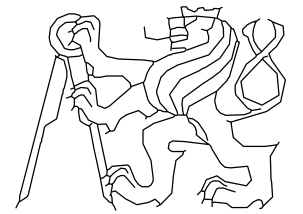




LEGEND

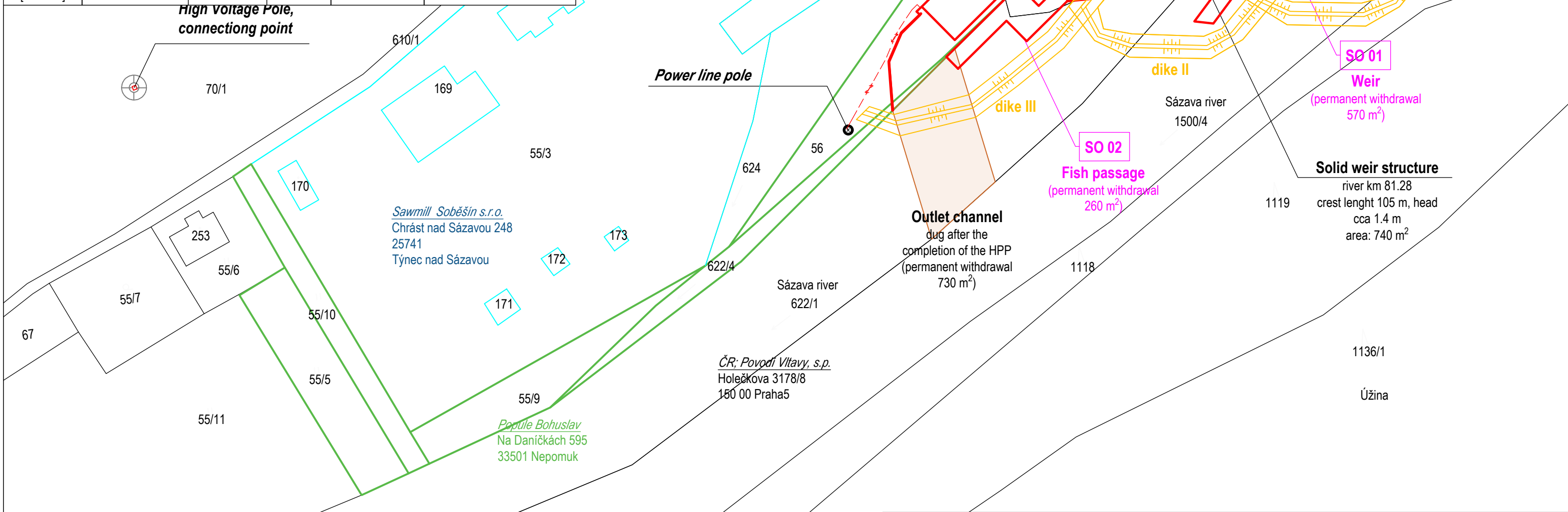
- Boundaries of affected area
 - Connection to transport infrastructure
Access to the construction site
 - Object of the design
 - Direction of riverflow
 - High-voltage protection zone
 - High-voltage line
- SO 01 Reconstructed Solid Weir
 - SO 02 Fish Passage
 - SO 03 Sports Sluice
 - SO 04 Small Hydropower Plant

FIELD OF STUDY	DEPARTMENT	SUPERVISOR
SI - V	K142 - Hydraulic Structures	Ing. Miroslav Brouček, Ph.D.
YEAR	SUBJECT	STUDENT
6	Master Thesis	Marie Pecharová
PROJECT		
MAZOUROV WEIR LAYOUT AND DESIGN PROPOSAL OF THE SMALL HPP		
DRAWING		
LAYOUT of BROAD RELATIONS		



FORMAT	A3
SCALE	1 : 1 000
DATE	6.1.2023
DRAWING NUMBER	
C.1	

Cadastral territory	Owner	Parcel number	Acreage (m ²)	Plot type	Land use
Soběšín [716936]	Popule Bohuslav, Na Daničkách 595, 33501 Nepomuk	56	2017	other area	handling area
		55/10	524	grassland	Agricultural Land Fund
		55/9	753	other area	handling area
		55/5	834	grassland	Agricultural Land Fund
		622/4	406	vodní plocha	riverbed
		291	356	build-up area	waterwork, weir
		278	380	build-up area	waterwork, weir
Zdebuzeves [792187]	ČR; Povodí Vltavy, s.p., Holečkova 3178/8, 15000 Praha 5	622/1	68156	water area	riverbed
		622/3	17744	water area	riverbed
		1500/4	36866	water area	riverbed
Tichonice [767026]		1500/5	544	water area	riverbed
		1154	18750	water area	riverbed



LEGEND

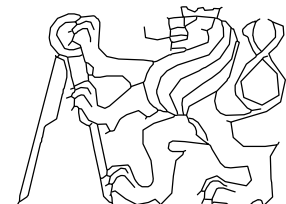
- Land affected by the construction
- Planned connection of SO 01 to the technical infrastructure
- Cadastral boundaries
- Neighbouring lands of the Soběšín sawmill
- 56/3 Plot number
- Dug up channel
- Dikes for site protection
- Objects of the proposed design
- SO 01 Reconstructed Solid Weir
- SO 02 Fish Passage
- SO 03 Sports Sluice
- SO 04 Small Hydropower Plant

First Phase - Dike I
temporary land withdrawal 510 m²

Second Phase - Dike II
temporary land withdrawal 700 m²

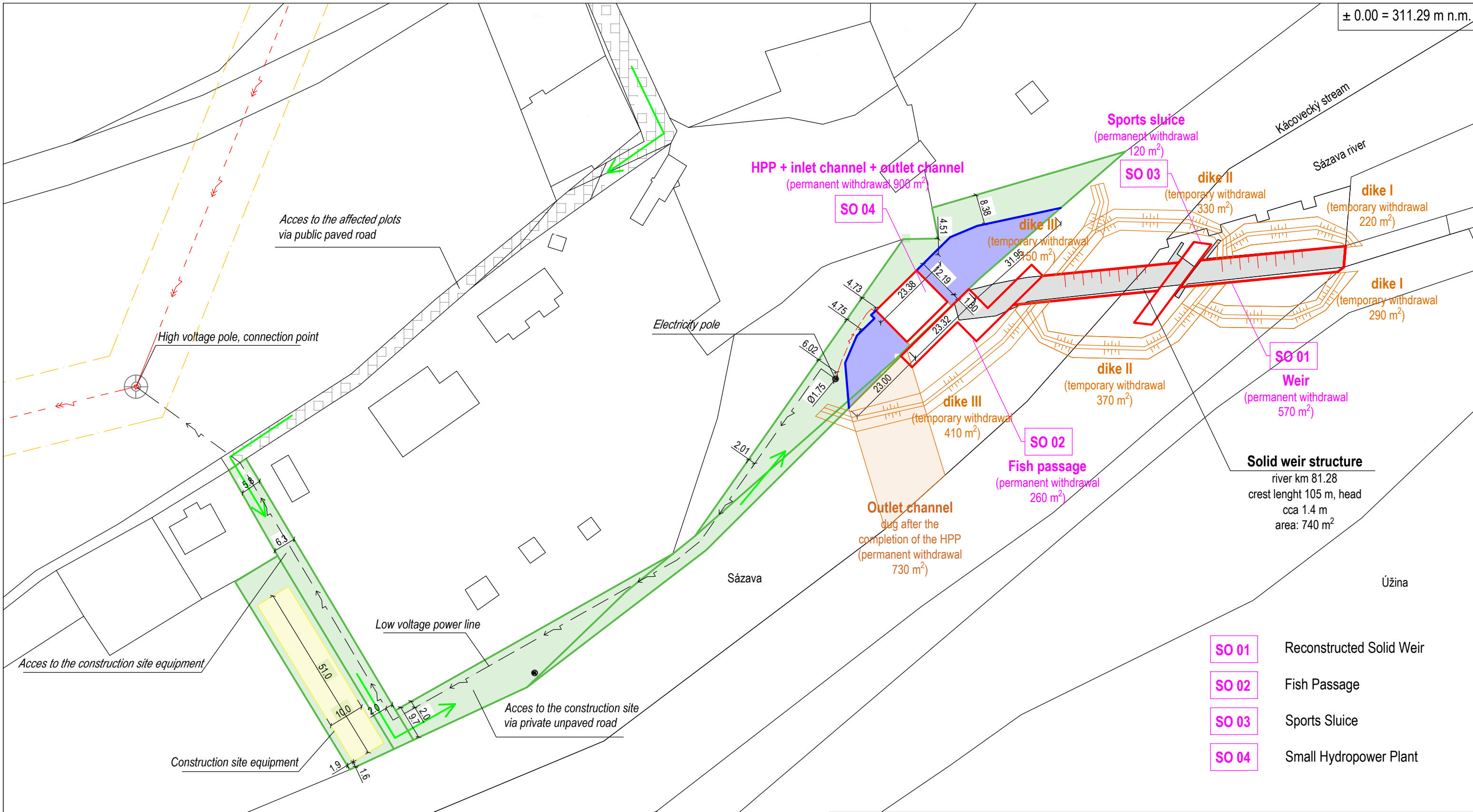
Third Phase - Dike III
temporary land withdrawal 560 m²

FIELD OF STUDY	DEPARTMENT	SUPERVISOR
SI - V	K142 - Hydraulic Structures	Ing. Miroslav Brouček, Ph.D.
YEAR	SUBJECT	STUDENT
6	Master Thesis	Marie Pecharová
PROJECT		
MAZOUROV WEIR LAYOUT AND DESIGN PROPOSAL OF THE SMALL HPP		
DRAWING		
LAYOUT - CADASTRAL MAP		



FORMAT	A3
SCALE	1 : 1 000
DATE	6.1.2023
DRAWING NUMBER	C.2

± 0.00 = 311.29 m n.m.



- SO 01 Reconstructed Solid Weir
- SO 02 Fish Passage
- SO 03 Sports Sluice
- SO 04 Small Hydropower Plant

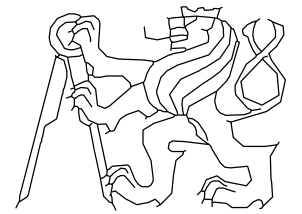
LEGENDA

- Land affected by the construction
- Connection to the transport infrastructure
- Planned connection of SO 01 to the technical infrastructure
- Original route of low-voltage line
- High-voltage protection zone
- Low-voltage line route
- Objects of the design
- Cadastral boundaries

