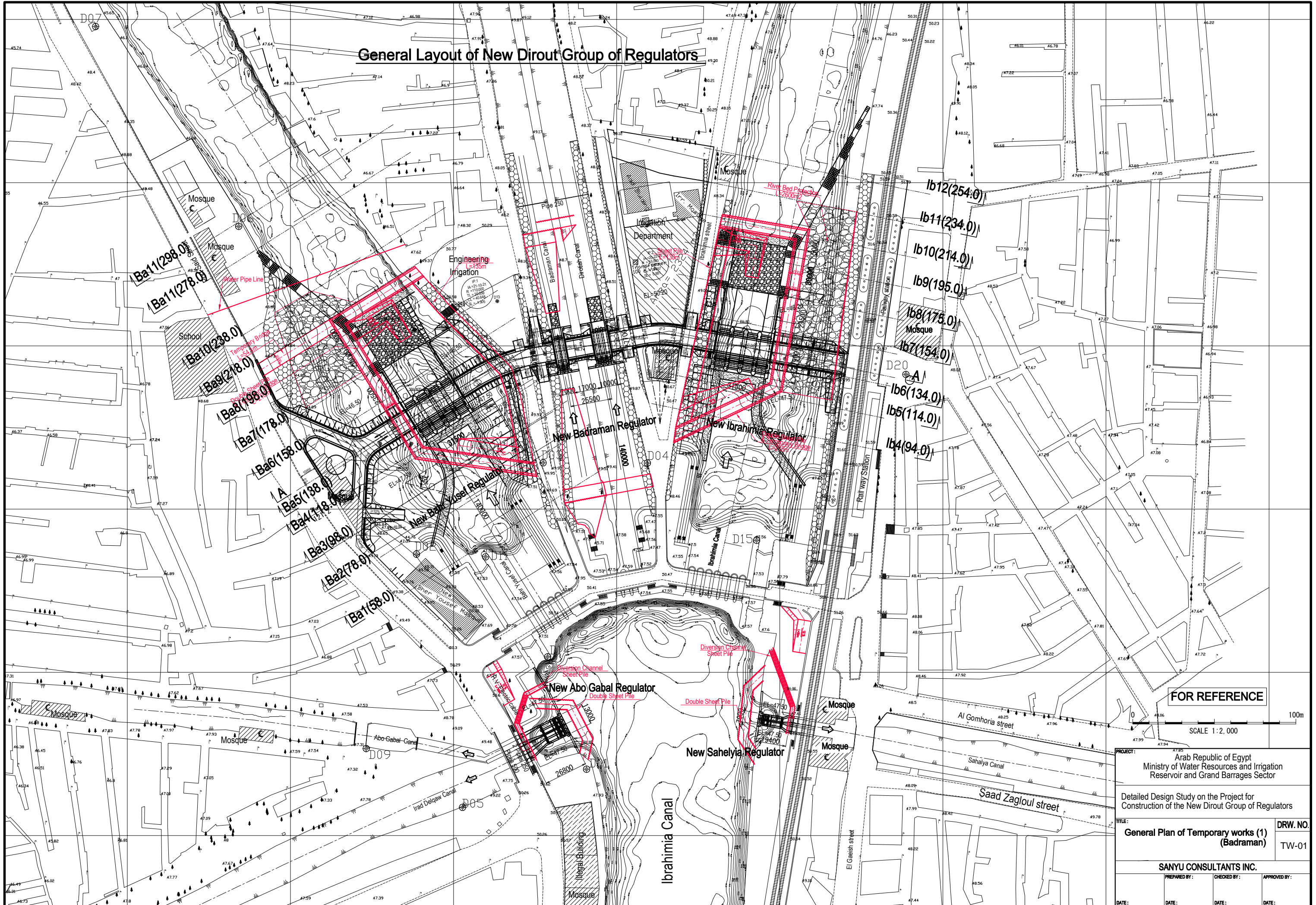


PART VI TEMPORARY WORKS

General Layout of New Dirout Group of Regulators

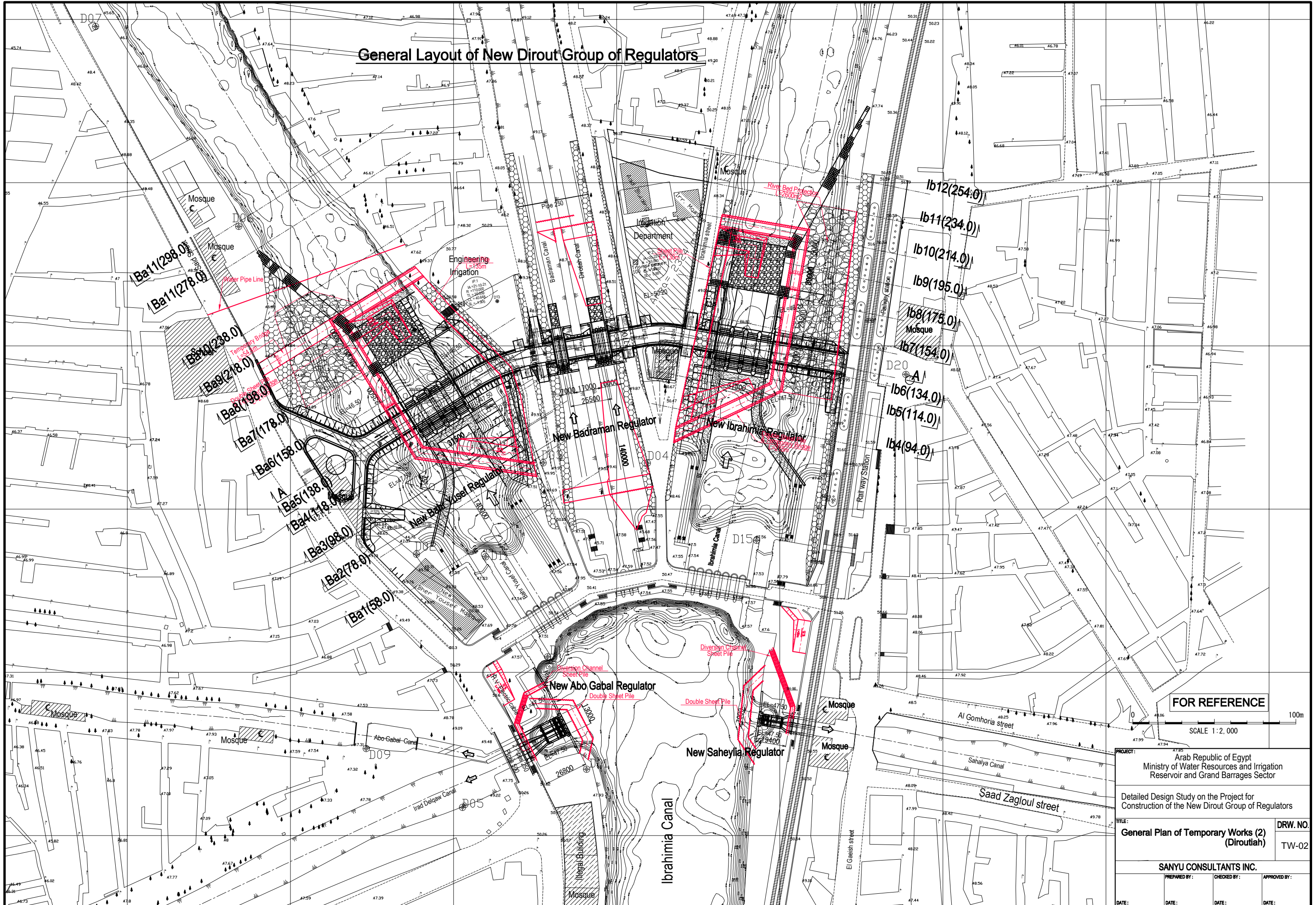


FOR REFERENCE

SCALE 1 : 2,000

PROJECT: Arab Republic of Egypt Ministry of Water Resources and Irrigation Reservoir and Grand Barrages Sector		
Detailed Design Study on the Project for Construction of the New Dirout Group of Regulators		
TITLE: General Plan of Temporary works (1) (Badraman)		DRW. NO. TW-01
SANYU CONSULTANTS INC.		
PREPARED BY:	CHECKED BY:	APPROVED BY:
DATE:	DATE:	DATE:

General Layout of New Dirout Group of Regulators

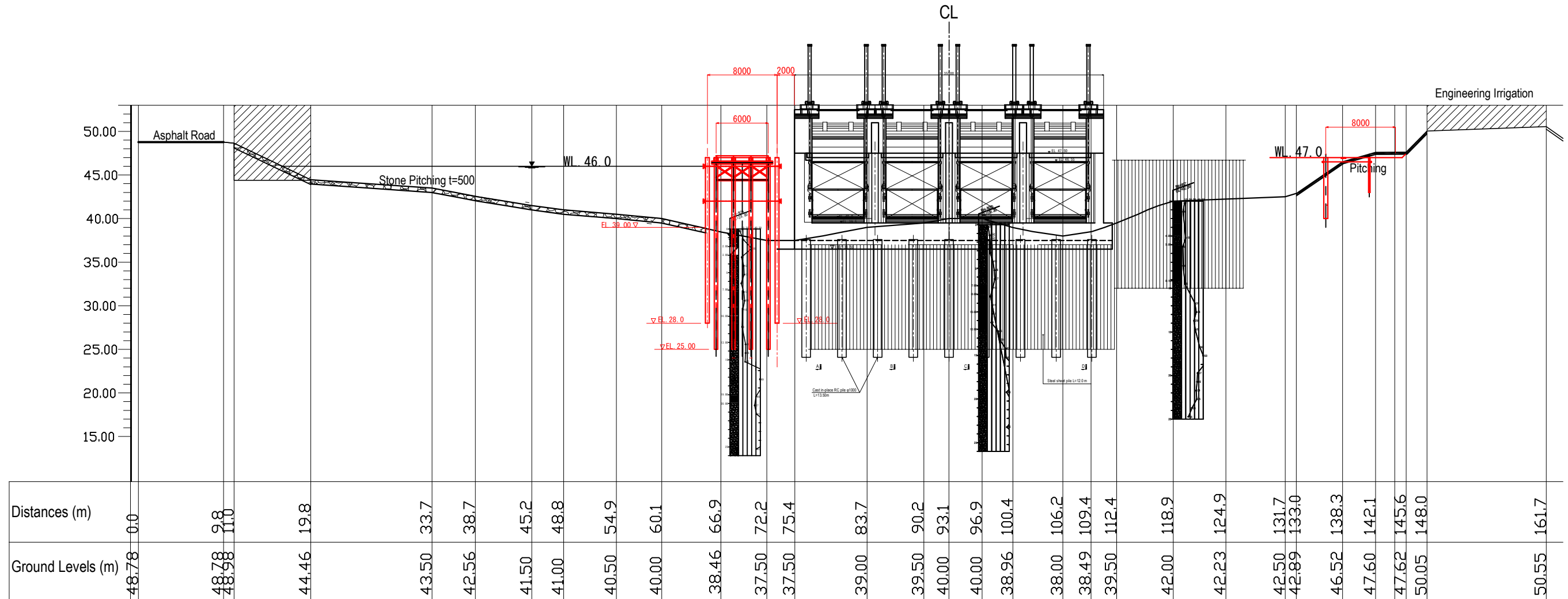


FOR REFERENCE

SCALE 1:2,000

PROJECT: Arab Republic of Egypt Ministry of Water Resources and Irrigation Reservoir and Grand Barrages Sector		
Detailed Design Study on the Project for Construction of the New Dirout Group of Regulators		
TITLE: General Plan of Temporary Works (2) (Diroutiah)		DRW. NO. TW-02
SANYU CONSULTANTS INC.		
PREPARED BY:	CHECKED BY:	APPROVED BY:
DATE:	DATE:	DATE:

Bahr Yusef Canal



Cross Section No A (at 140 m from regulator)

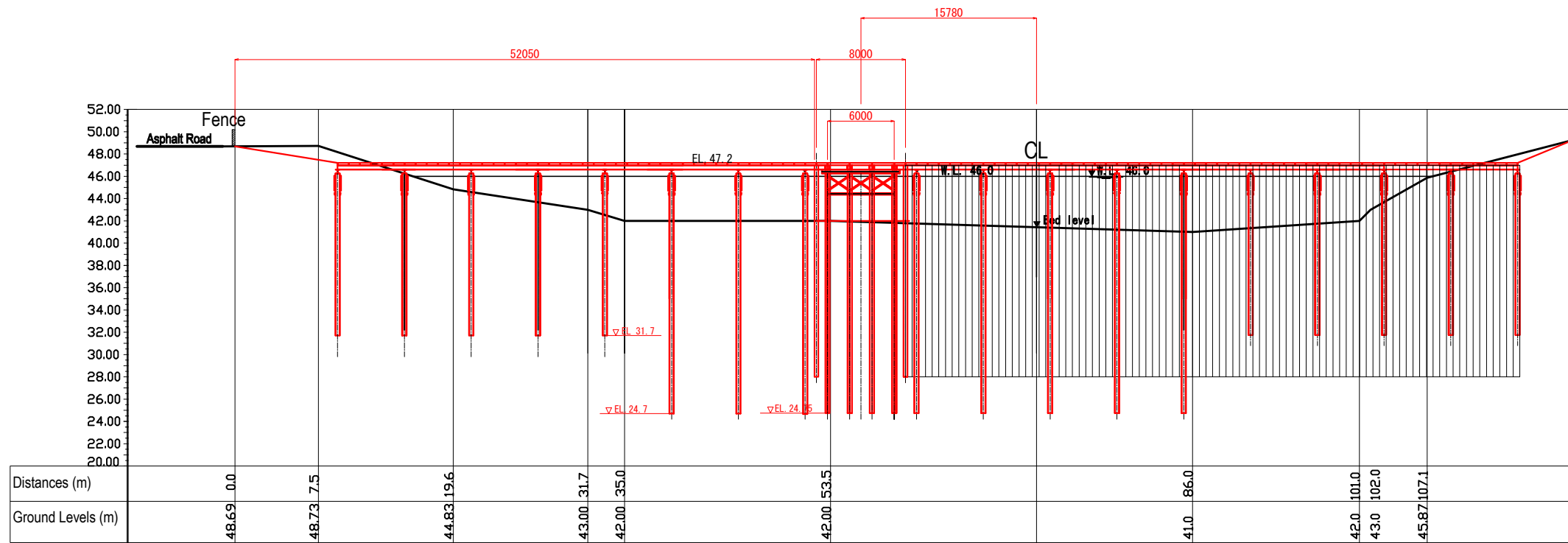
SCALE 1:500

FOR REFERENCE

PROJECT:			
Arab Republic of Egypt Ministry of Water Resources and Irrigation Reservoir and Grand Barrages Sector			
Detailed Design Study on the Project for Construction of the New Dirout Group of Regulators			
TITLE:			DRW. NO.
Typical Cross Section of Bahr Yusef			TW-03
SANYU CONSULTANTS INC.			
PREPARED BY:	CHECKED BY:	APPROVED BY:	
DATE:	DATE:	DATE:	DATE:

Cross Section of Temporary Bridge (Bahr Yusef Cross Section 213.75)

