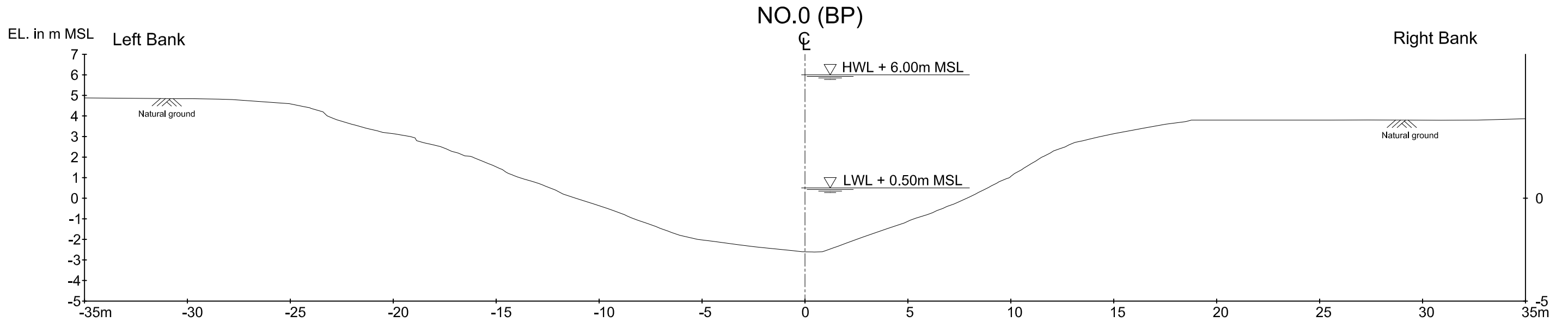
DETAIL B: CONCRETE CRIB WORK

REV. NO.	DESCRIPTION	CONSULTANT CHECKED DATE	RID CHECKED DATE	REV. NO.	APPROVED BY	SHEET CONTENTS	OWNER	PROJECT TITLE	DESIGNED BY	CHECKED BY	DATE	SCALE
						(CIVIL WORKS) BANK PROTECTION OF HAN TRA CANAL DETAILS	Royal Irrigation Department Ministry of Agriculture and Cooperatives	Preparatory Survey on the Flood Prevention Project of East Side of the Pasak River in Ayutthaya in the Kingdom of Thailand	ISHII Masaki STRUCTURAL ENGINEER	MISHINA Takahiro TEAM LEADER	AUGUST 2012	SHEET NO.
											DWG. NO. HT-BP-003	



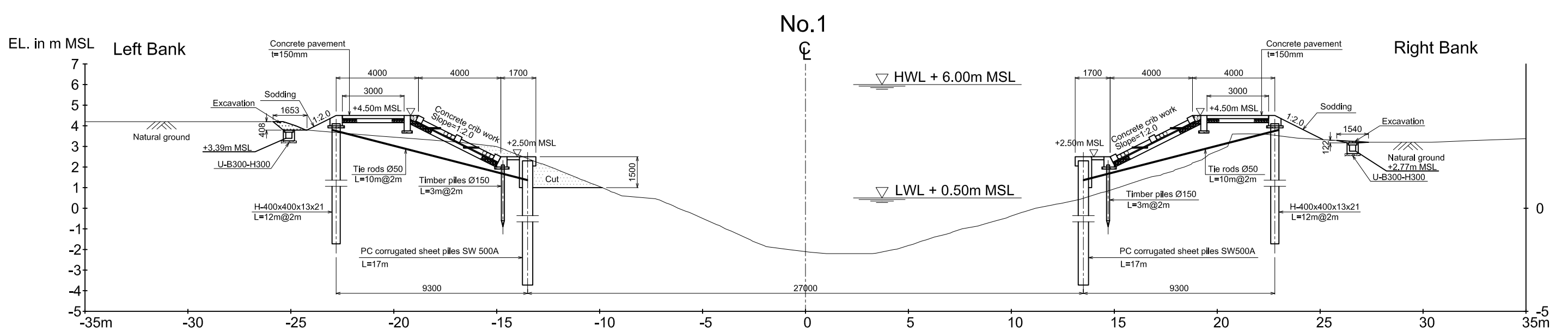
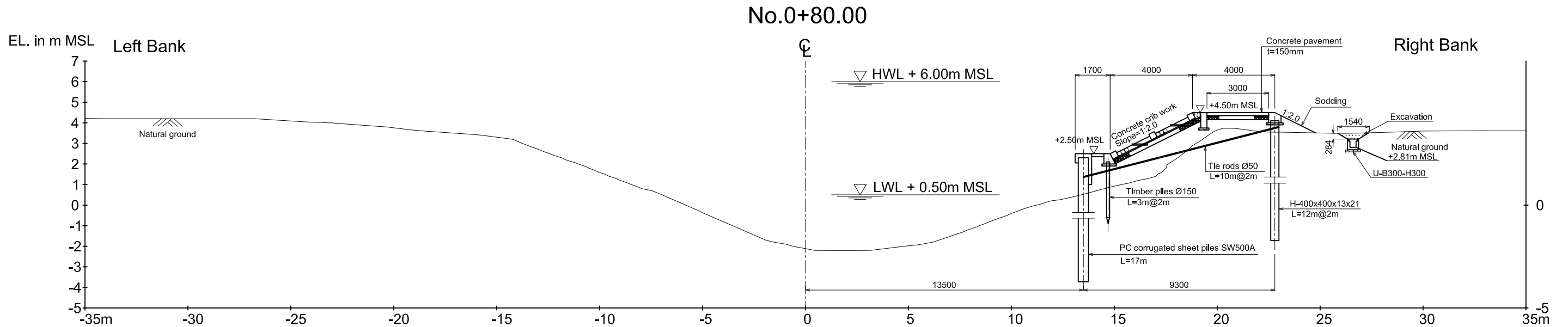
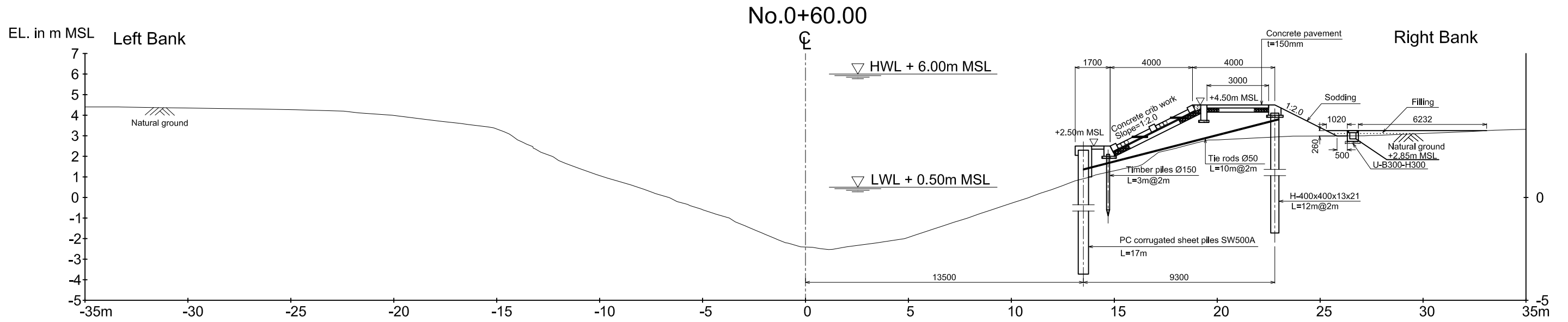