Note

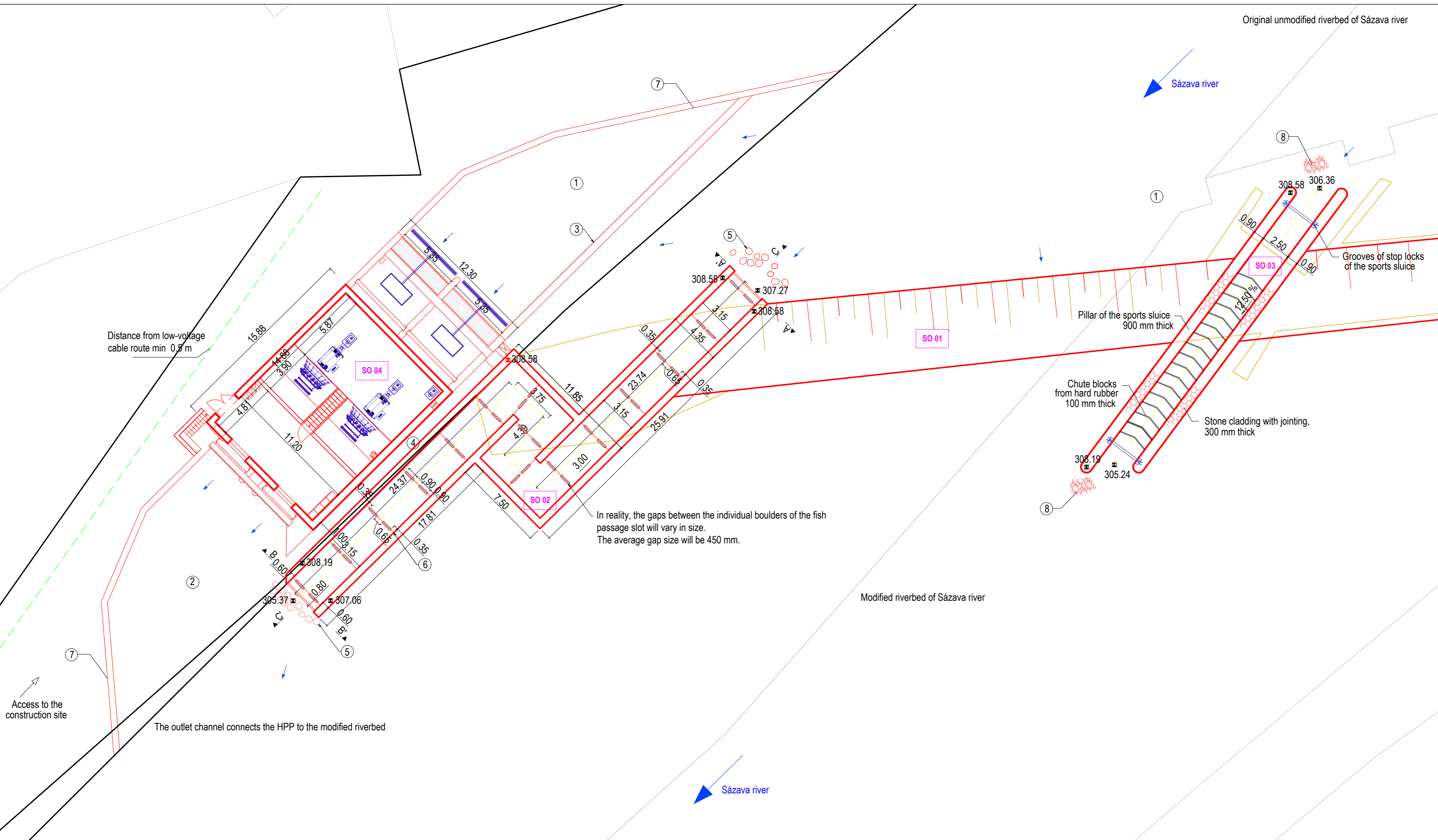
- No trees will be removed as part of the construction
- Construction site equipment
- Design of inlet and outlet channel
- Paved surface
- Original weir structure
- Parcel number

FIELD OF STUDY	DEPARTMENT	SUPERVISOR
SI - V	K142 - Hydraulic Structures	Ing. Miroslav Brouček, Ph.D.
YEAR	SUBJECT	STUDENT
6	Master Thesis	Marie Pecharová
PROJECT	MAZOUROV WEIR LAYOUT AND DESIGN PROPOSAL OF THE SMALL HPP	
DRAWING	LAYOUT - COORDINATION DRAWING	



FORMAT	A3
SCALE	1 : 1 000
DATE	6.1.2023
DRAWING NUMBER	C.3

Original unmodified riverbed of Sázava river



Distance from low-voltage cable route min 0.5 m

Access to the construction site

The outlet channel connects the HPP to the modified riverbed

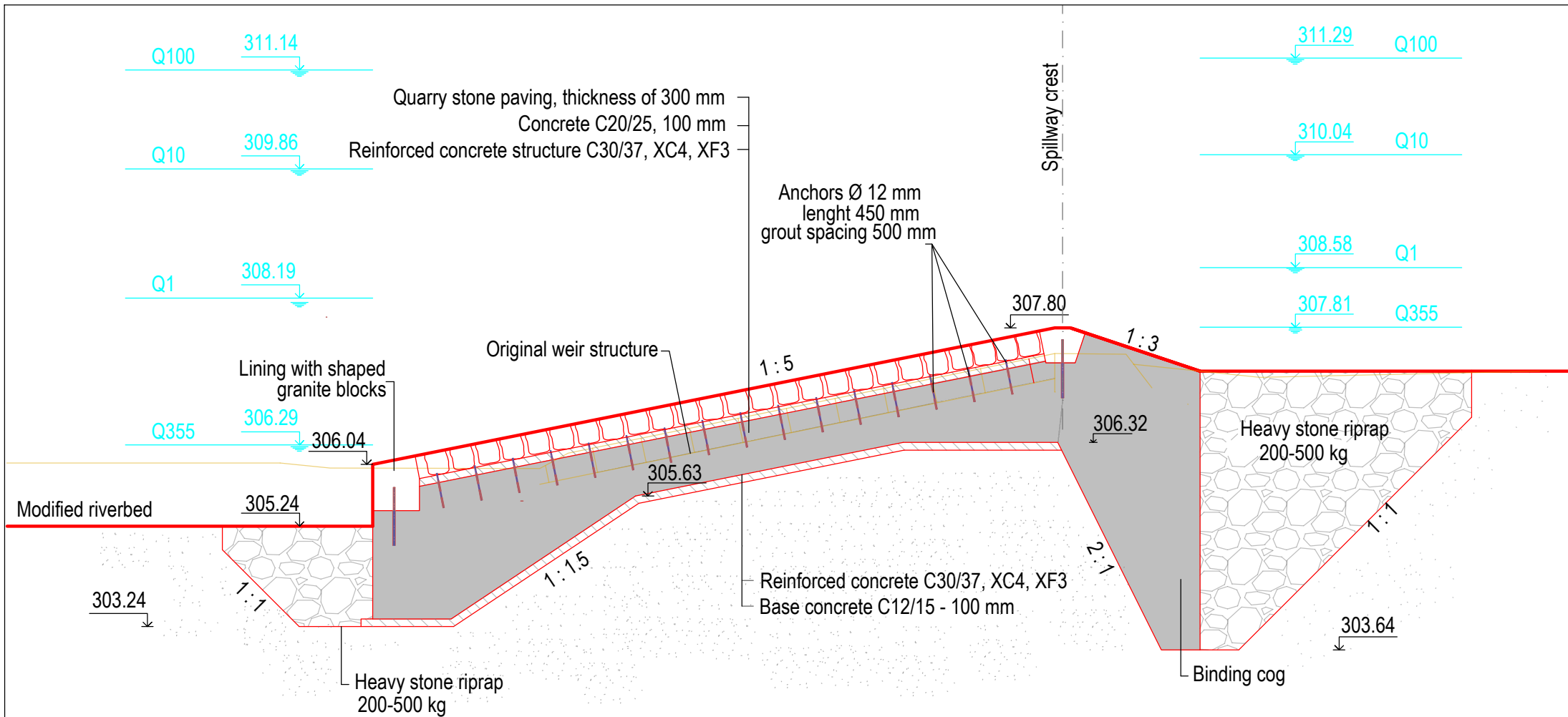
In reality, the gaps between the individual boulders of the fish passage slot will vary in size. The average gap size will be 450 mm.

LEGEND

- Cadastral boundaries
 - - - Low-voltage cable route
 - Existing weir structure
 - Technology
 - Newly designed hydraulic structures
 - - - Axis of fish passage and sports sluice
 - ▶ Flow direction
 - Plots of interest
- ① Inflow channel of small HPP
 - ② Outflow channel of small HPP
 - ③ Boom - coarse combs with footbridge
 - ④ Flushing channel
 - ⑤ Heavy stone backfill
 - ⑥ Fish passage dividers - slots
 - ⑦ Reinforced concrete walls of the inflow and outflow channel
 - ⑧ Heavy stone riprap, 200-500 kg

- SO 01 Reconstructed Solid Weir
- SO 02 Fish Passage
- SO 03 Sports Sluice
- SO 04 Small Hydropower Plant

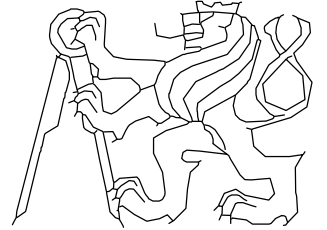
FIELD OF STUDY	DEPARTMENT	SUPERVISOR	
SI - V	K142 - Hydraulic Structures	Ing. Miroslav Brouček, Ph.D.	
YEAR	SUBJECT	STUDENT	
6	Master Thesis	Marie Pecharová	
PROJECT			
MAZOUROV WEIR LAYOUT AND DESIGN PROPOSAL OF THE SMALL HPP			
DRAWING			
LAYOUT OF THE PROPOSED DESIGN			
		FORMAT	A2
		SCALE	1 : 200
		DATE	6.1.2023
		DRAWING NUMBER	D.1



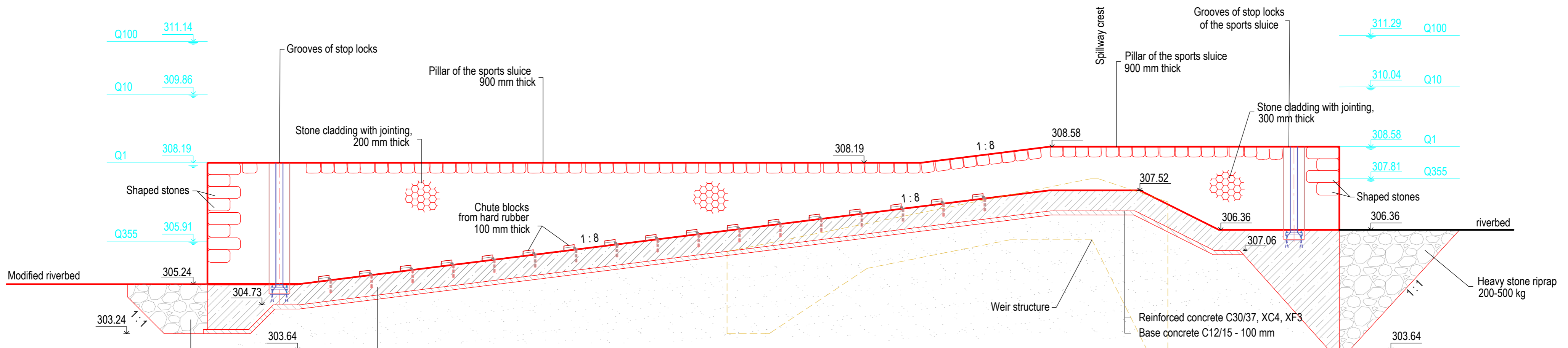
LEGEND

- Reconstructed weir structure
- Water levels
- Original weir structure and terrain
- Base concrete C12/15 MPa
- Reinforced concrete C30/37 MPa
- Rough crushed stone, heavy stone riprap, 200 - 500 kg

FIELD OF STUDY	DEPARTMENT	SUPERVISOR
SI - V	K142 - Hydraulic Structures	Ing. Miroslav Brouček, Ph.D.
YEAR	SUBJECT	STUDENT
6	Master Thesis	Marie Pecharová
PROJECT		
MAZOUROV WEIR LAYOUT AND DESIGN PROPOSAL OF THE SMALL HPP		
DRAWING		
GENERAL CROSS SECTION OF THE WEIR STRUCTURE		



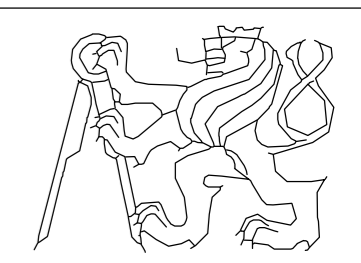
FORMAT	A4
SCALE	1 : 70
DATE	6.1.2023
DRAWING NUMBER	
D.2	