SCALE 1:500

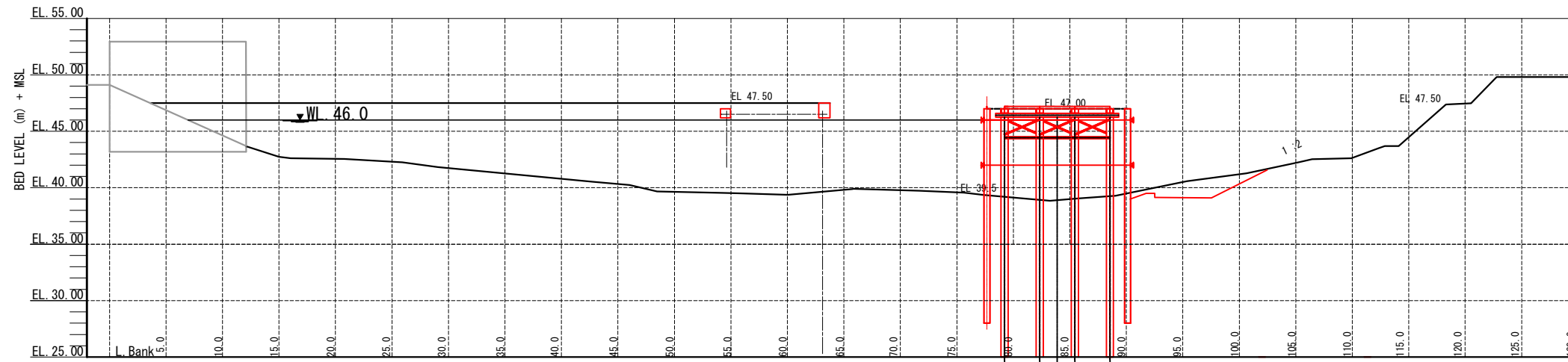


FOR REFERENCE

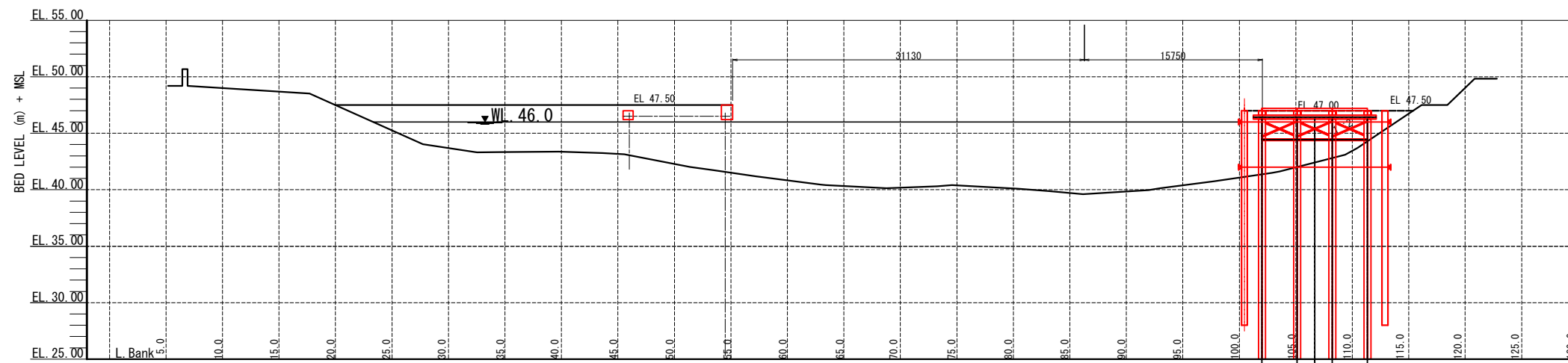
PROJECT: Arab Republic of Egypt Ministry of Water Resources and Irrigation Reservoir and Grand Barrages Sector			
Detailed Design Study on the Project for Construction of the New Dirout Group of Regulators			
TITLE: Temporary Bridge of Cross Section at 213.75 of Bahr Yusef			DRW. NO. TW-04
SANYU CONSULTANTS INC.			
PREPARED BY: DATE:	CHECKED BY: DATE:	APPROVED BY: DATE:	DATE:

Ba3 (98.0)

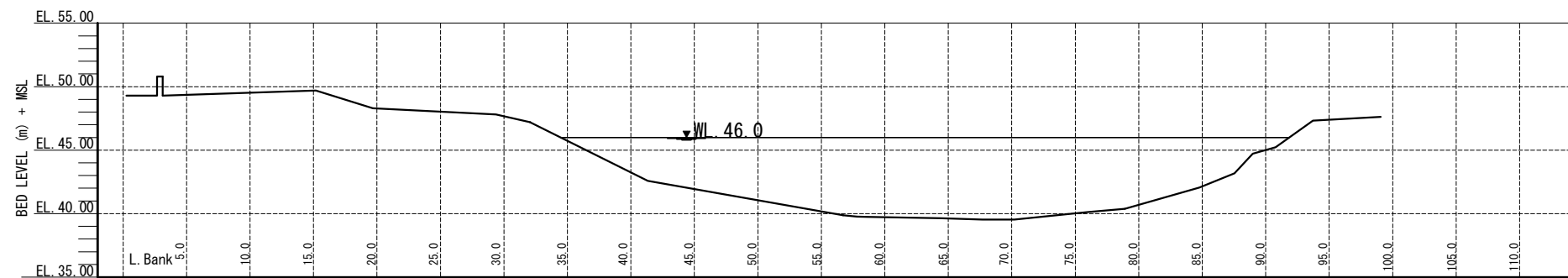
SCALE 1:500



Ba2 (78.0)



Ba1 (58.0)



FOR REFERENCE

PROJECT: Arab Republic of Egypt
Ministry of Water Resources and Irrigation
Reservoir and Grand Barrages Sector

Detailed Design Study on the Project for
Construction of the New Dirout Group of Regulators

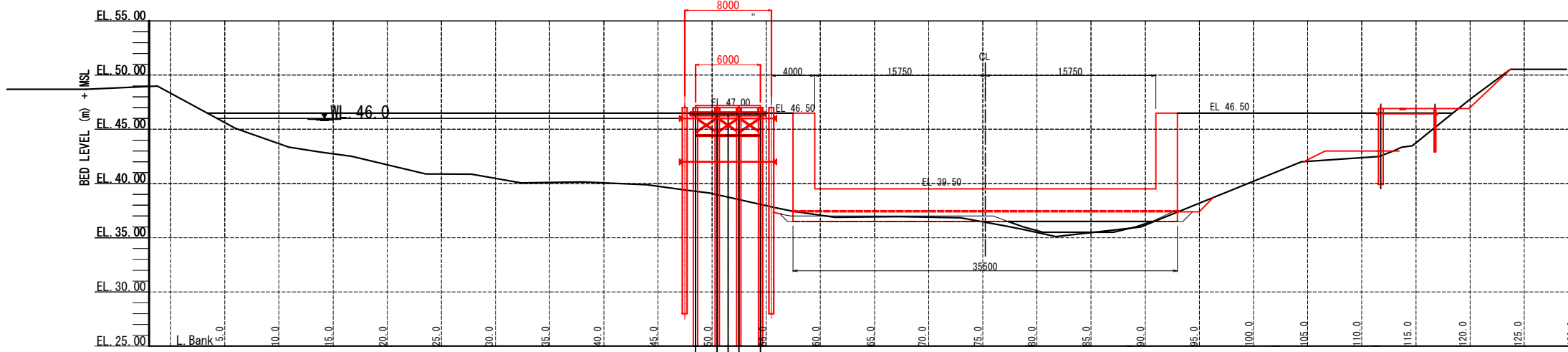
TITLE: Cross Section of Bahr Yusef (1) DRW:NO: TW-05

SANYU CONSULTANTS INC.

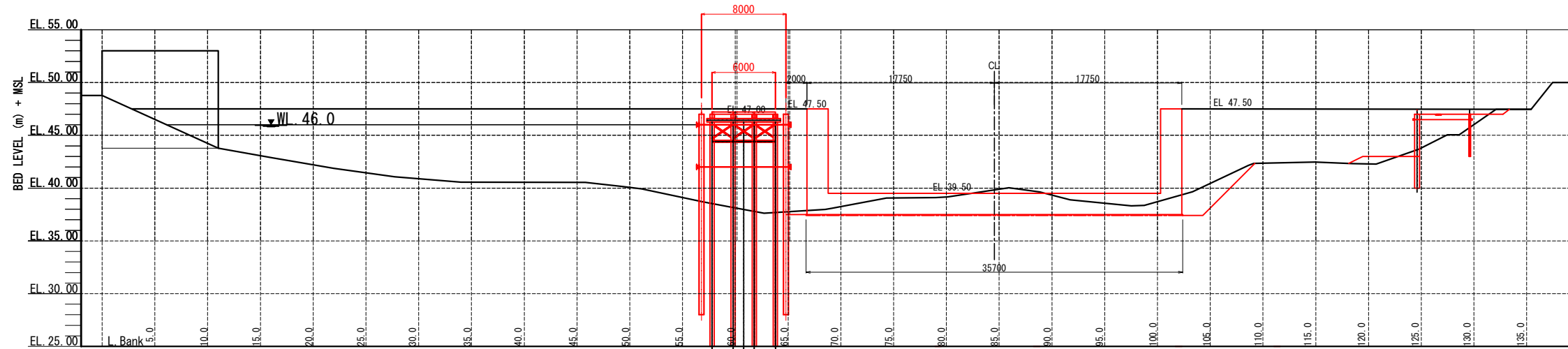
PREPARED BY:	CHECKED BY:	APPROVED BY:
DATE:	DATE:	DATE:

Ba6 (158.0)

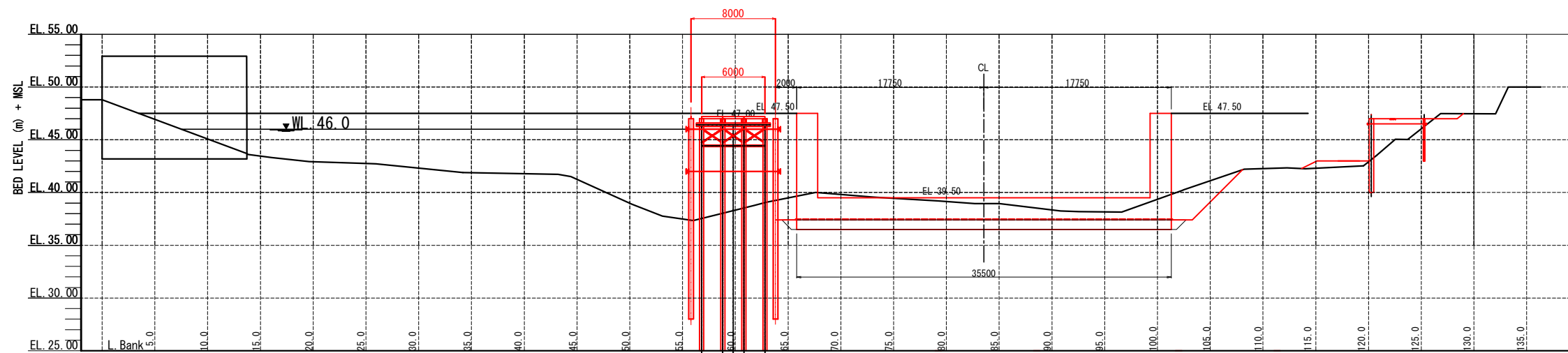
SCALE 1:500



Ba5 (138.0)



Ba4 (118.0)



FOR REFERENCE

PROJECT: Arab Republic of Egypt
Ministry of Water Resources and Irrigation
Reservoir and Grand Barrages Sector

Detailed Design Study on the Project for
Construction of the New Dirout Group of Regulators

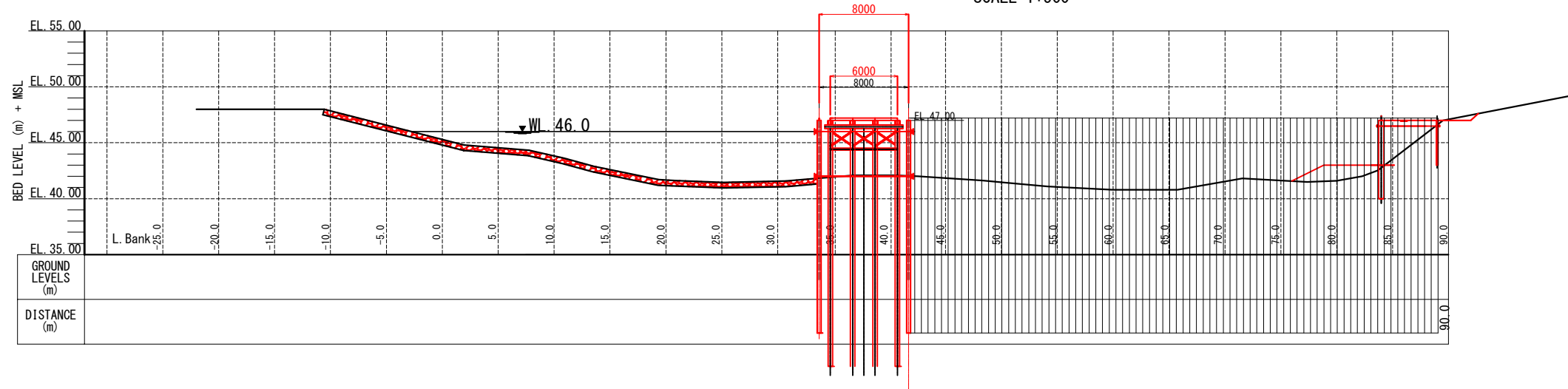
TITLE: Cross Section of Bahr Yusef (2) DRW:NO: TW-06

SANYU CONSULTANTS INC.