REV. NO.	DESCRIPTION	CONSULTANT	RID	REV. NO.	APPROVED BY	KINGDOM OF THAILAND MINISTRY OF AGRICULTURE AND COOPERATIVES ROYAL IRRIGATION DEPARTMENT	SHEET CONTENTS (CIVIL WORKS) BANK PROTECTION OF HAN TRA CANAL U-SHAPE DITCH	OWNER Royal Irrigation Department Ministry of Agriculture and Cooperatives	PROJECT TITLE Preparatory Survey on the Flood Prevention Project of East Side of the Pasak River in Ayutthaya in the Kingdom of Thailand	CTI ENGINEERING INTERNATIONAL CO., LTD. ORIENTAL CONSULTANTS CO., LTD. NIPPON KOEI CO., LTD. CTI ENGINEERING CO., LTD.	DESIGNED BY	CHECKED BY	DATE:	SCALE:
		CHECKED	DATE	CHECKED	DATE						KAJIURA Takeki STRUCTURAL ENGINEER	MISHINA Takahiro TEAM LEADER	AUGUST 2012	DWG. NO. HT-BP-004



A8-20

REV. NO.	DESCRIPTION	CONSULTANT CHECKED DATE	RID CHECKED DATE	REV. NO.	APPROVED BY	KINGDOM OF THAILAND MINISTRY OF AGRICULTURE AND COOPERATIVES ROYAL IRRIGATION DEPARTMENT	SHEET CONTENTS (CIVIL WORKS) BANK PROTECTION OF HAN TRA CANAL CROSS SECTIONS (1/6) NO.0(BP) TO NO.0+40.00	OWNER Royal Irrigation Department Ministry of Agriculture and Cooperatives	PROJECT TITLE Preparatory Survey on the Flood Prevention Project of East Side of the Pasak River in Ayutthaya in the Kingdom of Thailand		DESIGNED BY ISHII Masaki STRUCTURAL ENGINEER	CHECKED BY MISHINA Takahiro TEAM LEADER	DATE : JULY 2012	SCALE :
													DWG. NO. HT-BP-005	SHEET NO.



A8-21

REV. NO.	DESCRIPTION	CONSULTANT CHECKED	DATE	RID CHECKED	DATE	REV. NO.	APPROVED BY	KINGDOM OF THAILAND MINISTRY OF AGRICULTURE AND COOPERATIVES ROYAL IRRIGATION DEPARTMENT	SHEET CONTENTS (CIVIL WORKS) BANK PROTECTION OF HAN TRA CANAL CROSS SECTIONS (2/6) NO.0+60.00 TO NO.1	OWNER Royal Irrigation Department Ministry of Agriculture and Cooperatives	PROJECT TITLE Preparatory Survey on the Flood Prevention Project of East Side of the Pasak River in Ayutthaya in the Kingdom of Thailand		DESIGNED BY	CHECKED BY	DATE:	SCALE:
													ISHII Masaki STRUCTURAL ENGINEER	MISHINA Takahiro TEAM LEADER	JULY 2012 DWG. NO. HT-BP-006	SHEET NO.