LEGEND

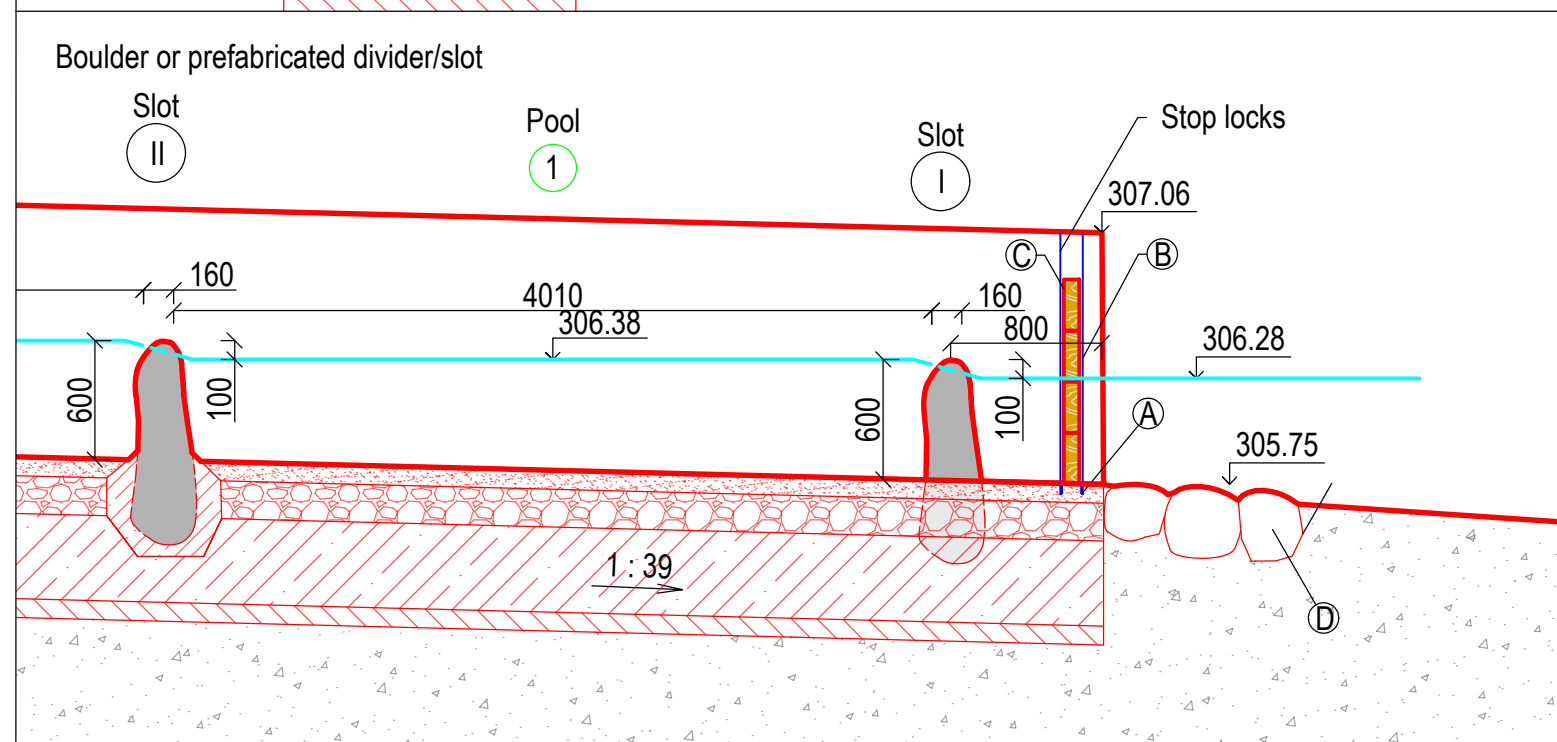
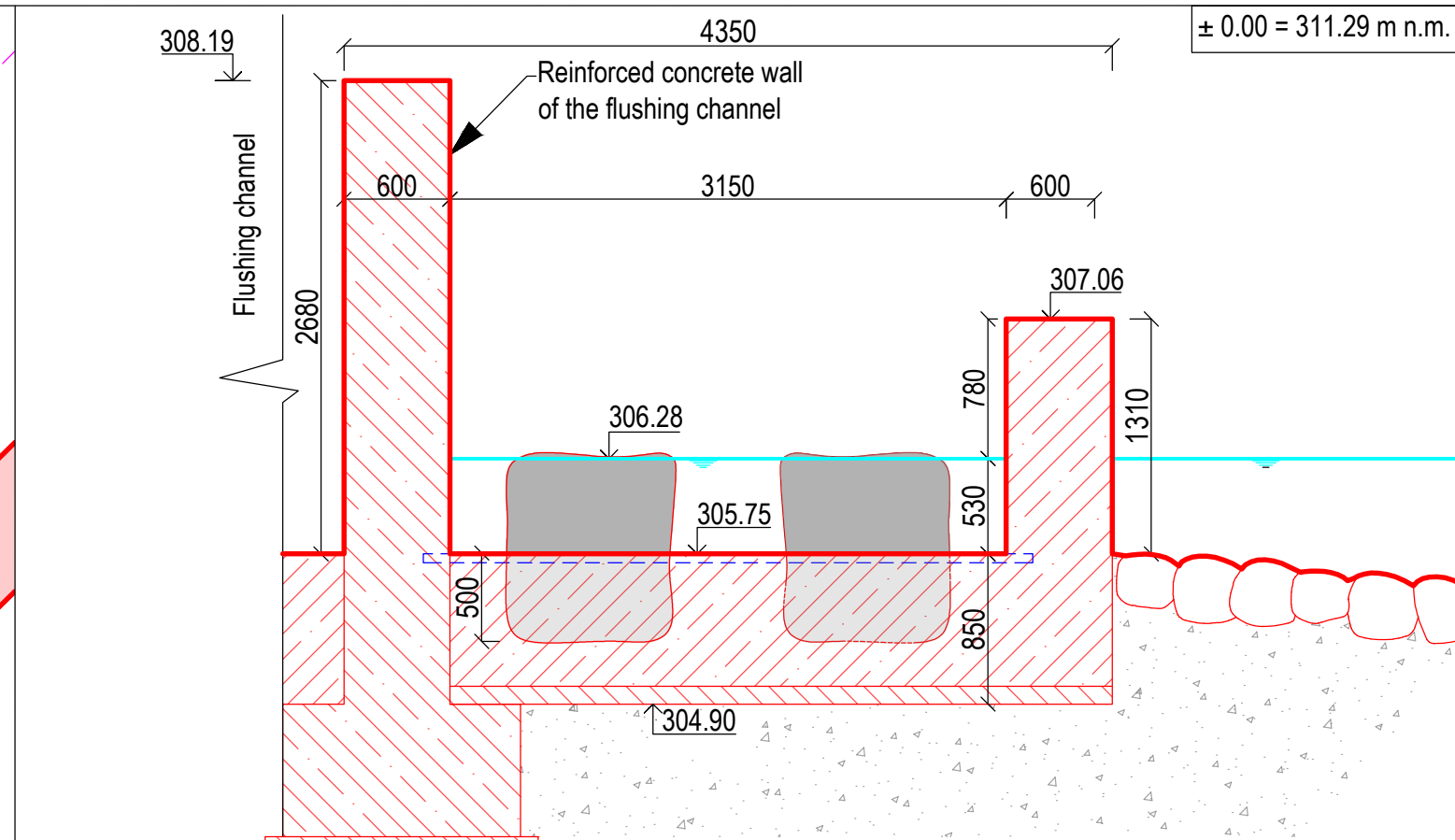
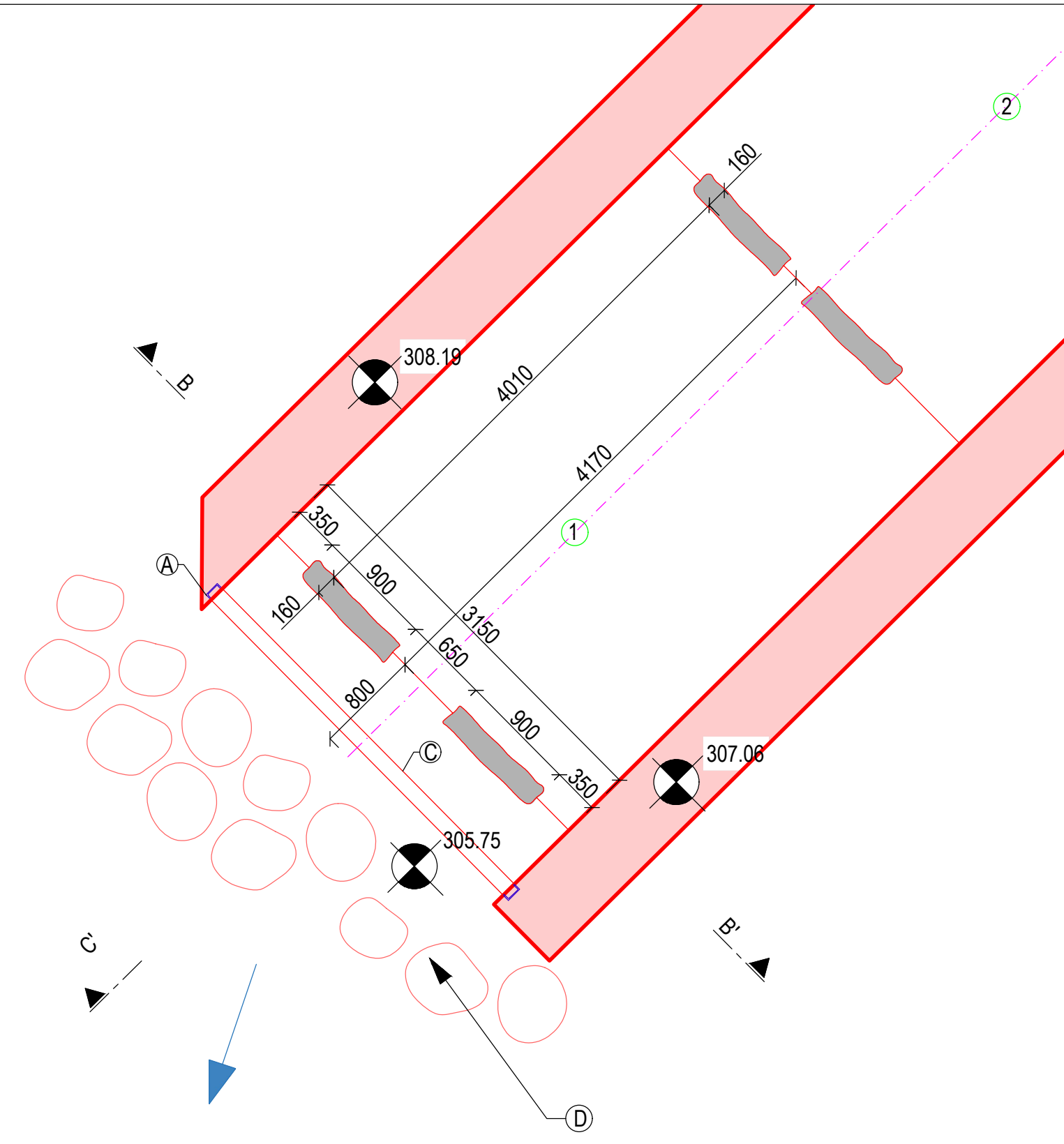
	Reconstructed weir structure		Rough crushed stone, heavy stone riprap, 200 - 500 kg
	Water levels		Compacted soil
	Original weir structure		Base concrete C12/15 MPa
			Reinforced concrete C30/37 MPa

FIELD OF STUDY	DEPARTMENT	SUPERVISOR
SI - V	K142 - Hydraulic Structures	Ing. Miroslav Brouček, Ph.D.
YEAR	SUBJECT	STUDENT
6	Master Thesis	Marie Pecharová



PROJECT	MAZOUROV WEIR LAYOUT AND DESIGN PROPOSAL OF THE SMALL HPP	
FORMAT	2A4	
SCALE	1 : 70	
DATE	6.1.2023	

DRAWING	GENERAL CROSS SECTION OF THE SPORTS SLUICE	DRAWING NUMBER	D.3
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LEGEND