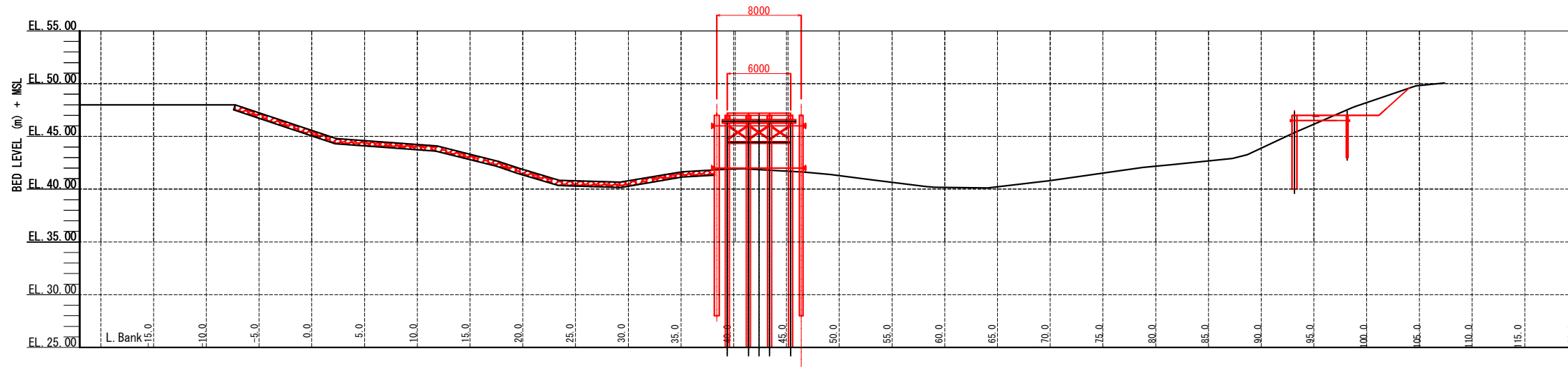
PREPARED BY:	CHECKED BY:	APPROVED BY:
DATE:	DATE:	DATE:

Ba9 (218.0)

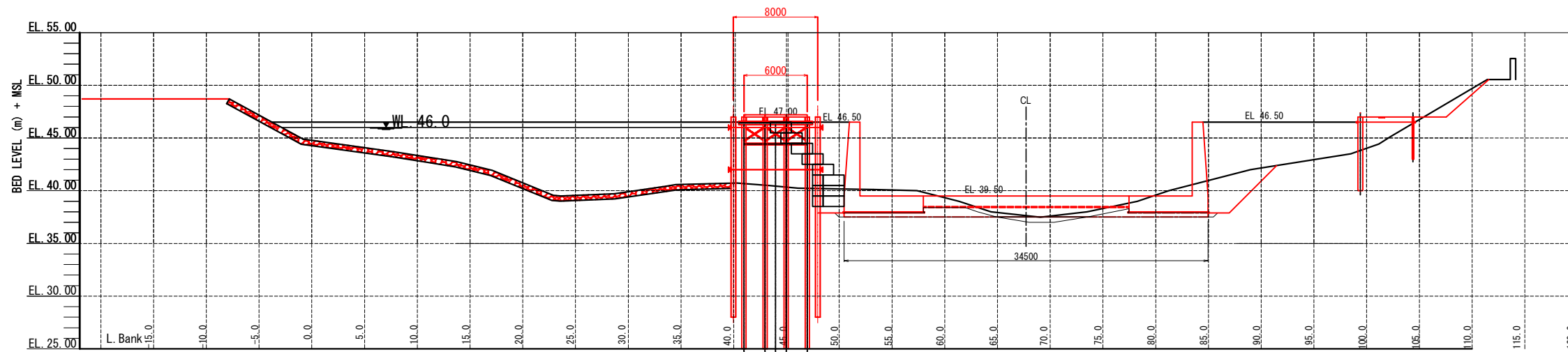
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Ba8 (198.0)



Ba7 (178.0)



FOR REFERENCE

PROJECT: Arab Republic of Egypt
Ministry of Water Resources and Irrigation
Reservoir and Grand Barrages Sector

Detailed Design Study on the Project for
Construction of the New Dirout Group of Regulators

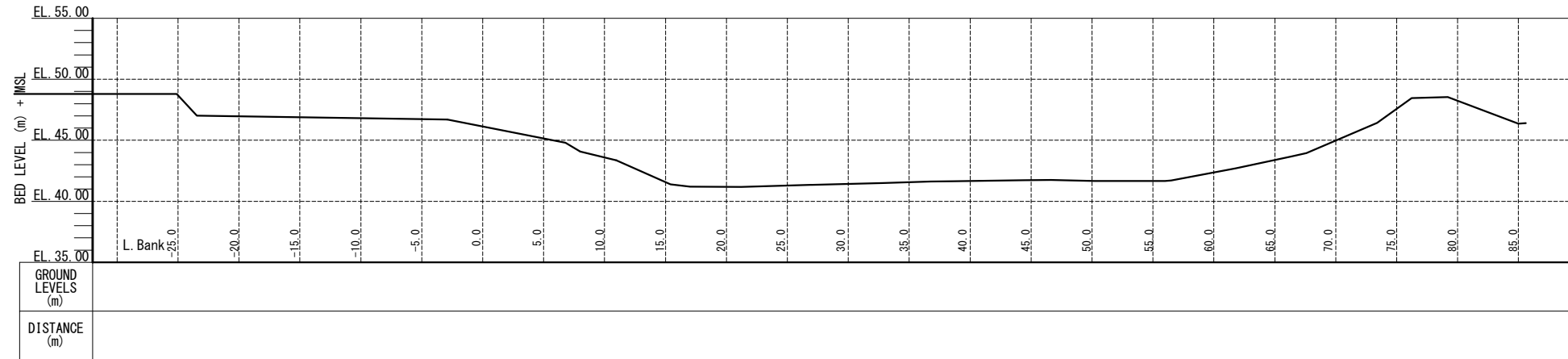
TITLE: Cross Section of Bahr Yusef (3) DRW:NO: TW-07

SANYU CONSULTANTS INC.

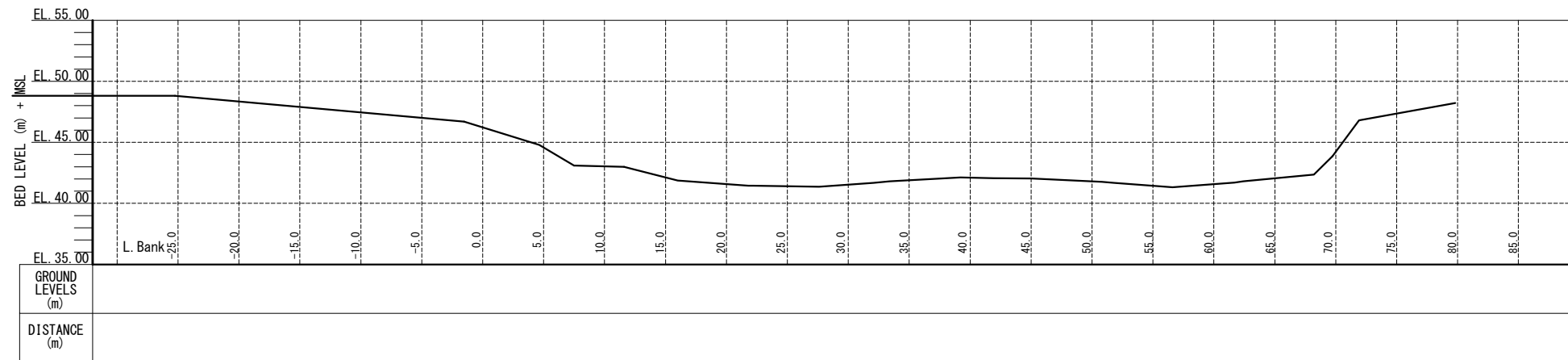
PREPARED BY:	CHECKED BY:	APPROVED BY:
DATE:	DATE:	DATE:

Ba12 (298.0)

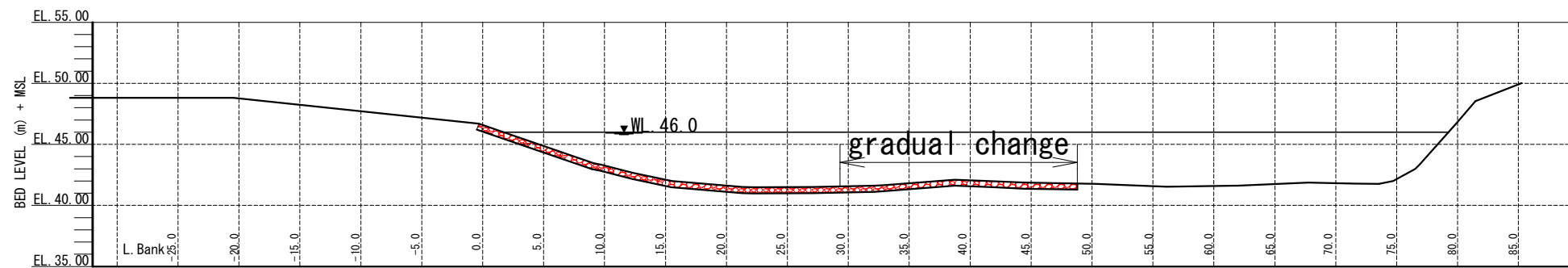
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Ba11 (278.0)



Ba10 (238.0)



FOR REFERENCE

PROJECT: Arab Republic of Egypt
Ministry of Water Resources and Irrigation
Reservoir and Grand Barrages Sector

Detailed Design Study on the Project for
Construction of the New Dirout Group of Regulators

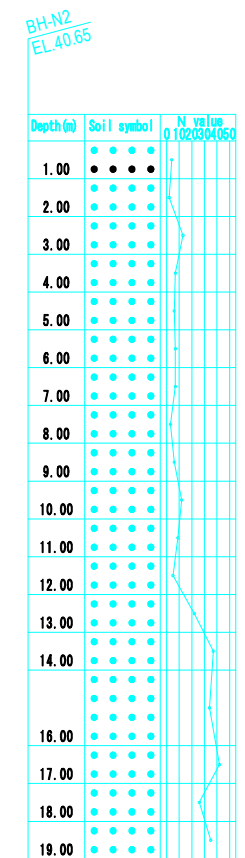
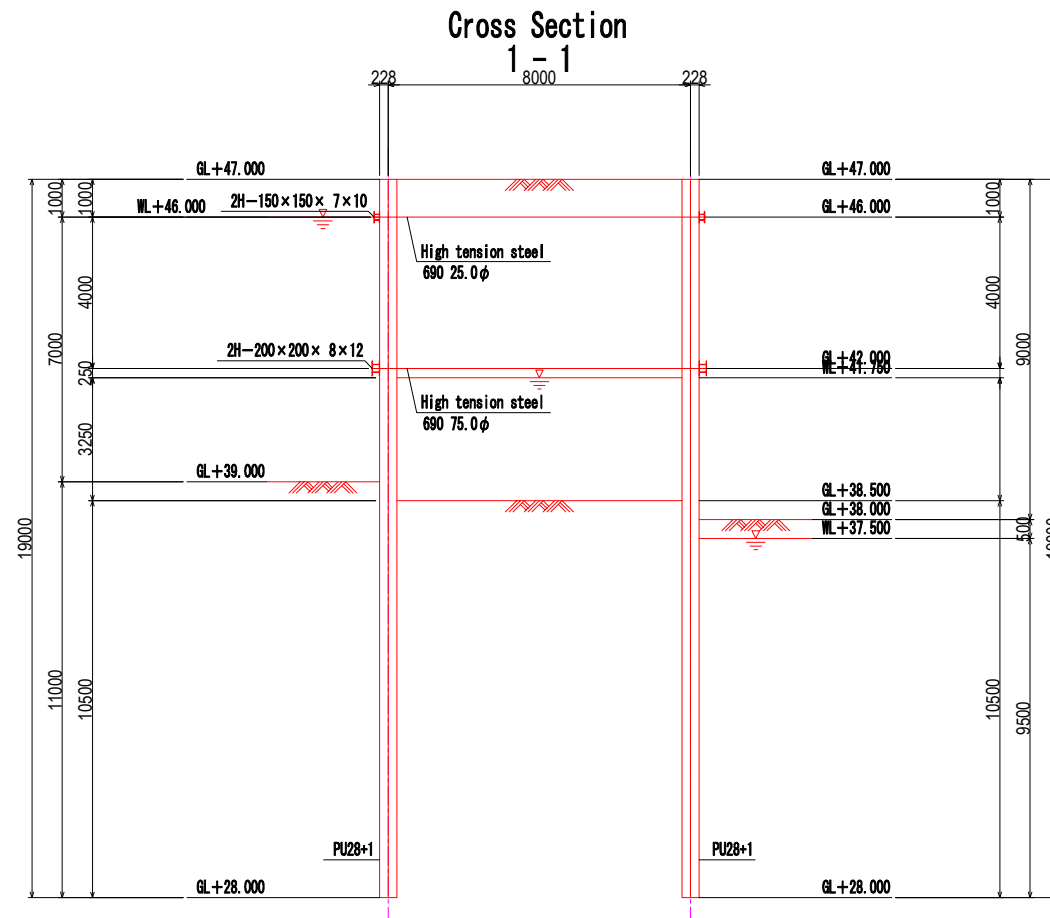
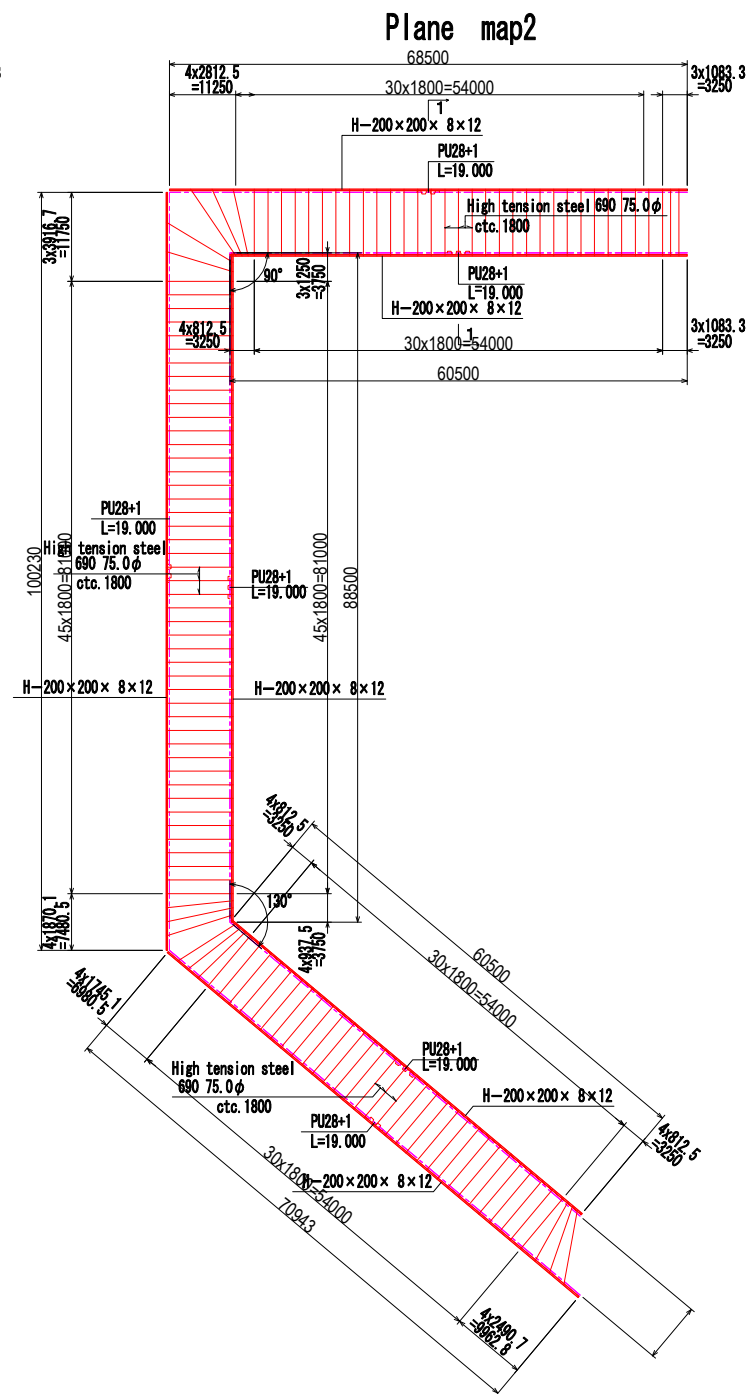
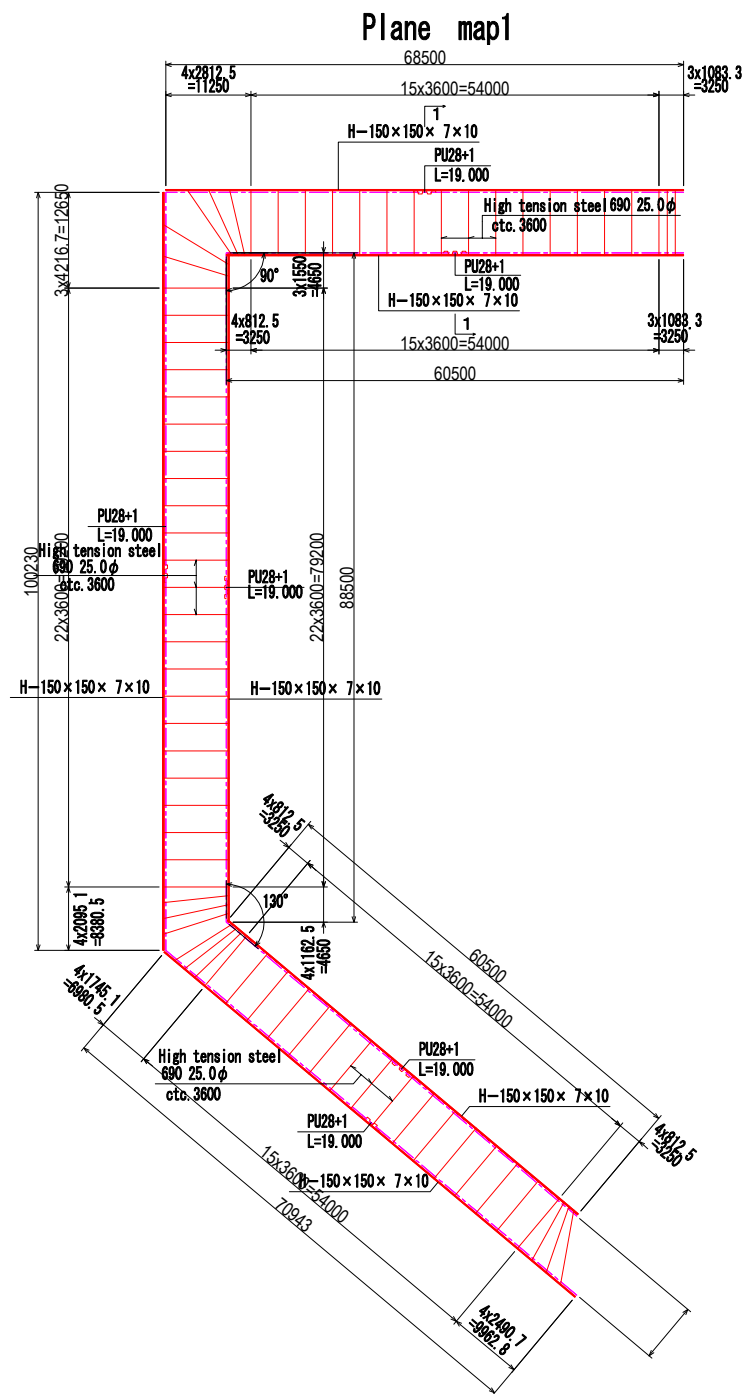
TITLE: Cross Section of Bahr Yusef (4) DRW:NO: TW-08

SANYU CONSULTANTS INC.

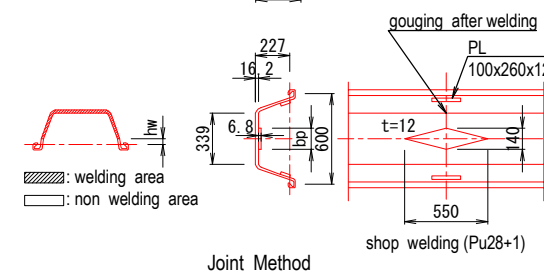
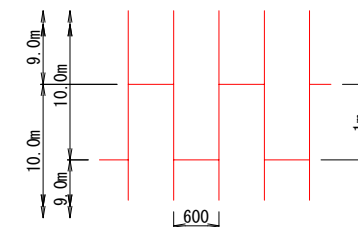
PREPARED BY:	CHECKED BY:	APPROVED BY:
DATE:	DATE:	DATE:

Double Sheet Pile (Bahr Yusef)

S = 1:100 1:500



*Temporary Bridge in Double Sheet Pile.



*Geological conditions shall be confirmed before construction

FOR REFERENCE

Member quantity

Member	Specification	Scale	Unit	Quantity	Unit weight	Weight	Remarks
Steel sheet pile	S1295	PU28+1	m	14231.000	106.2kg/m	1511.322t	
Tension rod	High tension steel 690	25.0 phi	m	630.011	-	-	
Tension rod	High tension steel 690	75.0 phi	m	1106.396	-	-	
Total				1736.407m			
H-steel	SS400	H-150x150x7x10	m	898.346	31.1kg/m	27.939t	
H-steel	SS400	H-200x200x8x12	m	898.346	49.9kg/m	44.827t	
Total				1796.692m		72.766t	

Design Condition

Object structure	Double sheet pile
Total length of wall	209.500m
Water level	W.L. 46.000m
Earth pressure	Coulomb
Water pressure for stability	Sand Lyr
Overburden load	20.00kn/m2
Filling soil inside	Sand

PROJECT: Arab Republic of Egypt
Ministry of Water Resources and Irrigation
Reservoir and Grand Barrages Sector

Detailed Design Study on the Project for
Construction of the New Dirout Group of Regulators

TITLE: **Double Sheet Pile of Bahr Yusef** DRW:NO: TW-09

SANYU CONSULTANTS INC.

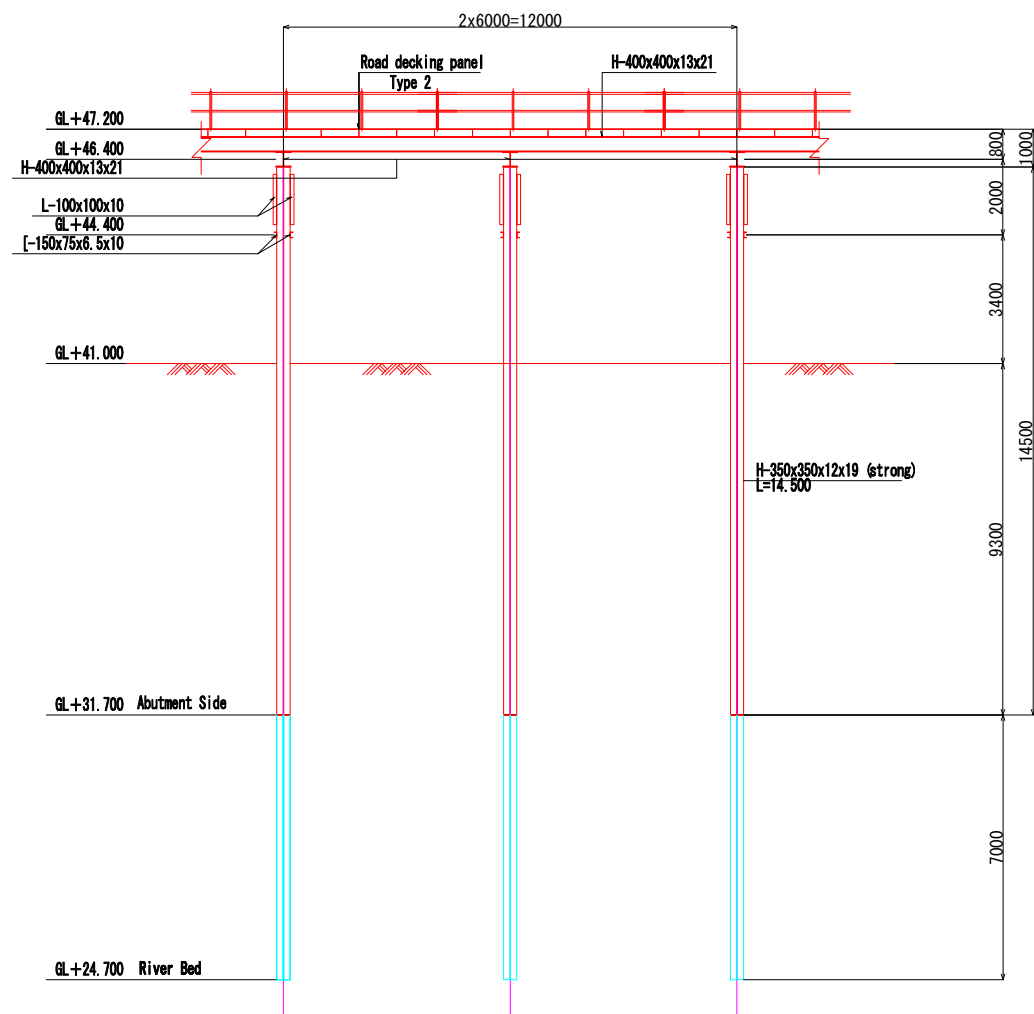
PREPARED BY: CHECKED BY: APPROVED BY:

DATE: DATE: DATE: DATE:

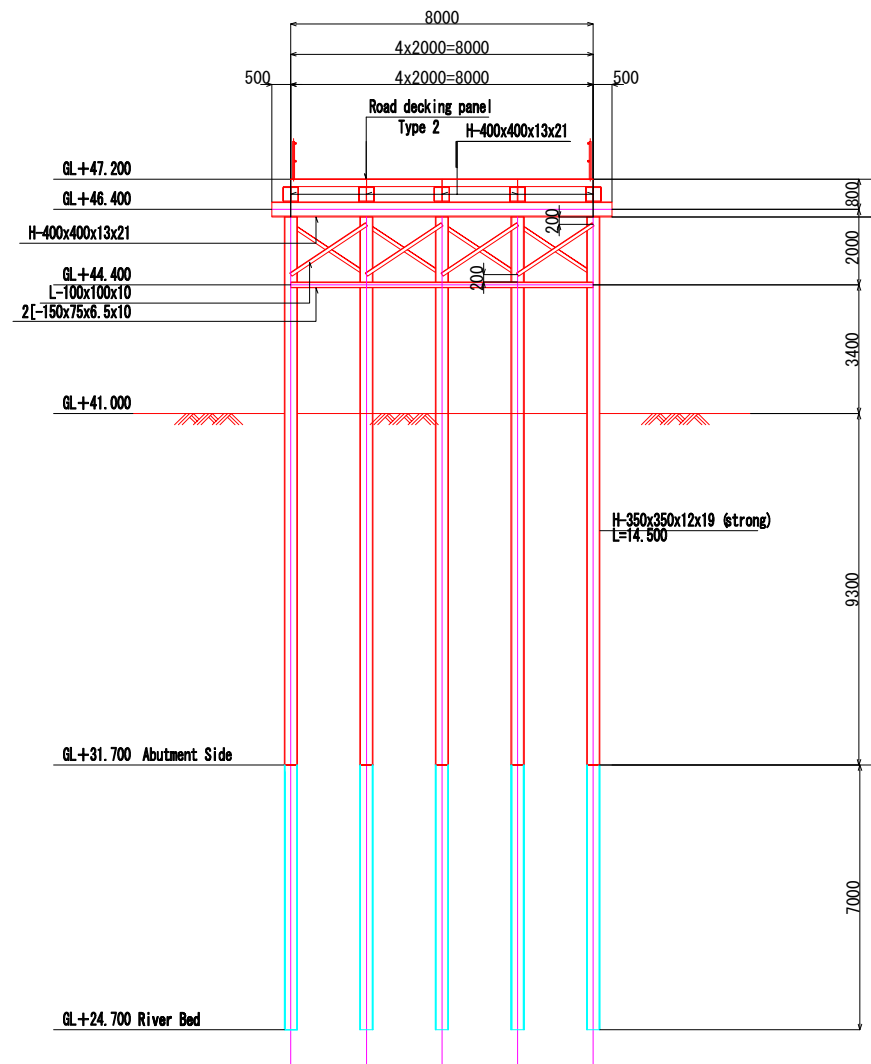
Temporary Bridge (Bahr Yusef) B=8m Cross Section 213.75

S = 1:100

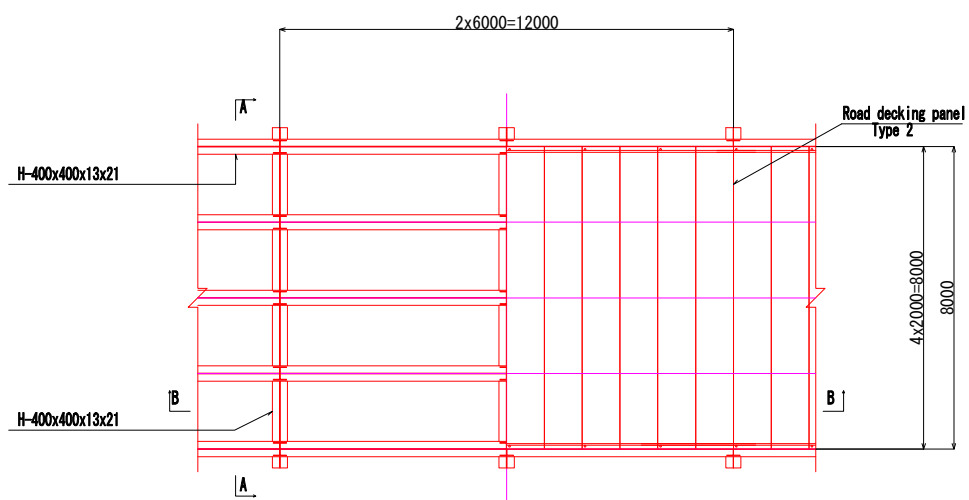
Cross Section B-B



Cross Section A-A



Plane Map

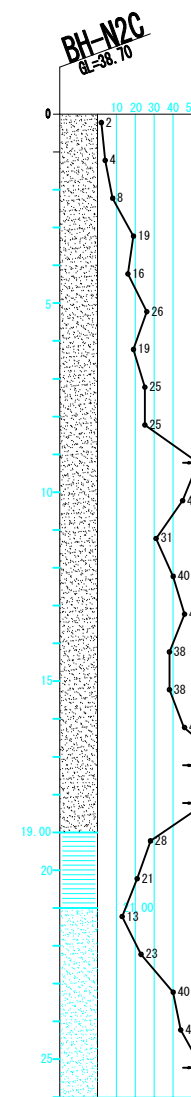


Main member quantity (per 1 span)

Member	Scale	Unit	Quantity	Unit weight	Weight	Remarks
Steel sheet pile	Road decking panel typ 2	m ²	48.000	-	-	
Total			48.000m ²			
Beam seater	H-400x400x13x21	m	30.000	172.0kg/m	5.160t	
Beam	H-400x400x13x21	m	9.000	172.0kg/m	1.548t	
Pile	H-350x350x12x19 (strong)	m	72.000	135.0kg/m	9.720t	
Total					16.428t	

Design condition

Application criteria	Guide line of temporary works
Construction method of pile	Vibro-hammer
Live load	Truck load (T20)
	Crawler crane load (D408S)
	Truck crane load (KA-900)
Shape size	Span
	Width
	Height