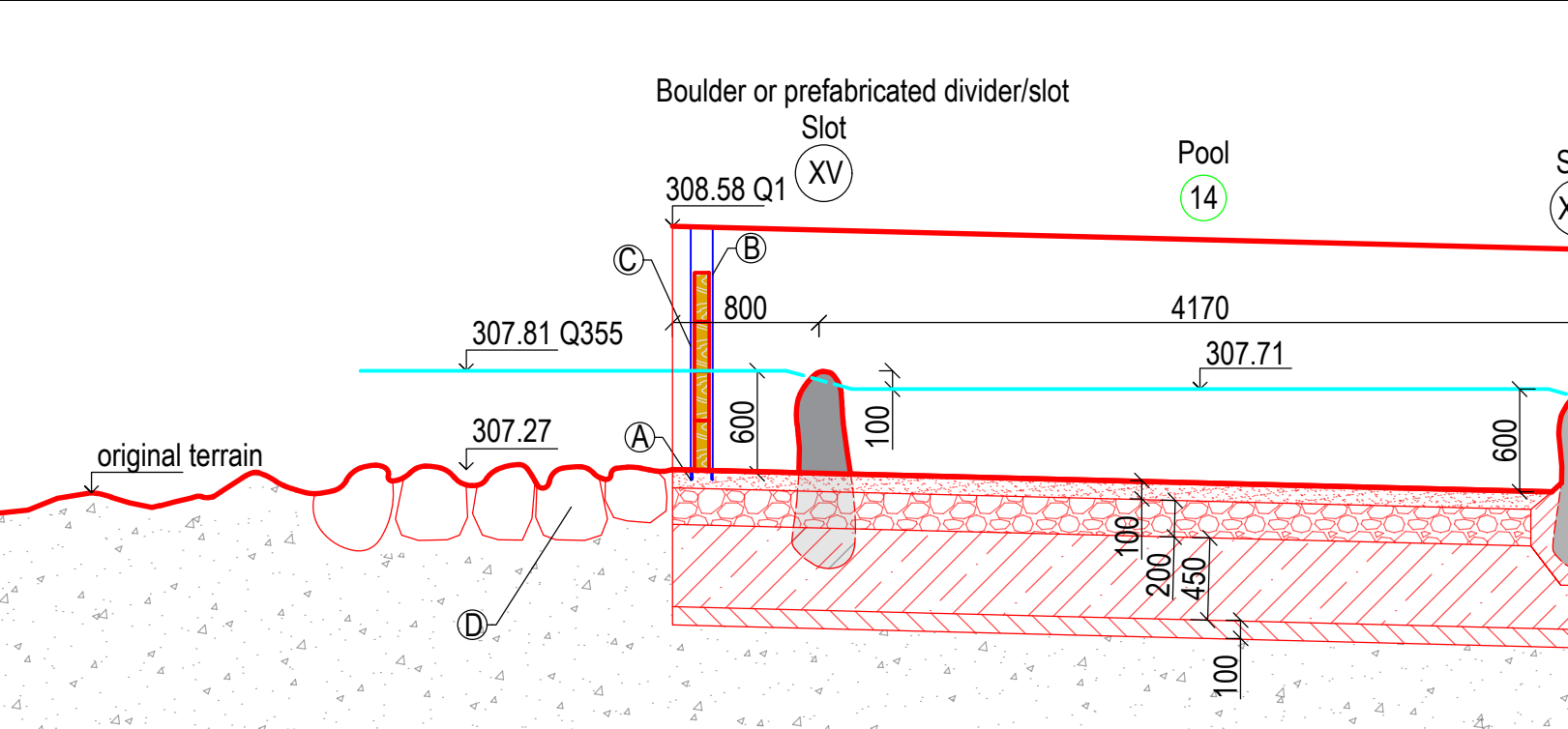
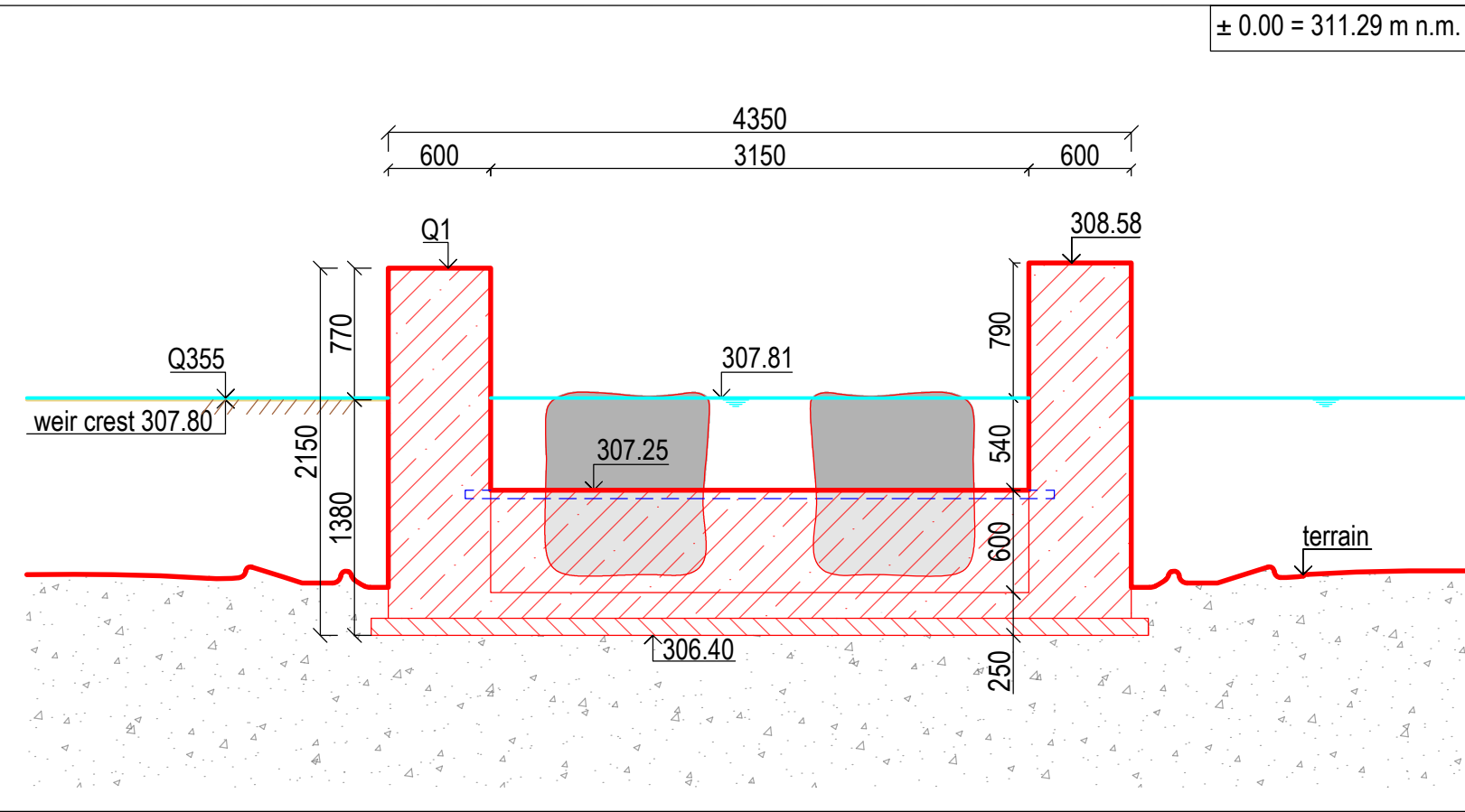
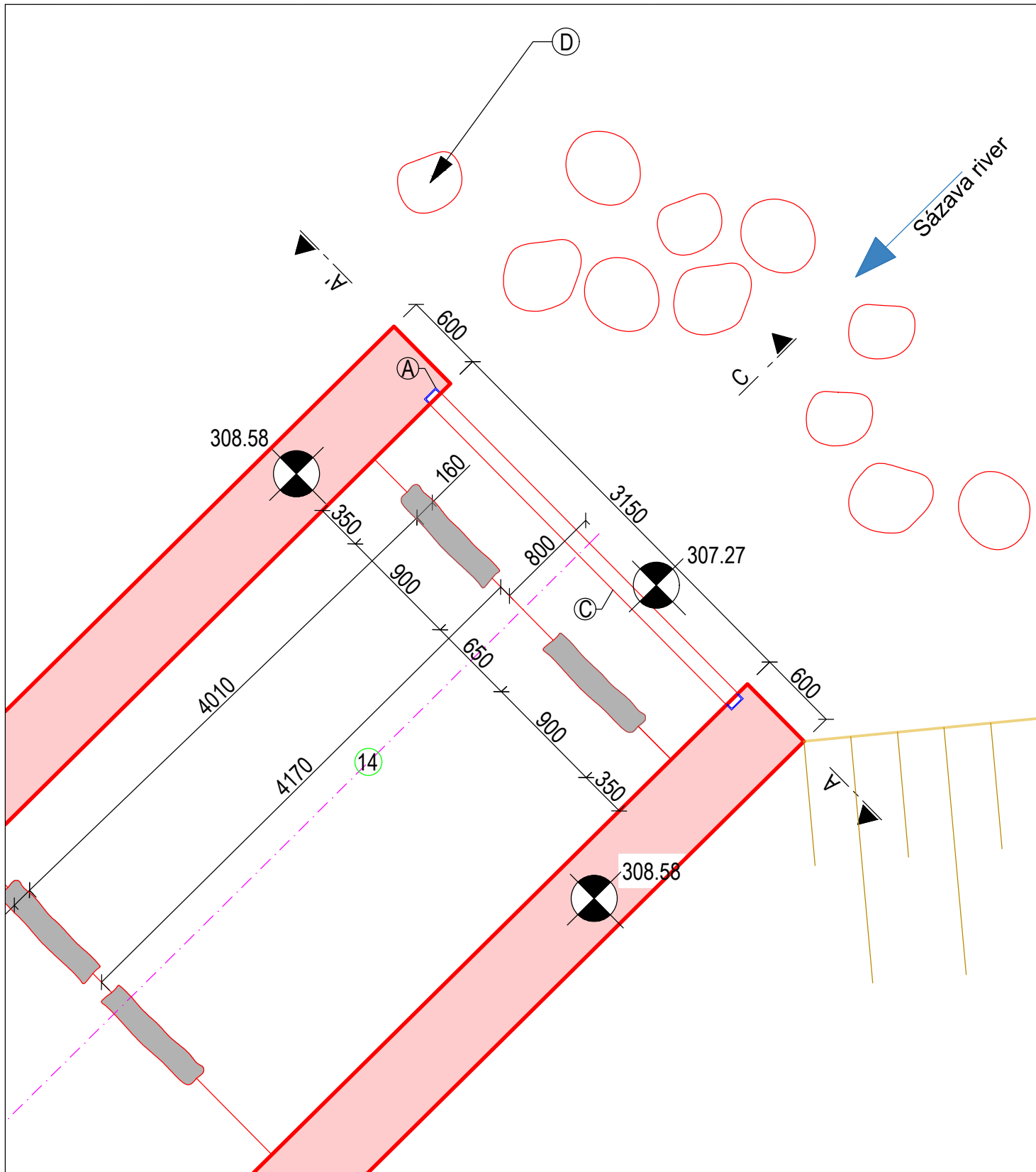
- Fish passage
- Water level (Q355)
- Steel technology
- - - Fish passage axis
- Existing weir structure
- Base concrete C12/15 MPa
- Original terrain
- Reinforced concrete C25/30 MPa

- Rough crushed stone. loosely fitted. fr. 50-150 mm. sandy gravel 50 cm thick
- Siltation by runoff and sediment
- (A) Beam U120. lenght 3.2 m. concrete anchoring mandrels
- (B) Profile U120. lenght 1.33 m. concrete anchoring mandrels. dridges for stop locks
- (C) Wooden planks. thickness 80 mm. larch wood of C14 grade
- (D) Heavy dry laid stone backfill. minimum 150 kg/piece. made of local stone
- ① Fish passage pool number