*Geological conditions shall be confirmed before construction

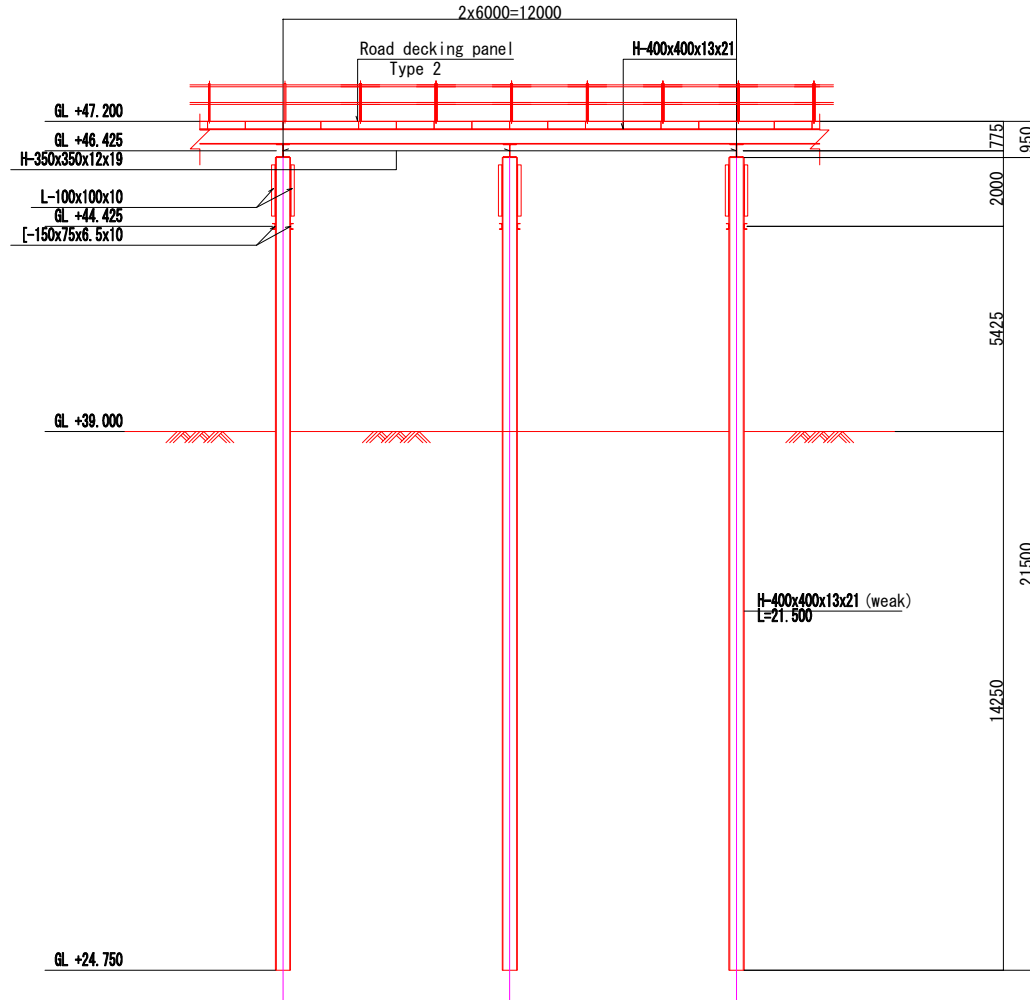
FOR REFERENCE

PROJECT:		Arab Republic of Egypt Ministry of Water Resources and Irrigation Reservoir and Grand Barrages Sector	
Detailed Design Study on the Project for Construction of the New Dirout Group of Regulators			
TITLE:	Cross Section 213.75 B=8m		DRW:NO: TW-10
SANYU CONSULTANTS INC.			
PREPARED BY:	CHECKED BY:	APPROVED BY:	
DATE:	DATE:	DATE:	DATE:

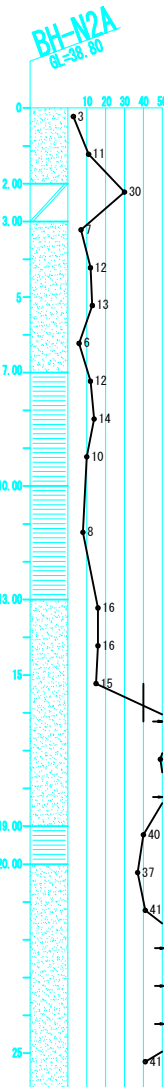
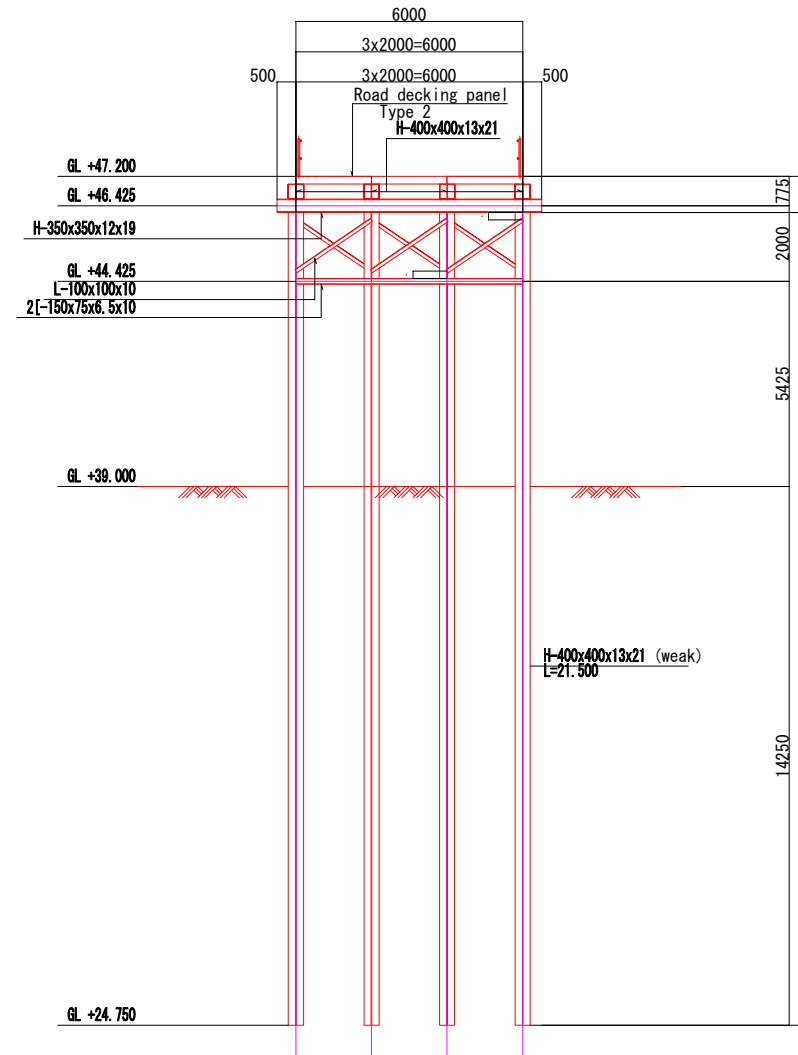
Temporary Bridge (Bahr Yusef) B=6m (In Double Sheet Pile at River Bed Area)

S = 1:100

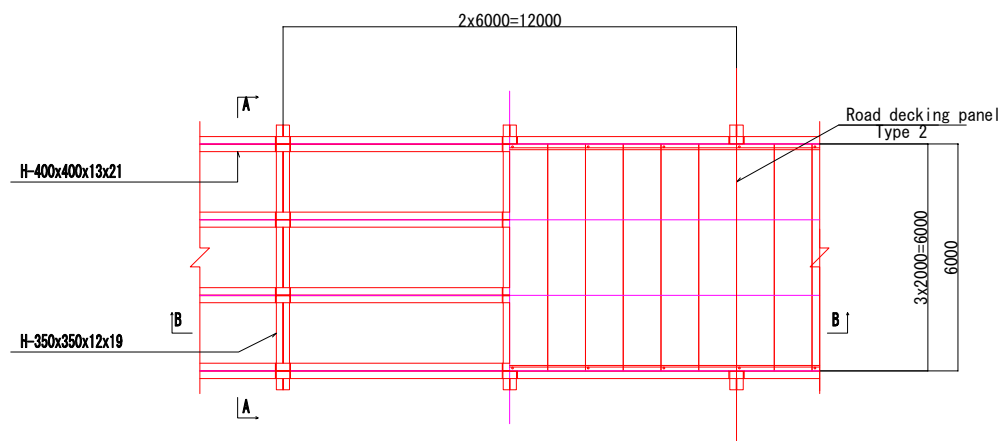
Cross Section B-B



Cross Section A-A



Plane Map



Main member quantity (per 1 span)

Member	Scale	Unit	Quantity	Unit weight	Weight	Remarks
Steel sheet pile	Road decking panel tyep 2	m ²	36.000	-	-	
Total			36.000m ²			
Beam seater	H-400x400x13x21	m	24.000	172.0kg/m	4.128t	
Beam	H-350x350x12x19	m	7.000	135.0kg/m	0.945t	
Pile	H-400x400x13x21 (weak)	m	86.000	172.0kg/m	14.792	
Total					19.865t	

Design condition

Application criteria		Guide line of temporary works
Construction method of pile		Vibro-hammer
Live load		Truck load (T20) Crawler crane load (D408S) Truck Crane load (KA900)
Shape size	Span	6.000m
	Width	6.000m
	Height	7.425m

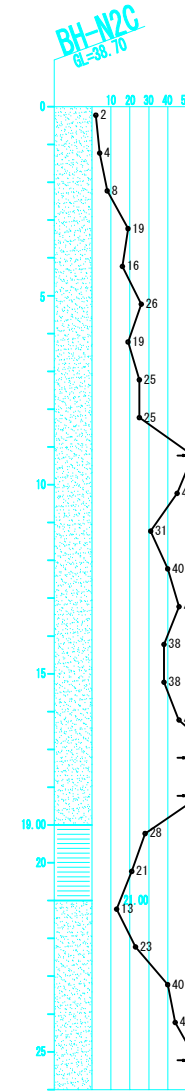
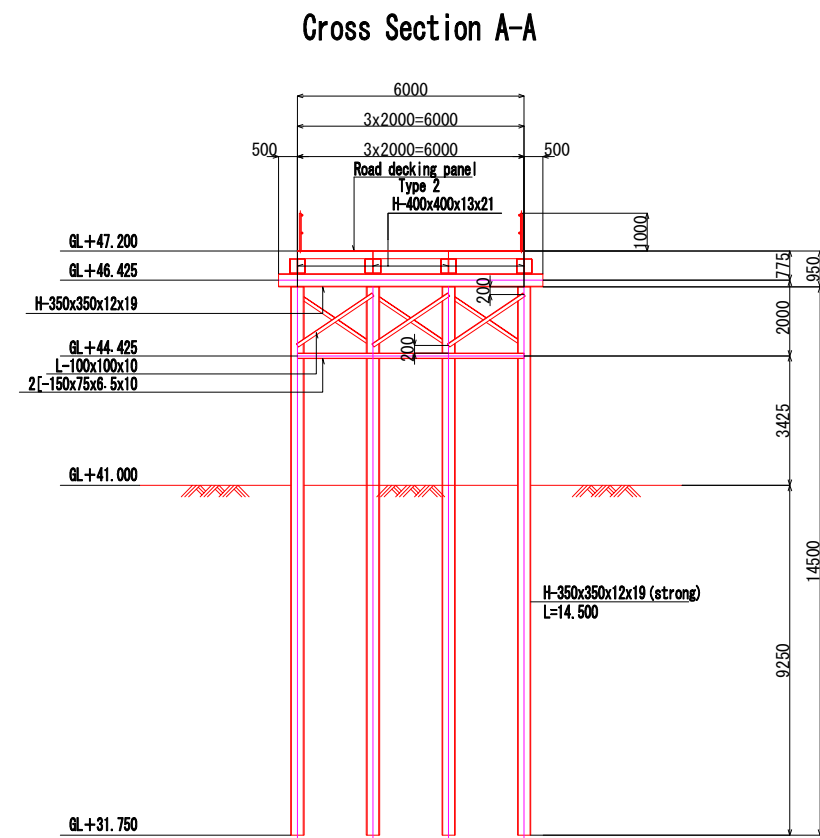
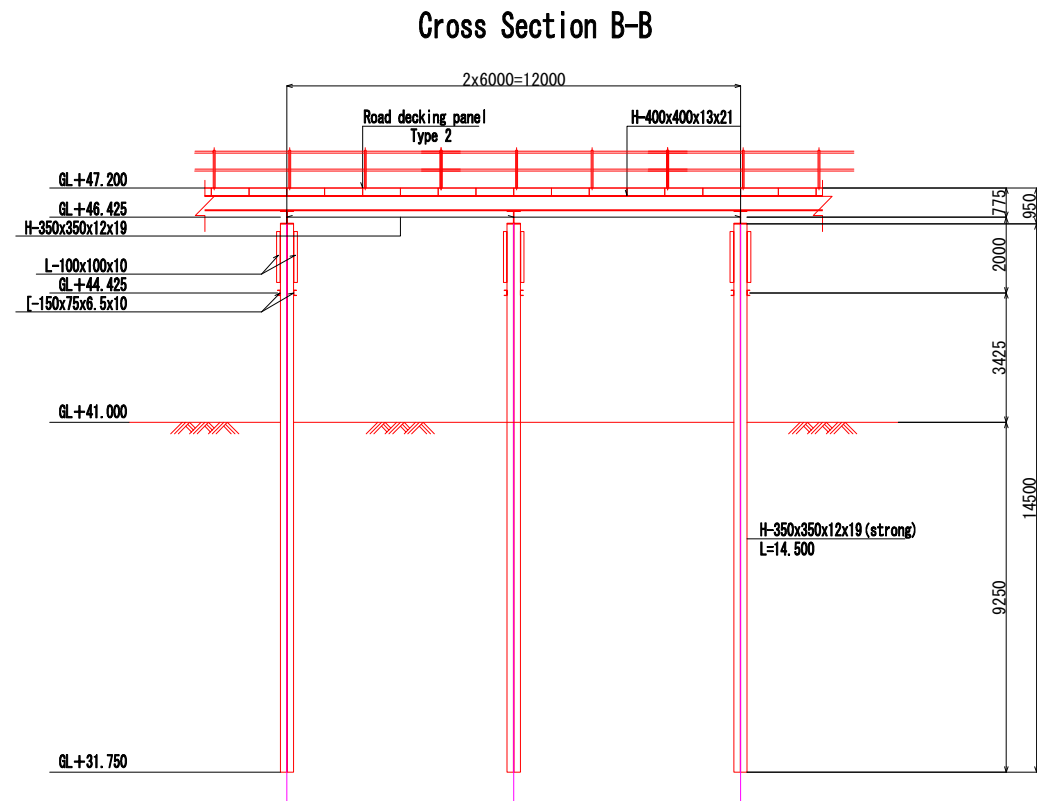
*Geological conditions shall be confirmed before construction