FIELD OF STUDY	DEPARTMENT	SUPERVISOR
SI - V	K142 - Hydraulic Structures	Ing. Miroslav Brouček. Ph.D.
YEAR	SUBJECT	STUDENT
6	Master Thesis	Marie Pecharová
PROJECT	MAZOUROV WEIR LAYOUT AND DESIGN PROPOSAL THE SMALL HPP	
DRAWING	ENTRANCE OF THE FISH PASSAGE	

FORMAT	A3
SCALE	1 : 40
DATE	6.1.2023
DRAWING NUMBER	D.4

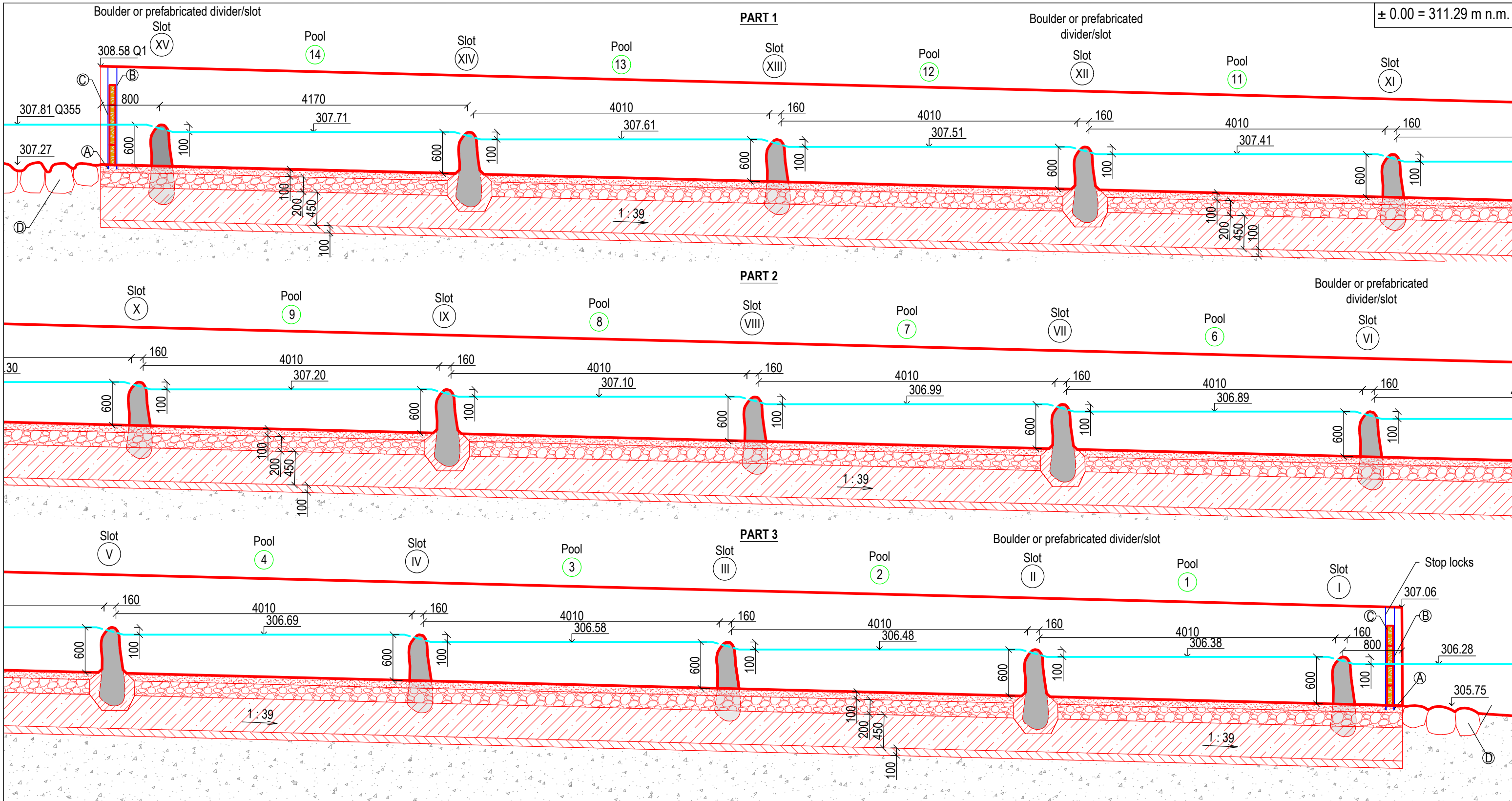
± 0.00 = 311.29 m n.m.



LEGEND	
	Fish passage
	Water level (Q355)
	Steel technology
	Fish passage axis
	Existing weir structure
	Base concrete C12/15 MPa
	Original terrain
	Reinforced concrete C25/30 MPa
	Rough crushed stone, loosely fitted, fr. 50-150 mm, sandy gravel 50 cm thick
	Siltation by runoff and sediment
(A)	Beam U120, length 3.2 m, concrete anchoring mandrels
(B)	Profile U120, length 1.33 m, concrete anchoring mandrels, dridges for stop locks
(C)	Wooden planks, thickness 80 mm, larch wood of C14 grade
(D)	Heavy dry laid stone backfill, minimum 150 kg/piece, made of local stone
(14)	Fish passage pool number

FIELD OF STUDY	DEPARTMENT	SUPERVISOR
SI - V	K142 - Hydraulic Structures	Ing. Miroslav Brouček, Ph.D.
YEAR	SUBJECT	STUDENT
6	Master Thesis	Marie Pecharová
PROJECT	MAZOUROV WEIR LAYOUT AND DESIGN PROPOSAL THE SMALL HPP	
DRAWING	OUTLET OF THE FISH PASSAGE	

FORMAT	A3
SCALE	1 : 40
DATE	6.1.2023
DRAWING NUMBER	D.5

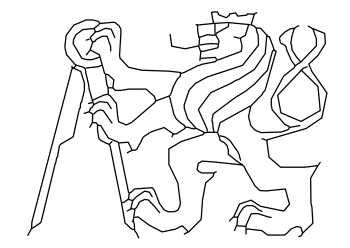


± 0.00 = 311.29 m n.m.

LEGEND

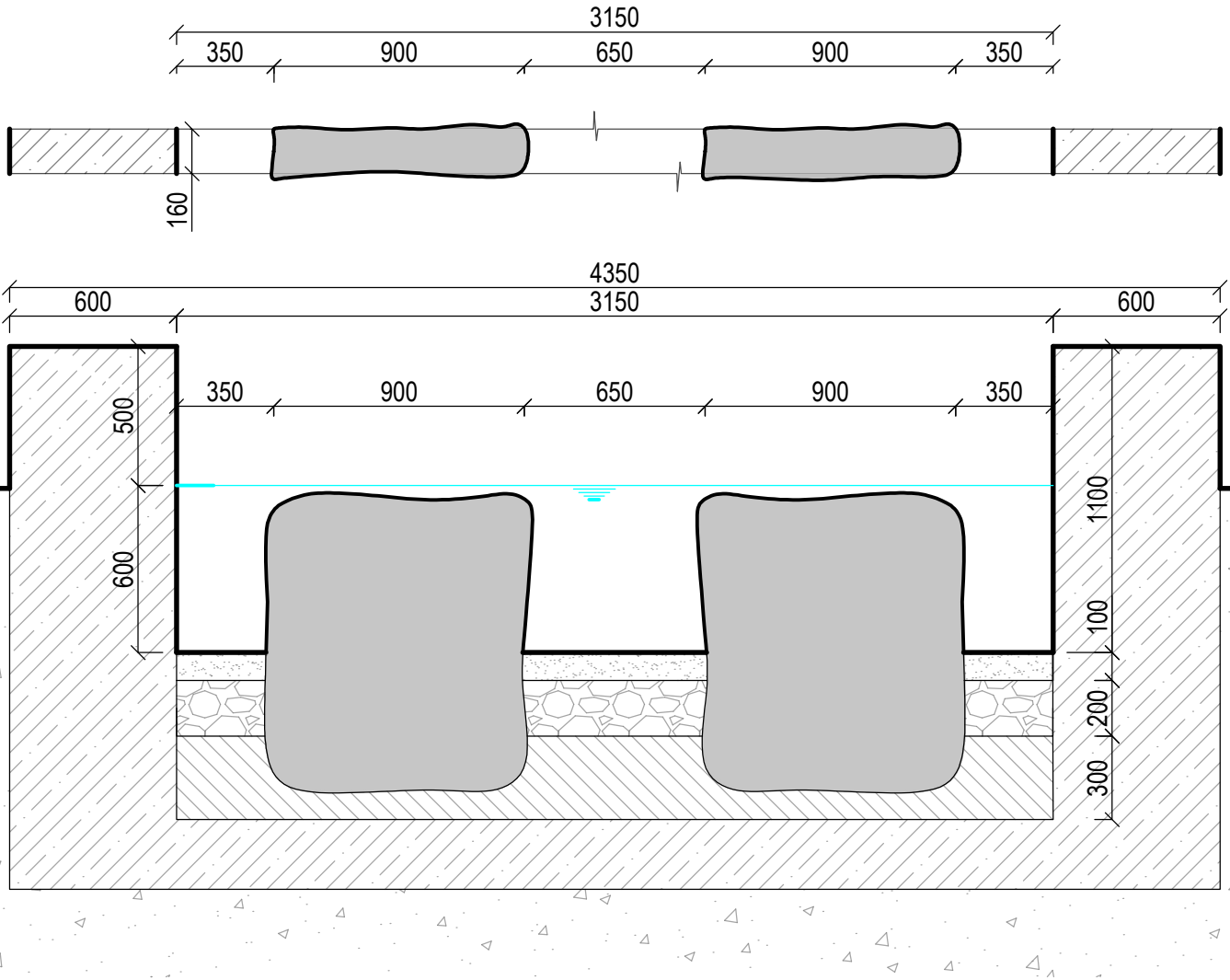
- Fish passage
- Water level (Q355)
- Steel technology
- Reinforced concrete C25/30 MPa
- Rough crushed stone. loosely fitted. fr. 50-150 mm. sandy gravel 50 cm thick
- Base concrete C12/15 MPa
- Original terrain
- Siltation by runoff and sediment
- (A) Beam U120. lenght 3.2 m. concrete anchoring mandrels
- (B) Profile U120. lenght 1.33 m. concrete anchoring mandrels. dridges for stop locks
- (C) Wooden planks. thickness 80 mm. larch wood of C14 grade
- (D) Heavy dry laid stone backfill. minimum 150 kg/piece. made of local stone
- 14 Fish passage pool number

FIELD OF STUDY	DEPARTMENT	SUPERVISOR
SI - V	K142 - Hydraulic Structures	Ing. Miroslav Brouček. Ph.D.
YEAR	SUBJECT	STUDENT
6	Master Thesis	Marie Pecharová
PROJECT	MAZOUROV WEIR LAYOUT AND DESIGN PROPOSAL THE SMALL HPP	
DRAWING	LONGITUDINAL PROFILE OF THE FISH PASSAGE	



FORMAT	A3
SCALE	1 : 50
DATE	6.1.2023
DRAWING NUMBER	D.6

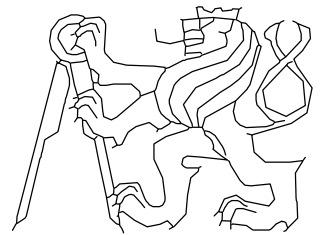
± 0.00 = 311.29 m n.m.