FOR REFERENCE

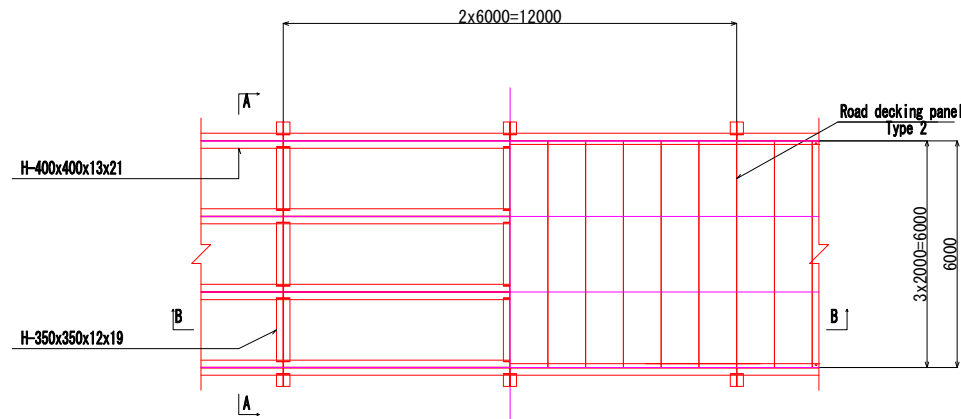
PROJECT: Arab Republic of Egypt Ministry of Water Resources and Irrigation Reservoir and Grand Barrages Sector			
Detailed Design Study on the Project for Construction of the New Dirout Group of Regulators			
TITLE: Temporary Bridge of Bahr Yusef B=6m (In Double Sheet Pile)			DRW:NO: TW-11
SANYU CONSULTANTS INC.			
PREPARED BY:	CHECKED BY:	APPROVED BY:	DATE:
DATE:	DATE:	DATE:	DATE:

Temporary Bridge (Bahr Yusef) B=6m (Cross Section 213.75)

s = 1:100



Plane Map



Main member quantity (per 1 span)

Member	Scale	Unit	Quantity	Unit weight	Weight	Remarks
Steel sheet pile	Road decking panel typ 2	m ²	36.000	-	-	
Total			36.000m			
Beam seater	H-400x400x13x21	m	24.000	172.0kg/m	4.128t	
Beam	H350x350x12x19	m	7.000	135.0kg/m	0.945t	
Pile	H-350x350x12x19 (strong)	m	58.000	135.0kg/m	7.830t	
Total					12.903t	

Design condition

Application criteria	Guide line of temporary works
Construction method of pile	Vibro-hammer
Live load	Truck load (T20)
	Crawler crane load (D408S)
	Truck crane load (NK-200)
Shape size	Span 6.000m
	Width 6.000m
	Height 5.375m

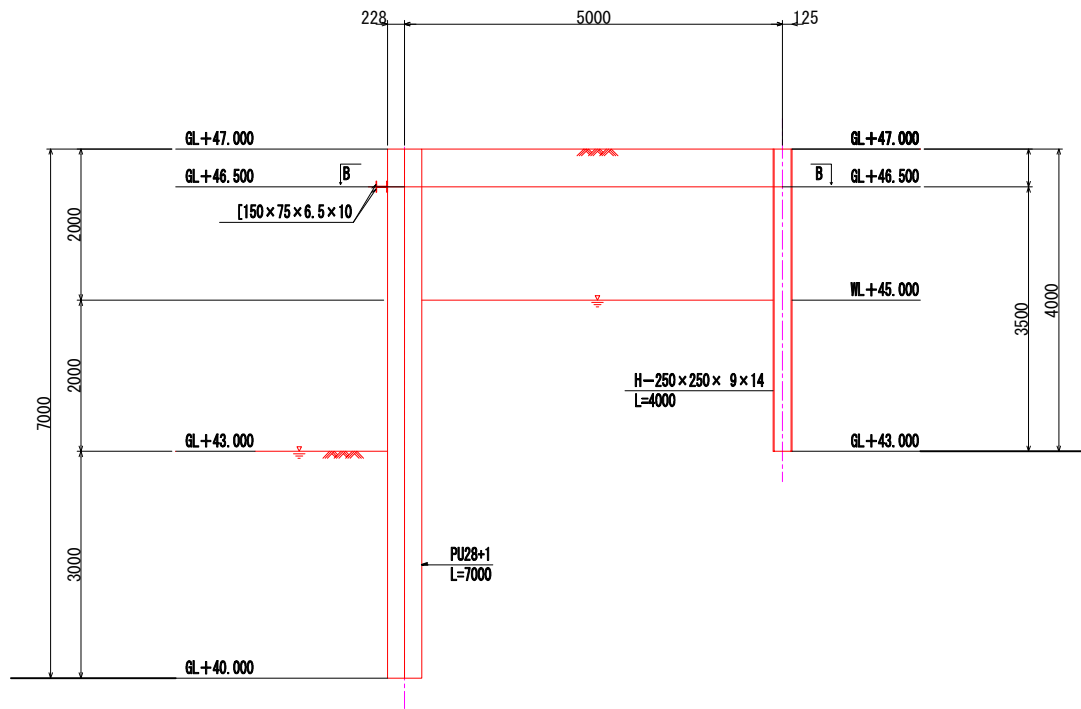
*Geological conditions shall be confirmed before construction

FOR REFERENCE

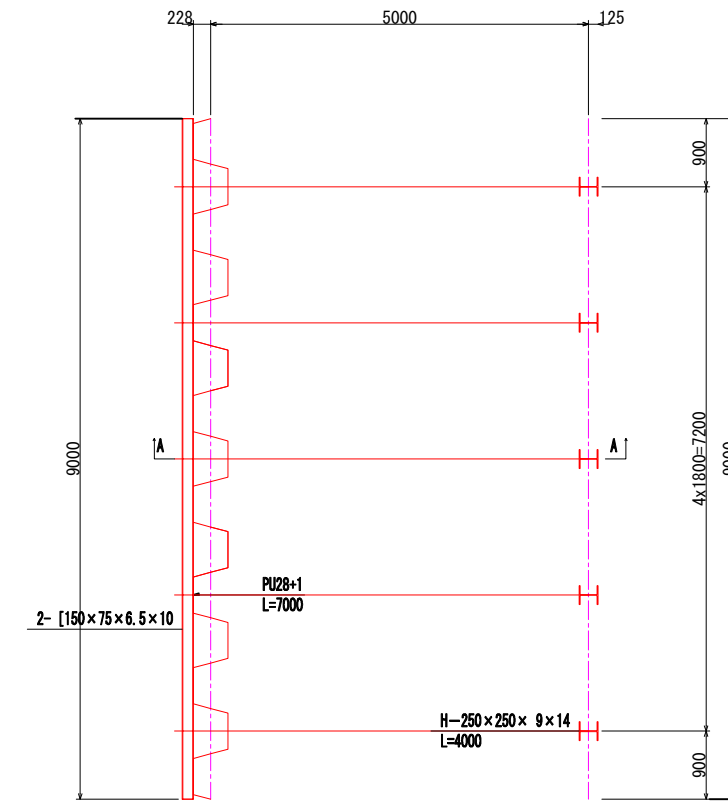
PROJECT: Arab Republic of Egypt Ministry of Water Resources and Irrigation Reservoir and Grand Barrages Sector			
Detailed Design Study on the Project for Construction of the New Dirout Group of Regulators			
TITLE: Temporary Bridge of Bahr Yusef Cross Section 213.75 B=6m			DRW:NO: TW-12
SANYU CONSULTANTS INC.			
PREPARED BY:	CHECKED BY:	APPROVED BY:	
DATE:	DATE:	DATE:	DATE:

Temporary Revetment Works (Bahr Yusef) (Right Side)_{S = 1:50 1:100}

Cross Section A-A



Cross Section B-B



Boring (BH-N7*)

Depth (m)	Soil symbol	N value					
		0	1	2	3	4	5
1.00							
2.00							
3.00							
4.00							
5.00							
6.00							
7.00							
8.00							
9.00							
10.00							
11.00							
12.00							
13.00							
14.00							

*Geological conditions shall be confirmed before construction

Member quantity

Member	Scale	Unit	Quantity	Unit weight	Weight	Remarks
Revetment wall (Sheet pile)	PU28+1	m	105.000	106.2kg/m	11.151t	
Total					11.151t	
Anchor pile(H-steel pile)	H-250x250x9x14	m	20.000	71.8kg/m	1.436t	
Anchor pile(Tie rod waling)	[150x75x6.5x10]	m	18.000	18.6kg/m	0.335t	
Total					1.771t	
Anchor pile(Tie rod)	φ28.0	m	27.390	4.83kg/m	0.132t	
Total			27.390m		0.132t	

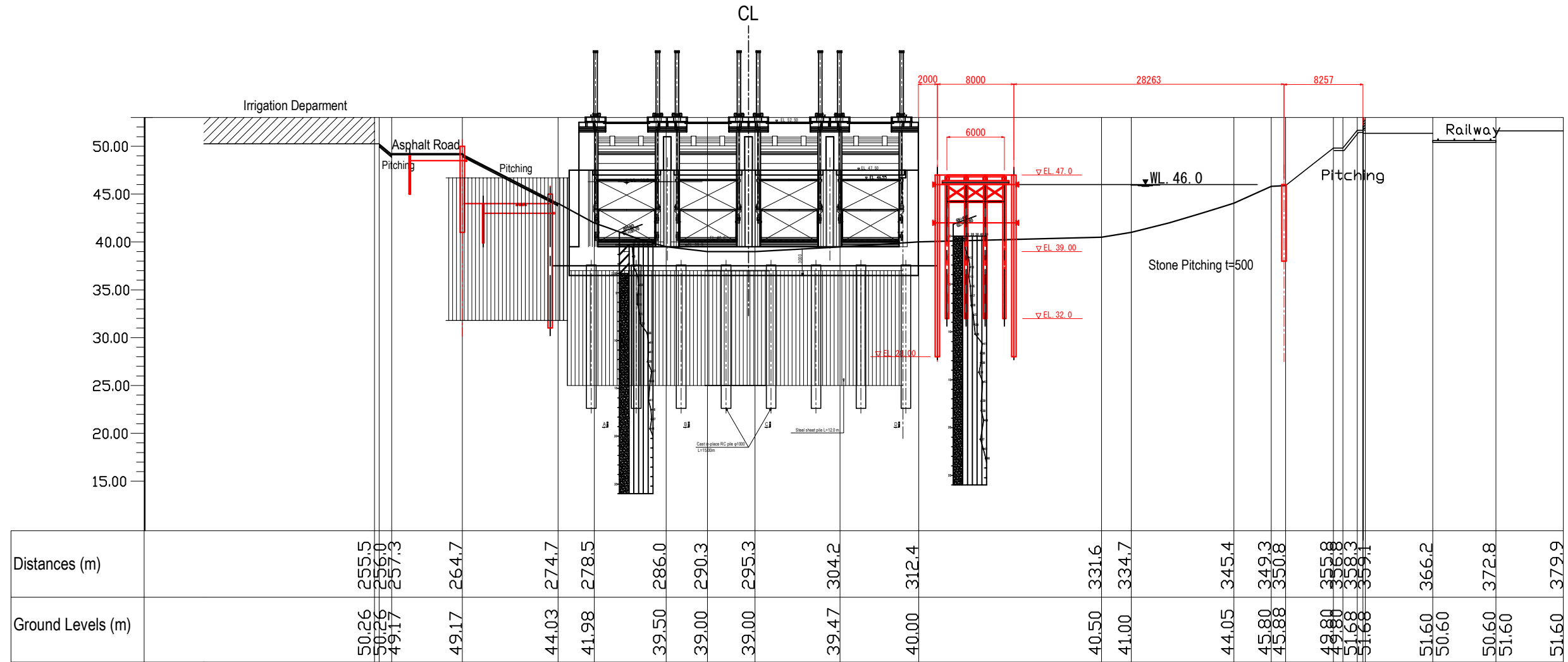
Design Condition

Object structure	value
Excavation Area	10.000m × 9.000m
Excavation Depth	43.000m
Water level	WL.+45.000m
Surface load	10.00kN/m ²

FOR REFERENCE

PROJECT: Arab Republic of Egypt Ministry of Water Resources and Irrigation Reservoir and Grand Barrages Sector	
Detailed Design Study on the Project for Construction of the New Dirout Group of Regulators	
TITLE: Temporary Revetment Works of Bahr Yusef at Right Side	DRW:NO: TW-13
SANYU CONSULTANTS INC.	
PREPARED BY:	CHECKED BY:
APPROVED BY:	DATE:

Ibrahimia Canal



Cross Section No A (at 140 m from regulator)

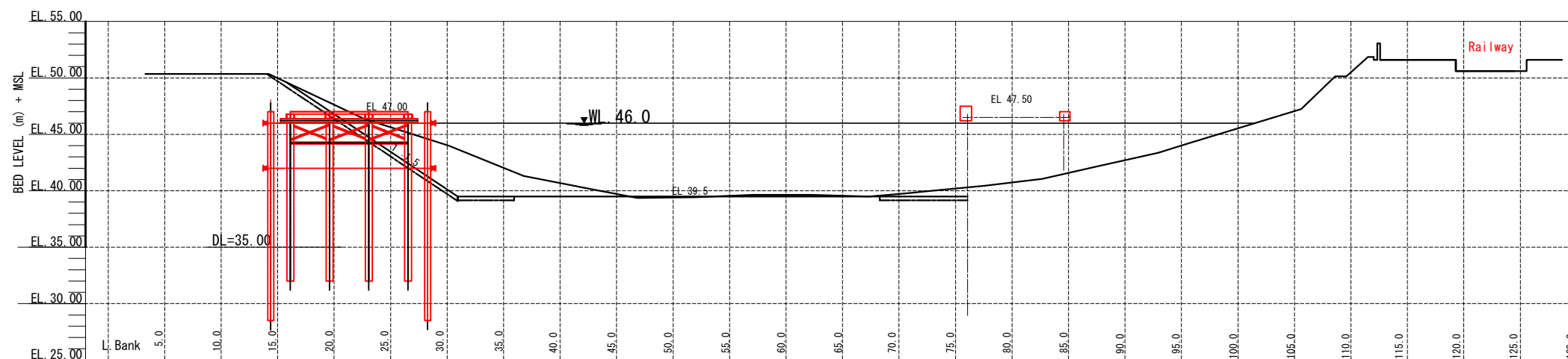
SCALE 1:500

FOR REFERENCE

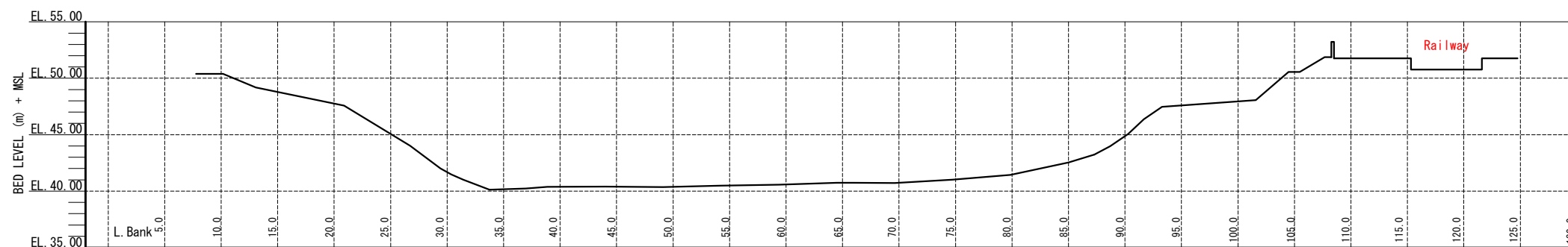
PROJECT:			
Arab Republic of Egypt Ministry of Water Resources and Irrigation Reservoir and Grand Barrages Sector			
Detailed Design Study on the Project for Construction of the New Dirout Group of Regulators			
TITLE:			DRW. NO.
Typical Cross Section of Ibrahimia			TW-14
SANYU CONSULTANTS INC.			
PREPARED BY:	CHECKED BY:	APPROVED BY:	
DATE:	DATE:	DATE:	DATE:

Ib3 (74.0)

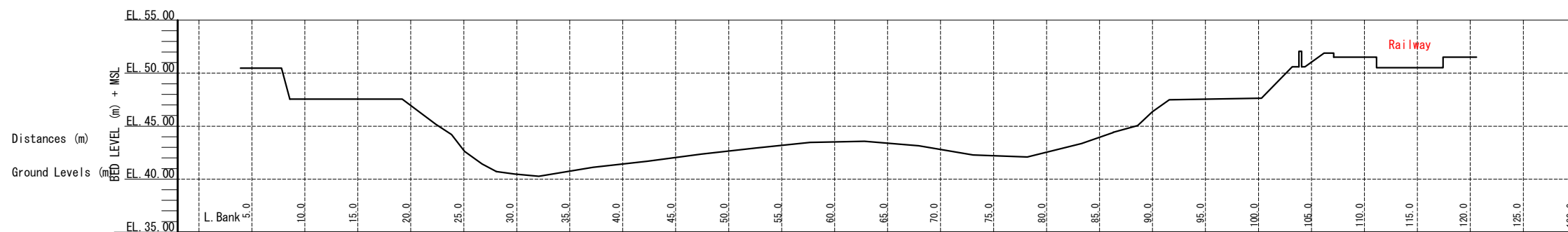
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Ib2 (54.0)



Ib1 (34.0)

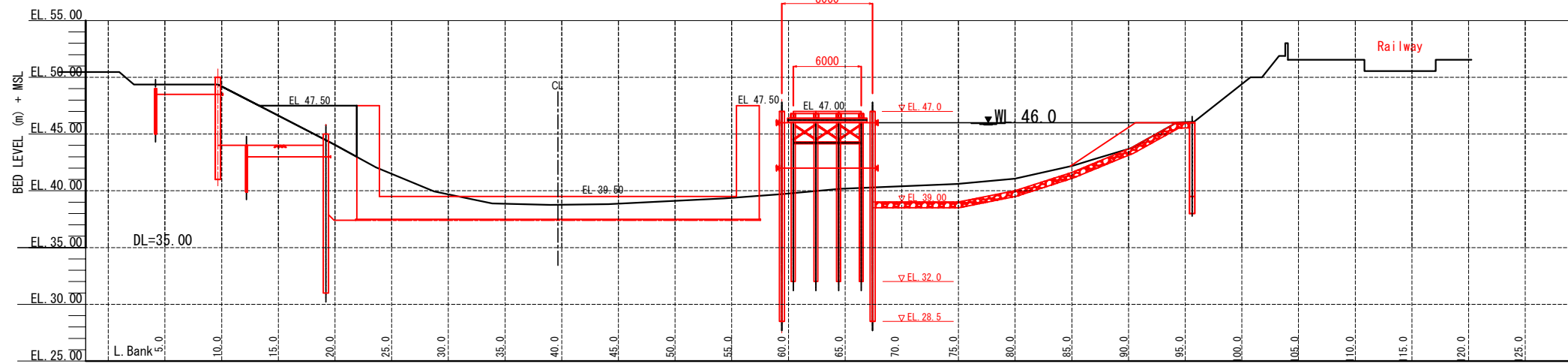


FOR REFERENCE

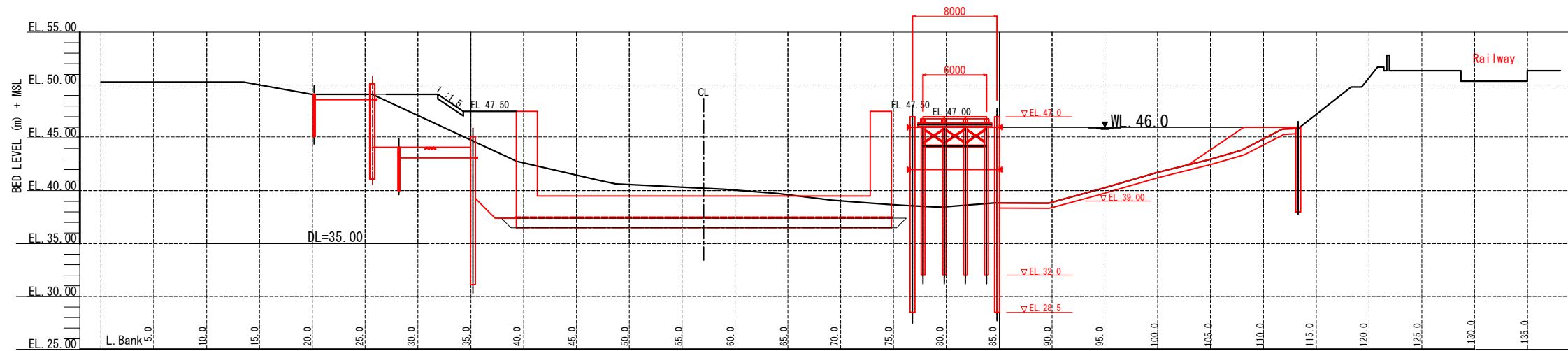
PROJECT:			
Arab Republic of Egypt Ministry of Water Resources and Irrigation Reservoir and Grand Barrages Sector			
TITLE:			
Detailed Design Study on the Project for Construction of the New Dirout Group of Regulators			
DRW:NO:			DRW:NO:
Cross Section of Ibrahimia (1)			TW-15
SANYU CONSULTANTS INC.			
PREPARED BY:	CHECKED BY:	APPROVED BY:	
DATE:	DATE:	DATE:	DATE:

Ib6 (134.0)

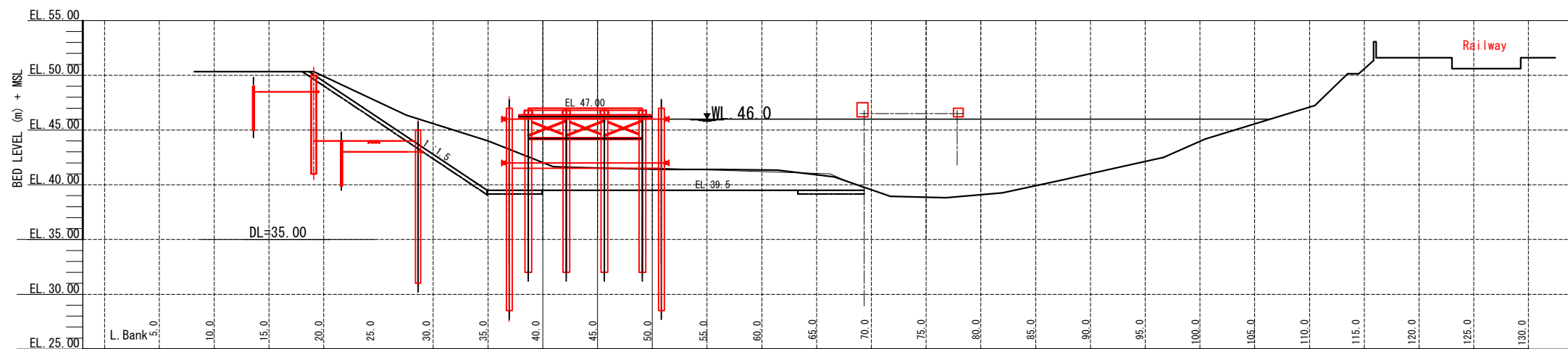
SCALE 1:500



Ib5 (114.0)



Ib4 (94.0)



FOR REFERENCE

PROJECT: Arab Republic of Egypt
Ministry of Water Resources and Irrigation
Reservoir and Grand Barrages Sector

Detailed Design Study on the Project for
Construction of the New Dirout Group of Regulators

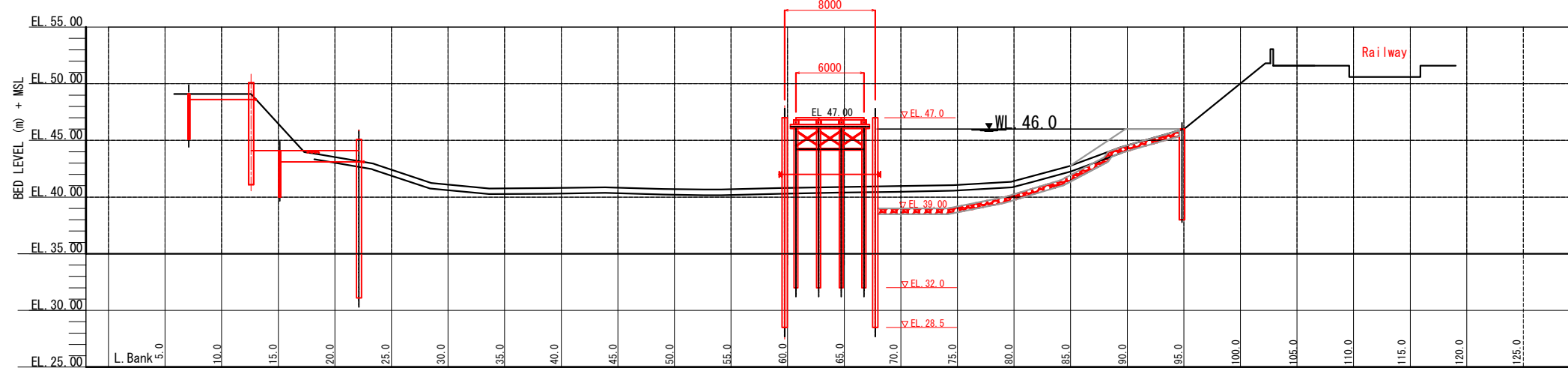
TITLE: Cross Section of Ibrahimia (2) DRW:NO: TW-16

SANYU CONSULTANTS INC.

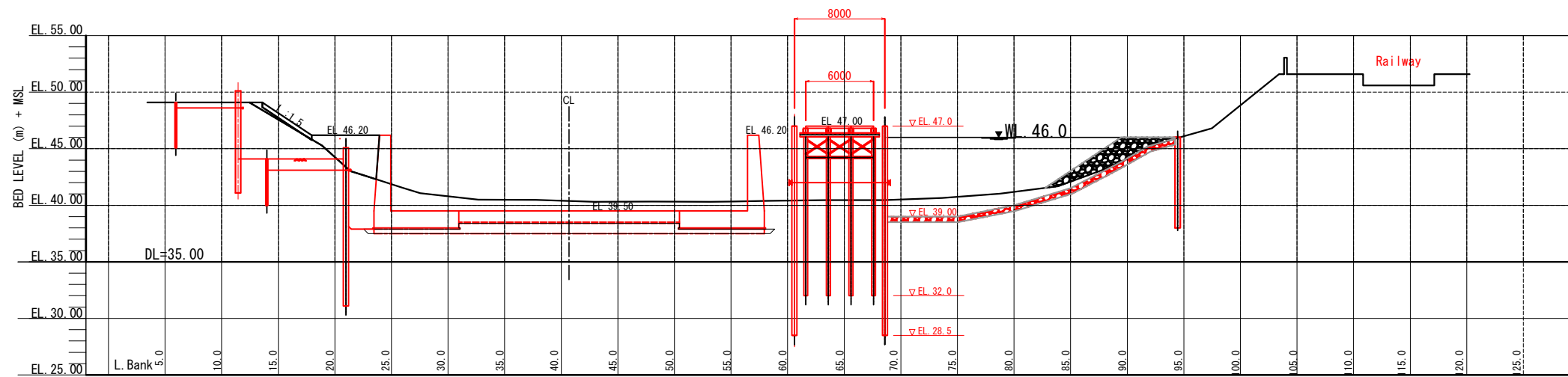
PREPARED BY:	CHECKED BY:	APPROVED BY:
DATE:	DATE:	DATE:

Ib9 (195.0)

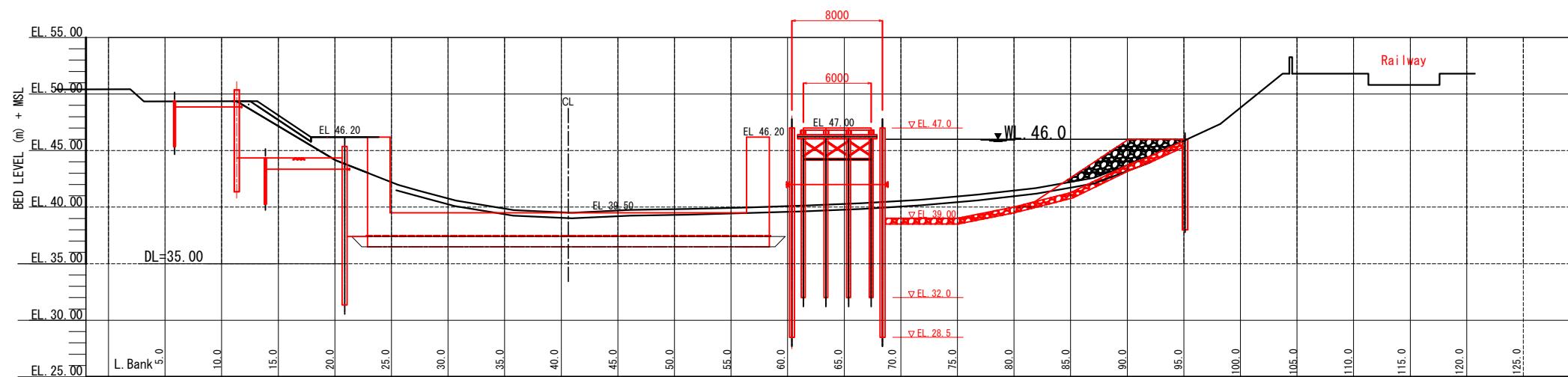
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Ib8 (175.0)



Ib7 (154.0)