LEGEND

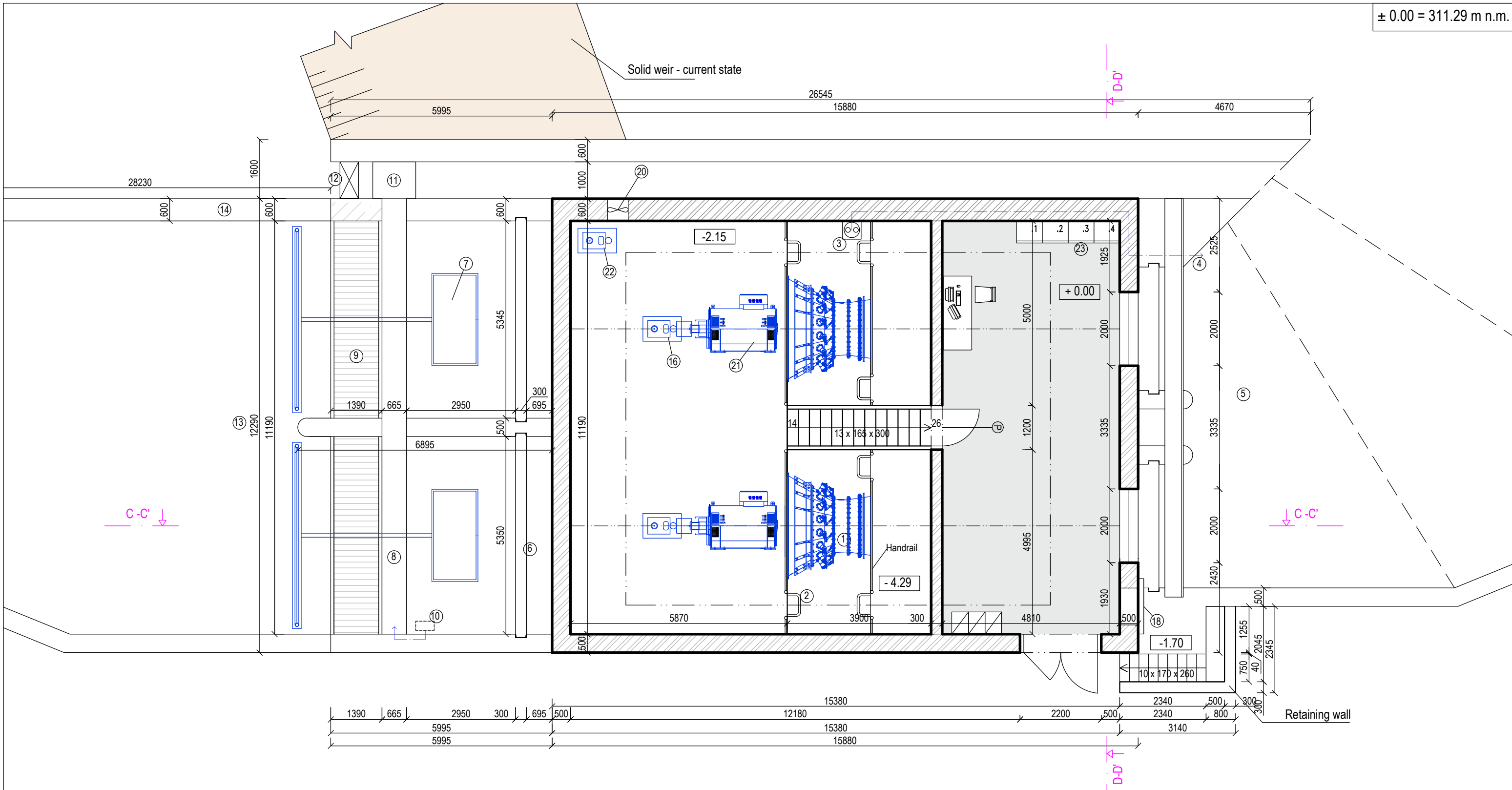
- Fish passage
- Water level (Q355)
- Original terrain
- Rough crushed stone. loosely fitted. fr. 50-150 mm. sandy gravel 50 cm thick
- Reinforced concrete C25/30 MPa
- Siltation by runoff and sediment
- Base concrete C12/15 MPa

FIELD OF STUDY	DEPARTMENT	SUPERVISOR
SI - V	K142 - Hydraulic Structures	Ing. Miroslav Brouček. Ph.D.
YEAR	SUBJECT	STUDENT
6	Master Thesis	Marie Pecharová



PROJECT	<p>MAZOUROV WEIR LAYOUT AND DESIGN PROPOSAL THE SMALL HPP</p>	
DRAWING	<p>GENERAL CROSS SECTION OF THE FISH PASSAGE</p>	

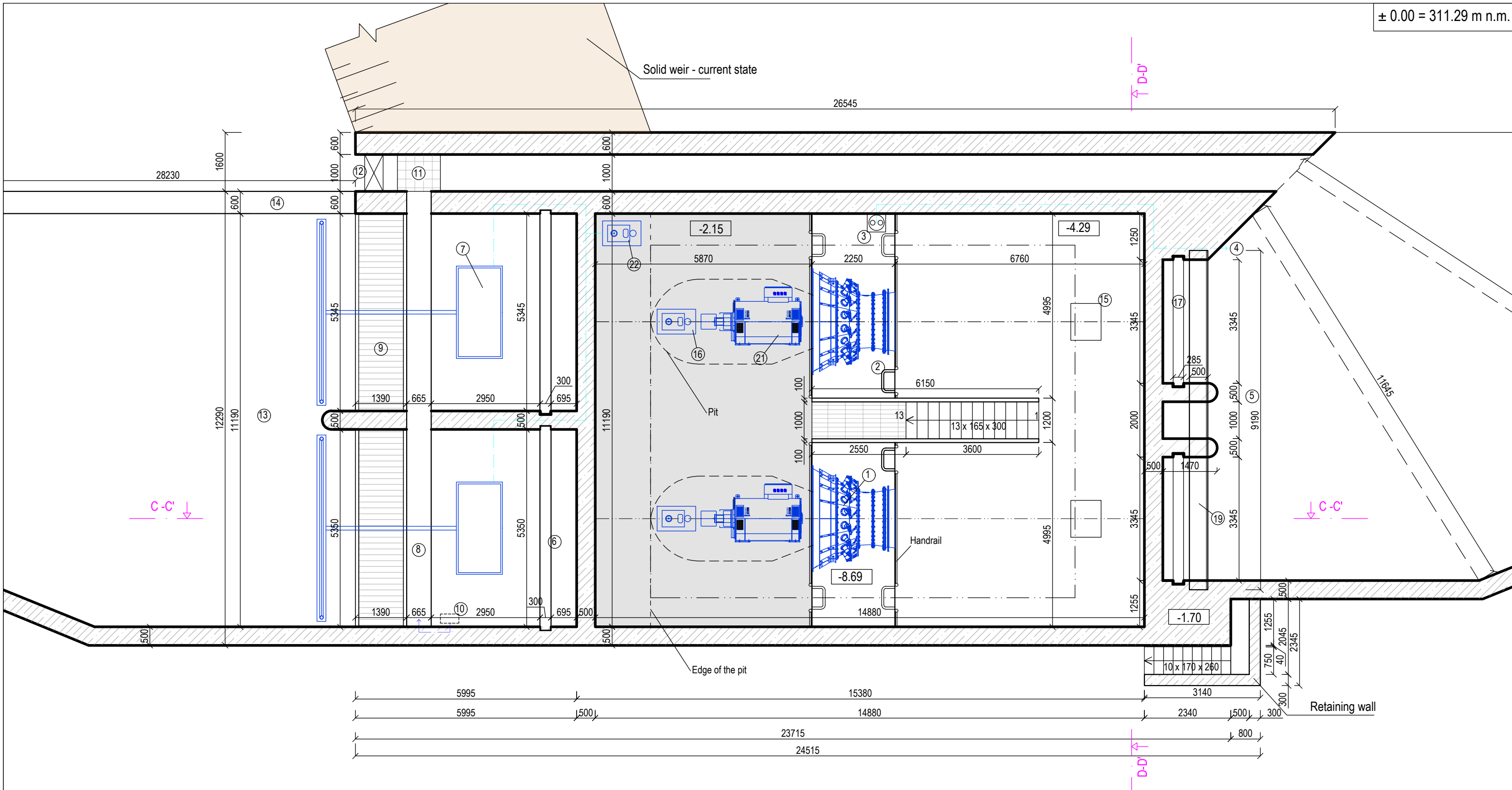
FORMAT	A3
SCALE	1 : 25
DATE	6.1.2023
DRAWING NUMBER	D.7



LEGEND	
	Technology
	Quotation marks
	Piping
	Hydraulic oil route
	Crane axis
	Removable part of the roof
①	Kaplan PIT turbine
②	Ladder
③	Sump with pump
④	Pipe outlet from the pumping sump
⑤	Outlet channel, connection to river bed
⑥	Sluice of the engine room
⑦	Hydraulic cleaning machine of screens
⑧	Automatic conveyor belt
⑨	Fine combs/screens, spacing 40 mm
⑩	Wall pump w. outlet to conveyor belt
⑪	Gridded basket for scrapes from combs
⑫	Sluice gate of the bypass channel
⑬	Inflow channel of the HPP
⑭	Burrowing wall with rough combs and footbridge
⑮	Watertight pressure hatch, PN 2.5
⑯	Hydraulic power unit of turbine
⑰	Manual sluice
⑱	Air handling device - suction ventilation
⑲	Handling gangway with handrail
⑳	Air handling device - fan
㉑	Generator
㉒	Hydraulic power unit of cleaning machines
㉓	Cabinet with electrical switchboards
	Masonry
	Reinforced concrete
	Current platform

FIELD OF STUDY	DEPARTMENT	SUPERVISOR
SI - V	K142 - Hydraulic Structures	Ing. Miroslav Brouček, Ph.D.
YEAR	SUBJECT	STUDENT
6	Master Thesis	Marie Pecharová
PROJECT	MAZOUROV WEIR LAYOUT AND DESIGN PROPOSAL OF THE SMALL HPP	
DRAWING	FLOOR PLAN OF ENGINE ROOM, FLOOR +0.000, A-A'	

FORMAT	A3
SCALE	1 : 100
DATE	6.1.2023
DRAWING NUMBER	D.8

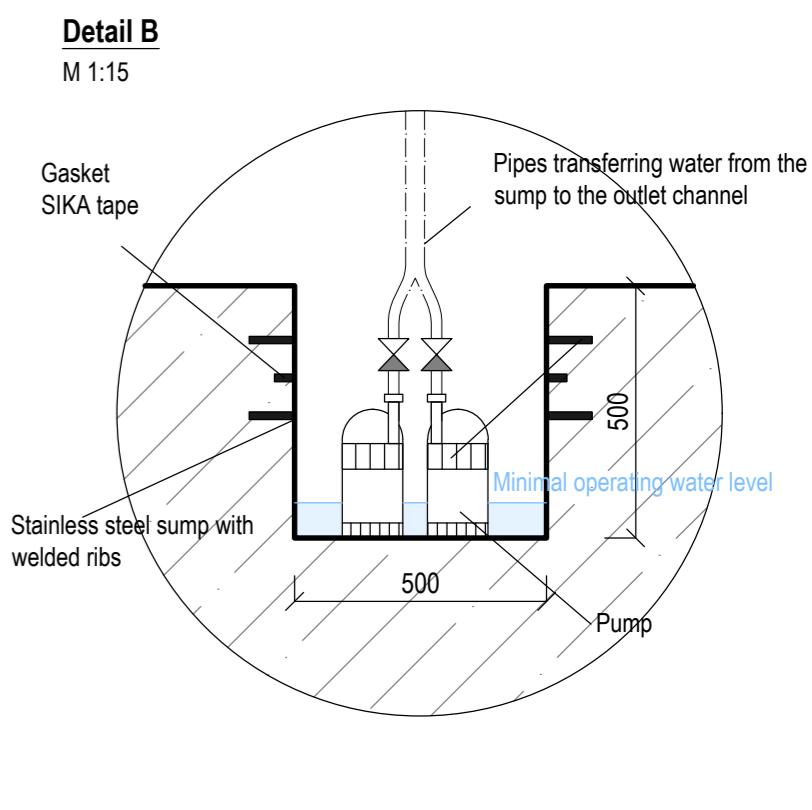
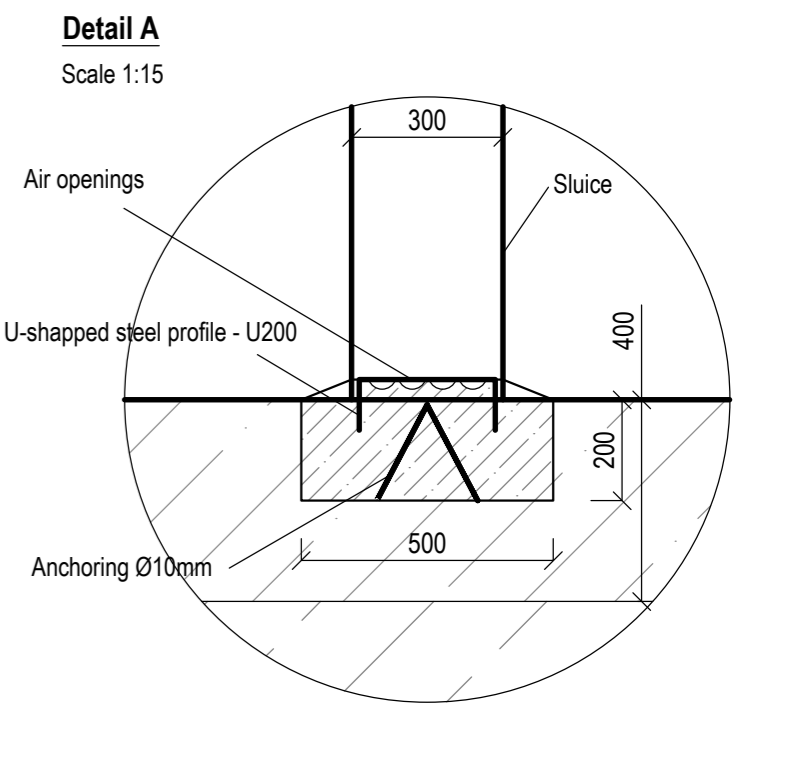
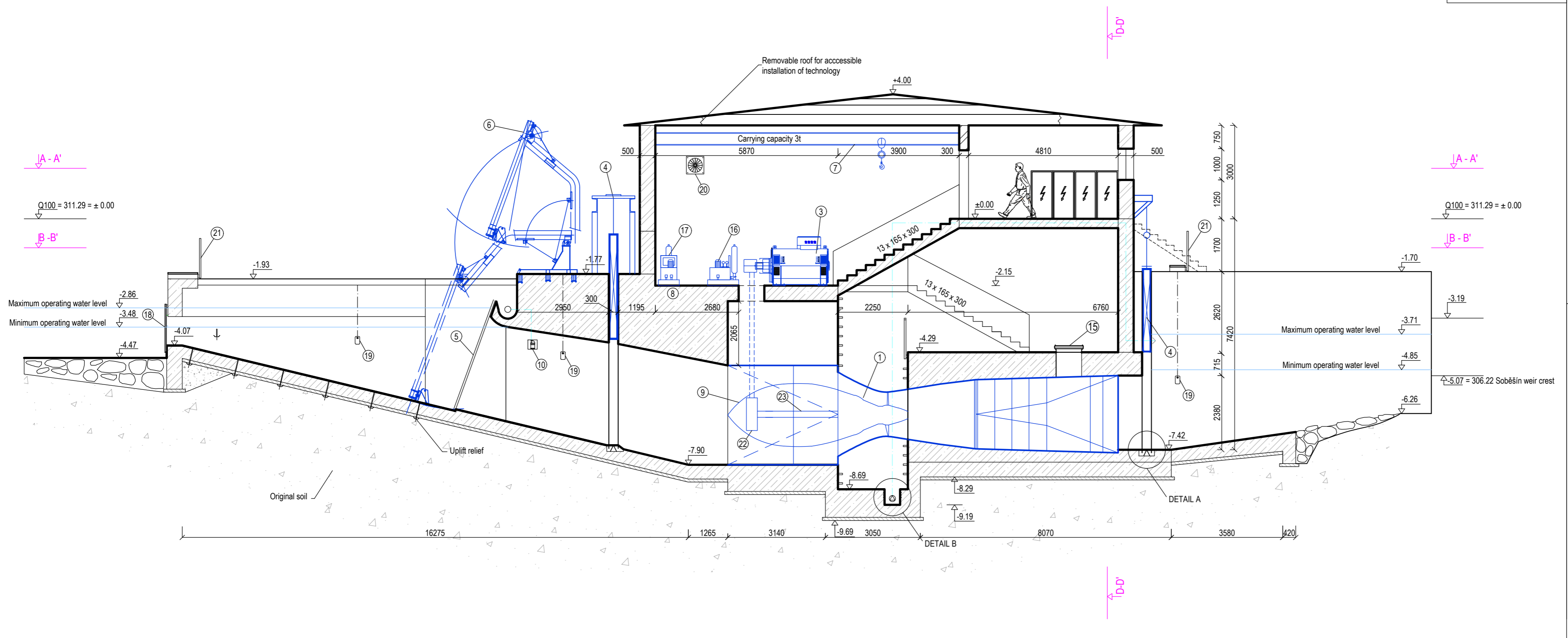


LEGEND		
	Technology	
	Quotation marks	
	Piping	
	Hydraulic oil route	
	Crane axis	
	Removable part of the roof	
①	Kaplan PIT turbine	
②	Ladder	
③	Sump with pump	
④	Pipe outlet from the pumping sump	
⑤	Outlet channel, connection to river bed	
⑥	Sluice of the engine room	
⑦	Hydraulic cleaning machine of screens	
⑧	Automatic conveyor belt	
⑨	Fine combs/screens, spacing 40 mm	
⑩	Wall pump w. outlet to conveyor belt	
⑪	Gridded basket for scrapes from combs	
⑫	Sluice of the bypass channel	
⑬	Inflow channel of the HPP	
⑭	Burrowing wall with rough combs and footbridge	
⑮	Watertight pressure hatch, PN 2.5	
⑯	Hydraulic power unit of turbine	
⑰	Manual sluice	
⑱	Air handling device - suction ventilation	
⑲	Handling gangway with handrail	
⑳	Air handling device - fan	
㉑	Generator	
㉒	Hydraulic power unit of cleaning machines	
㉓	Cabinet with electrical switchboards	
	Masonry	
	Reinforced concrete	
	Current platform	

FIELD OF STUDY	DEPARTMENT	SUPERVISOR
SI - V	K142 - Hydraulic Structures	Ing. Miroslav Brouček, Ph.D.
YEAR	SUBJECT	STUDENT
6	Master Thesis	Marie Pecharová
PROJECT	MAZOUROV WEIR LAYOUT AND DESIGN PROPOSAL OF THE SMALL HPP	
DRAWING	FLOOR PLAN OF ENGINE ROOM, FLOOR -2.150, B-B'	

FORMAT	2A4
SCALE	1 : 100
DATE	6.1.2023
DRAWING NUMBER	D.9

± 0.00 = 311.29 m n.m.



LEGENDA

- Technology of small HPP
 - - - Operating water levels
 - Water level at Q100
 - Engine room
 - Piping
 - Masonry
 - Reinforced concrete
 - Base concrete, thick. 100 cm
- ① Kaplan PIT turbine
 - ② Turbine shaft
 - ③ Generator
 - ④ Sluice - gate
 - ⑤ Fine-spacing screens
 - ⑥ Hydraulic cleaning machine of screens
 - ⑦ Overhead crane, carrying capacity of 5 t
 - ⑧ Waterproof ceiling plate
 - ⑨ Turbine's pit
 - ⑩ Wall water pump, water drainage into the bypass channel
 - ⑪
 - ⑫
 - ⑬
 - ⑭
 - ⑮ Watertight pressure hatch PN 2.5
 - ⑯ Hydraulic power unit of turbine
 - ⑰ Hydraulic power unit of cleaning machine of screens
 - ⑱ Coarse screens, spacing 20 cm
 - ⑲ Hydraulic pressure probe
 - ⑳ Air handling unit - fan
 - ㉑ Handling footbridge with handrail
 - ㉒ Belt pulley
 - ㉓ Shaft

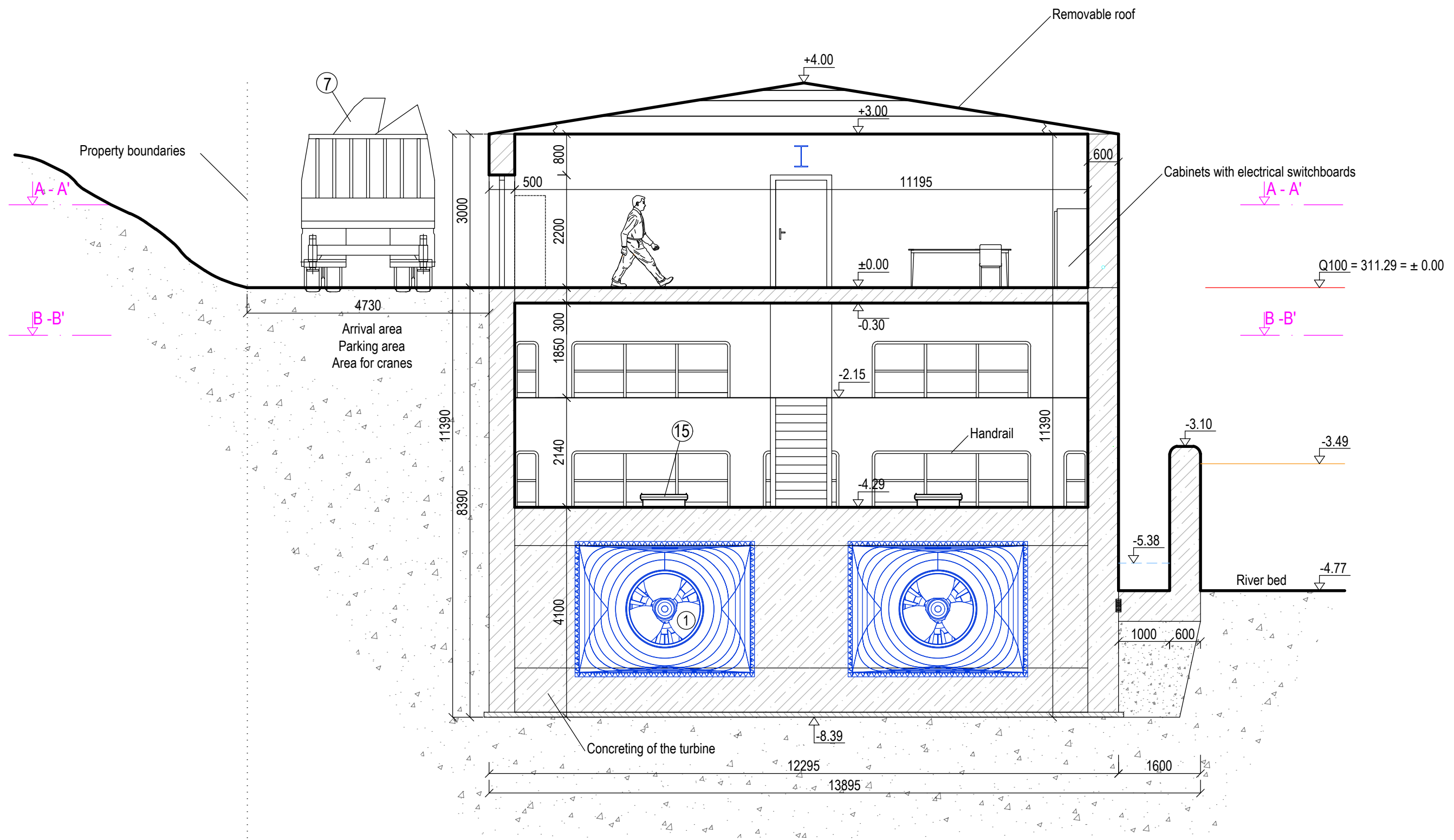
NOTES

Scrapes from the comb will be collected at the sorting device

Detail A: Threshold with reinforcement placed under the sluice

Detail B: Pumping sump with water drainage to the power plant outlet channel, exact plunge depth of the suction pipe end determined by the turbine supplier

FIELD OF STUDY	DEPARTMENT	SUPERVISOR	
SI - V	K142 - Hydraulic Structures	Ing. Miroslav Brouček, Ph.D.	
YEAR	SUBJECT	STUDENT	
6	Master Thesis	Marie Pecharová	
PROJECT			MAZOUROV WEIR LAYOUT AND DESIGN PROPOSAL OF THE SMALL HPP
DRAWING			
C-C' CROSS SECTION OF THE ENGINE ROOM OF SMALL HPP			FORMAT 2A4 SCALE 1 : 100 DATE 6.1.2023 DRAWING NUMBER D.10

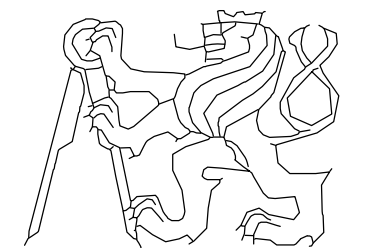


LEGEND

- Technology
- Water level Q355
- Water level Q100
- Engine room and bypass channel
- Level of the weir crest 307.81 m a.s.l.
- Piping

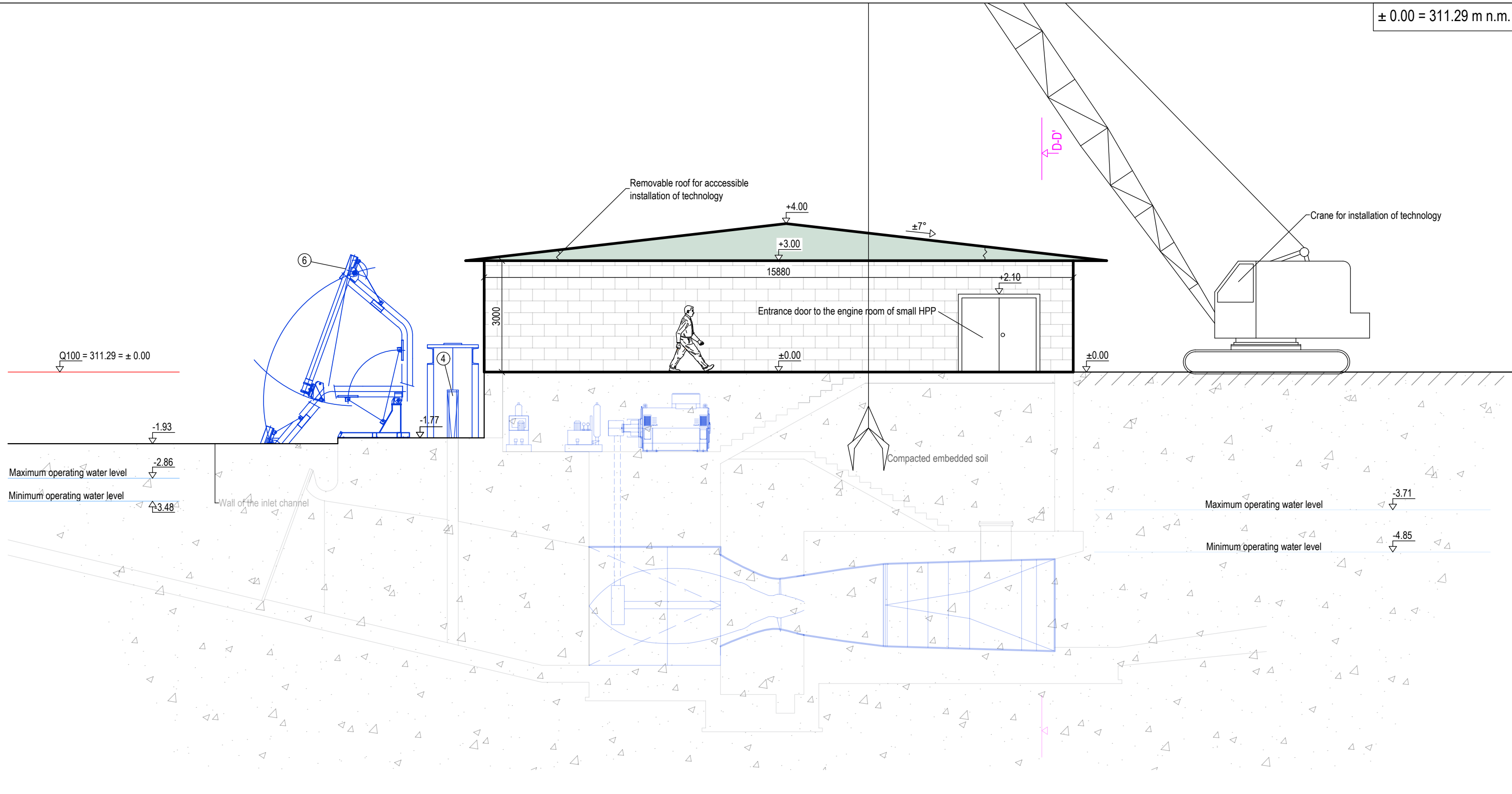
- ① Kaplan PIT turbine
- ⑦ Crane for installation of technology
- ⑮ Watertight pressure hatch PN 2.5

FIELD OF STUDY	DEPARTMENT	SUPERVISOR
SI - V	K142 - Hydraulic Structures	Ing. Miroslav Brouček, Ph.D.
YEAR	SUBJECT	STUDENT
6	Master Thesis	Marie Pecharová
PROJECT	MAZOUROV WEIR LAYOUT AND DESIGN PROPOSAL OF THE SMALL HPP	
DRAWING	D-D' CROSS SECTION OF THE ENGINE ROOM OF SMALL HPP	



FORMAT	A3
SCALE	1 : 80
DATE	6.1.2023
DRAWING NUMBER	D.11

± 0.00 = 311.29 m n.m.



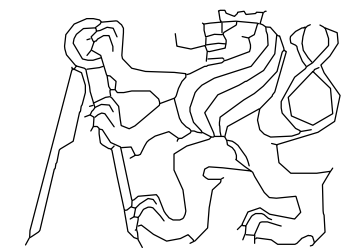
LEGEND

- Technology
- - - Operating water levels
- Water level Q100
- Engine room
- ④ Sluice gate
- ⑥ Hydraulic cleaning machine of the screens

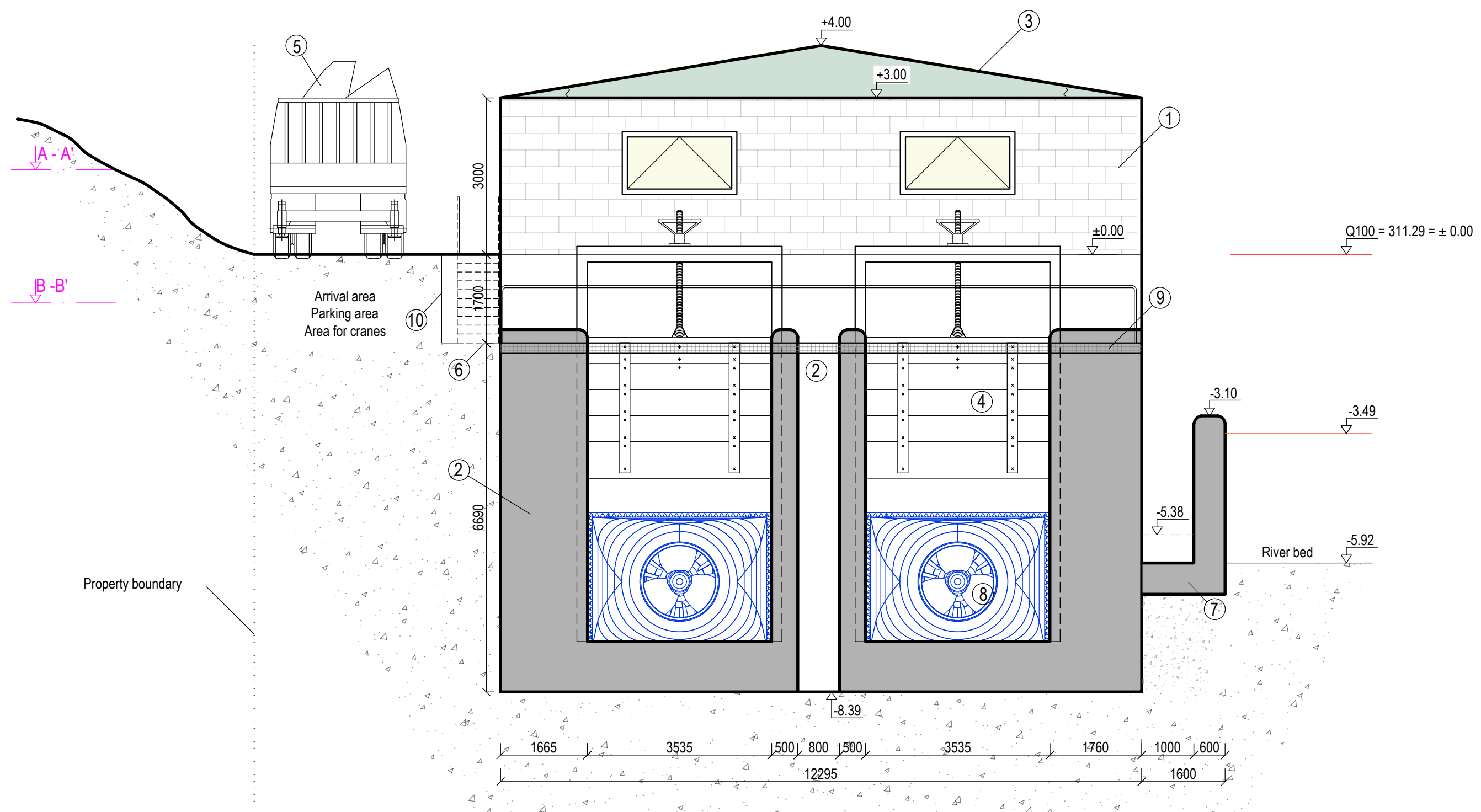
NOTES

- Scrapes from the comb will be collected at the sorting device
- Removable part of the room to unable installation of technology

FIELD OF STUDY	DEPARTMENT	SUPERVISOR
SI - V	K142 - Hydraulic Structures	Ing. Miroslav Brouček, Ph.D.
YEAR	SUBJECT	STUDENT
6	Master Thesis	Marie Pecharová
PROJECT	MAZOUROV WEIR LAYOUT AND DESIGN PROPOSAL OF THE SMALL HPP	
DRAWING	SIDE VIEW OF THE ENGINE ROOM OF SMALL HPP	



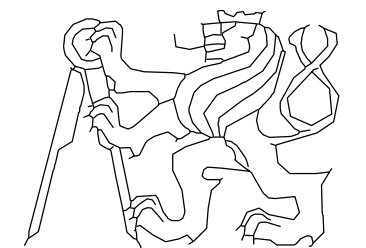
FORMAT	2A4
SCALE	1 : 100
DATE	6.1.2023
DRAWING NUMBER	D.12



LEGEND

- Technology
 - - - Water level Q355
 - Water level Q100
 - Engine room and bypass channel
 - Level of the weir crest 307.81 m a.s.l.
- ① Masonry made of concrete forms of structural formwork
 - ② Monolithic reinforced concrete structures
 - ③ Removable roof
 - ④ Sluice - gate
 - ⑤ Crane for technology instalation
 - ⑥ Outdoor staircase to the footbridge
 - ⑦ Reinforced concrete construction of the bypass channel
 - ⑧ Kaplan PIT turbine
 - ⑨ Service footbridge with handrail
 - ⑩ Retaining wall

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YEAR	SUBJECT	STUDENT
6	Master Thesis	Marie Pecharová
PROJECT		
MAZOUROV WEIR LAYOUT AND DESIGN PROPOSAL OF THE SMALL HPP		
DRAWING		
BACK VIEW OF THE ENGINE ROOM OF SMALL HPP		



FORMAT	2A4
SCALE	1 : 80
DATE	6.1.2023
DRAWING NUMBER	D.13