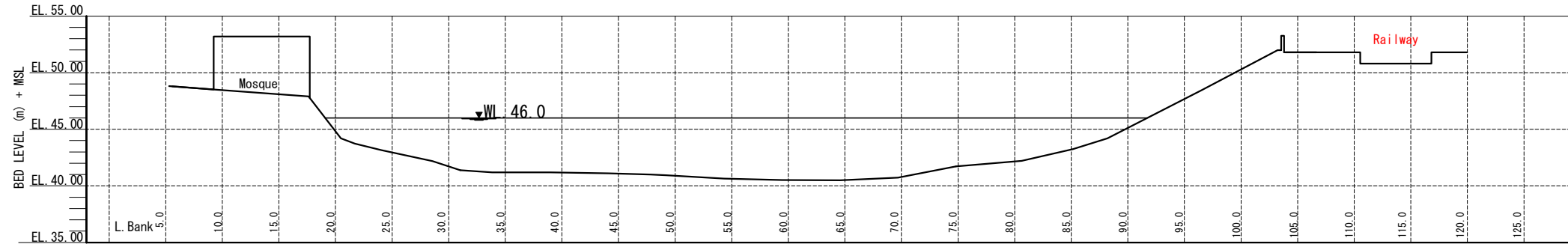


FOR REFERENCE

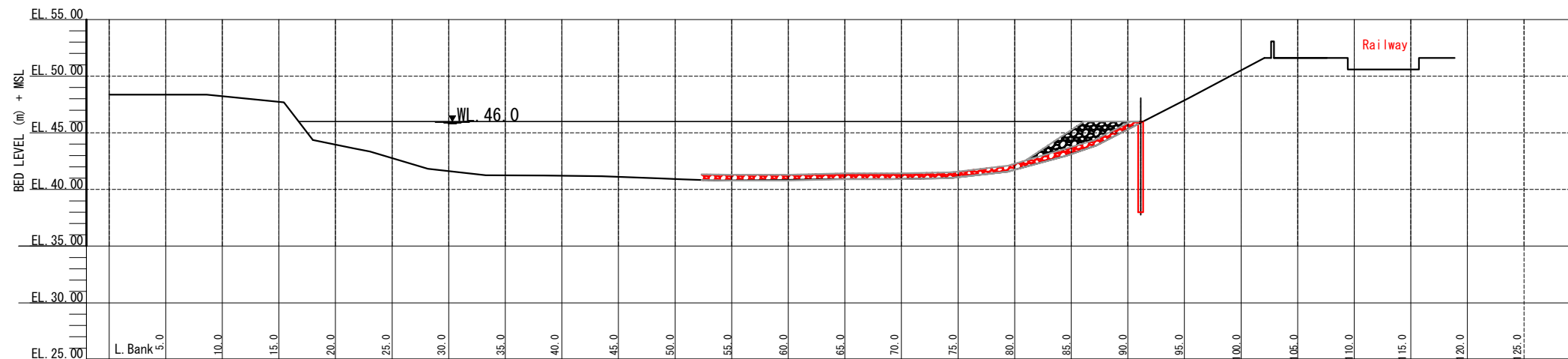
PROJECT: Arab Republic of Egypt Ministry of Water Resources and Irrigation Reservoir and Grand Barrages Sector			
Detailed Design Study on the Project for Construction of the New Dirout Group of Regulators			
TITLE: Cross Section Ibrahimia (3)			DRW:NO: TW-17
SANYU CONSULTANTS INC.			
PREPARED BY:	CHECKED BY:	APPROVED BY:	
DATE:	DATE:	DATE:	DATE:

Ib12 (254.0)

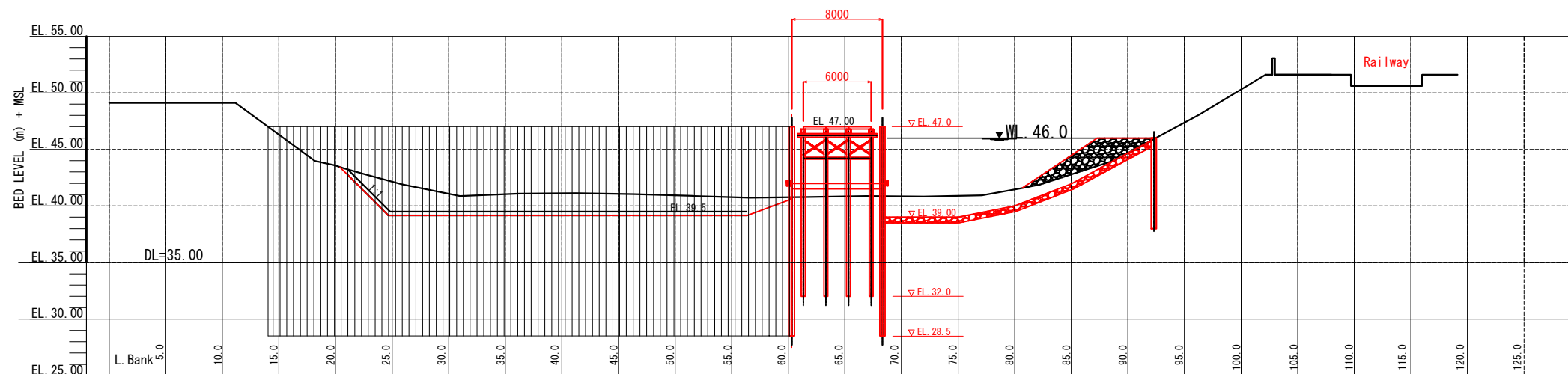
SCALE 1:500



Ib11 (234.0)



Ib10 (214.0)



FOR REFERENCE

PROJECT: Arab Republic of Egypt
Ministry of Water Resources and Irrigation
Reservoir and Grand Barrages Sector

Detailed Design Study on the Project for
Construction of the New Dirout Group of Regulators

TITLE: Cross Section of Ibrahimia (4) DRW:NO: TW-18

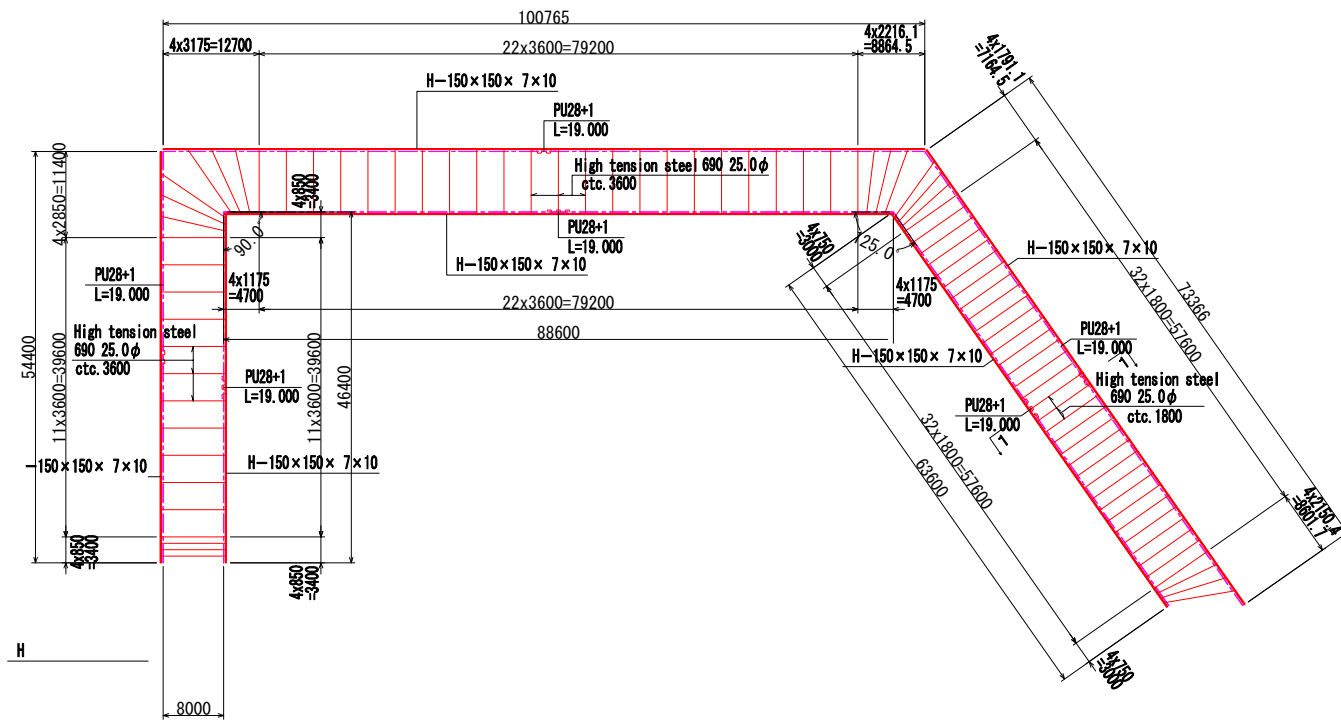
SANYU CONSULTANTS INC.

PREPARED BY:	CHECKED BY:	APPROVED BY:
DATE:	DATE:	DATE:

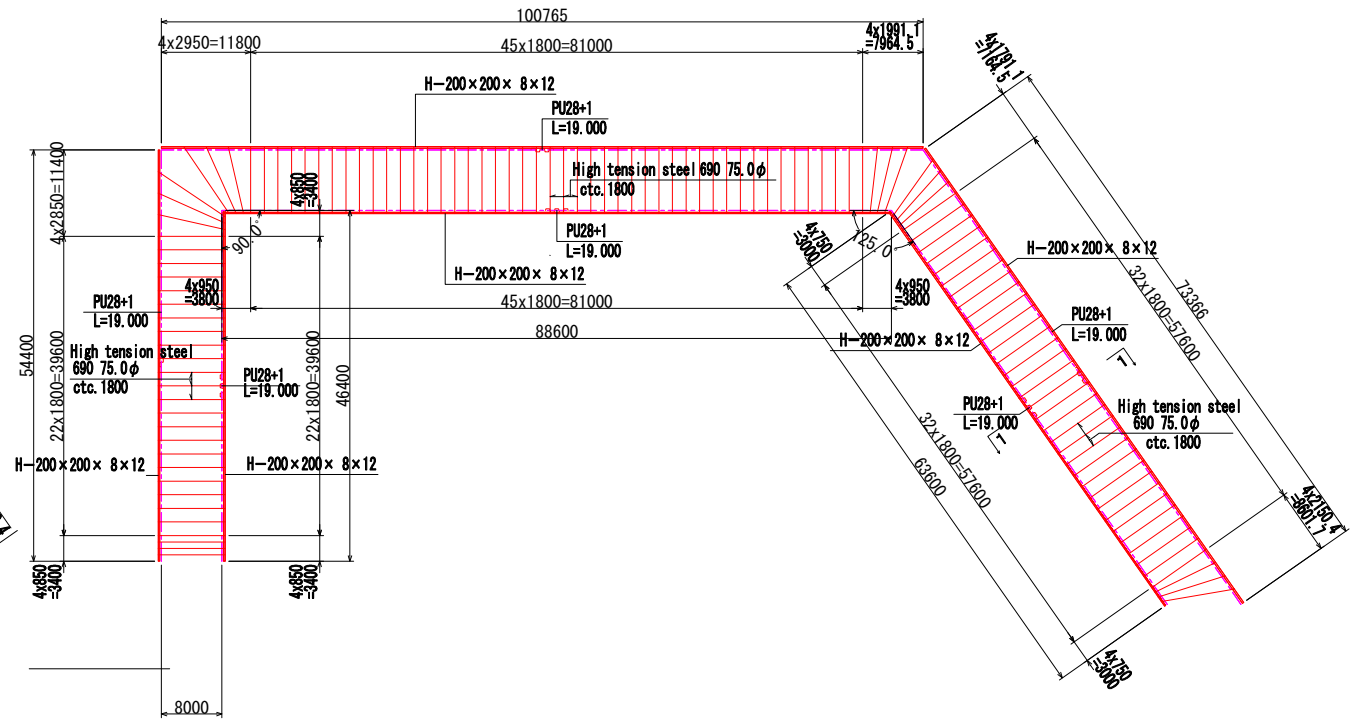
Double Sheet Pile (Ibrahimia)

S = 1:100 1:500

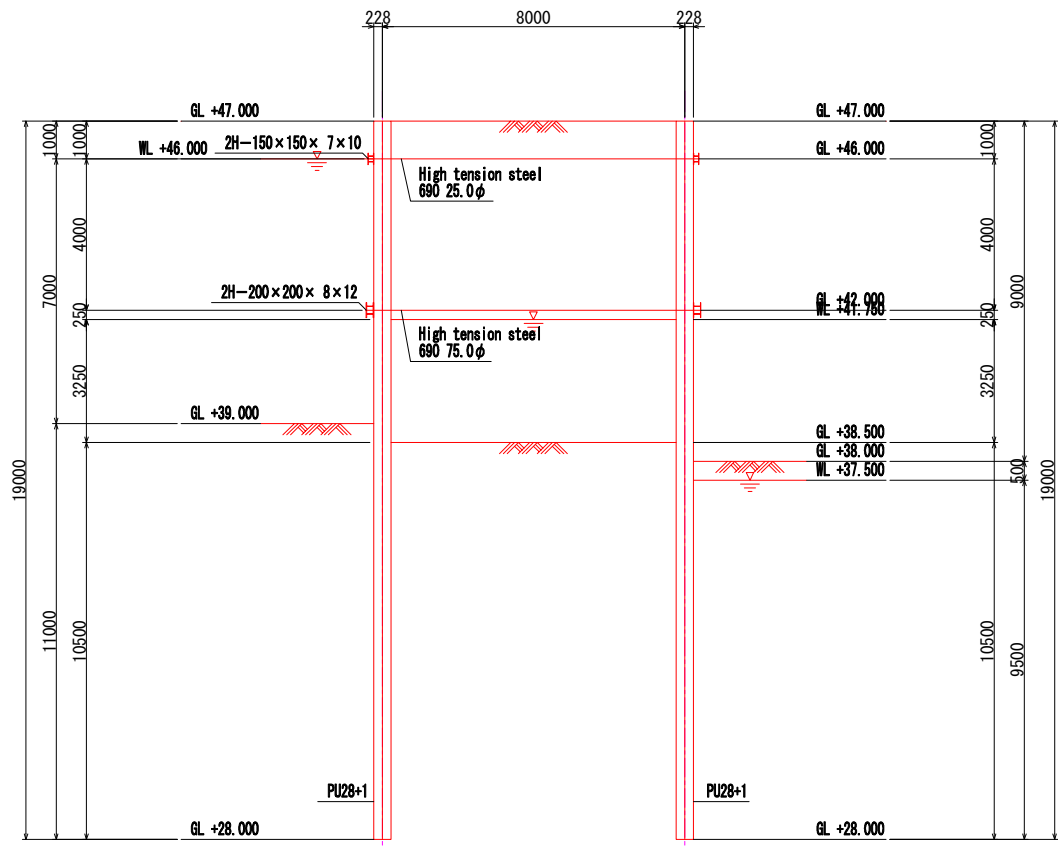
Plane Map1



Plane Map2

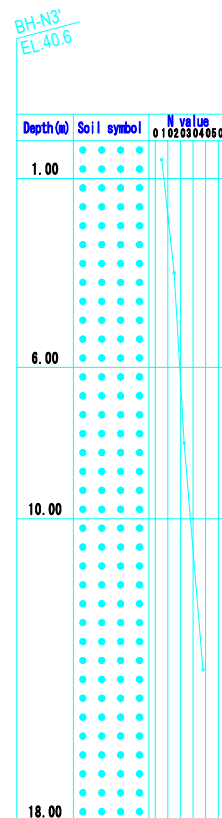


Cross Section 1-1



*Temporary Bridge in Double Sheet Pile.

*Geological conditions shall be confirmed before construction



Member quantity

Member	Specification	Scale	Unit	Quantity	Unit weight	Weight	Remarks
Steel sheet pile	S355GP	PU28+1	m	13528.000	106.2kg/m	1436.674t	
Total						1436.674t	
Tension rod	High tension steel 690	25.0 phi	m	762.121	-	-	
Tension rod	High tension steel 690	75.0 phi	m	1071.732	-	-	
Total				1833.853m			
H-steel	SS400	H-150x150x7x10	m	854.262	31.1kg/m	26.568t	
H-steel	SS400	H-200x200x8x12	m	854.262	49.9kg/m	42.627t	
Total						69.195t	

Design Condition

Object structure	
Total length of wall	198.600m
Water level	W.L. 45.500m
Earth pressure	Coulomb
Water pressure for stability	Sand layer
Overburden load	20.00kN/m2
Filling soil inside	Sand

FOR REFERENCE

PROJECT: Arab Republic of Egypt
Ministry of Water Resources and Irrigation
Reservoir and Grand Barrages Sector

Detailed Design Study on the Project for
Construction of the New Dirout Group of Regulators

TITLE: Double Sheet Pile of Ibrahimia

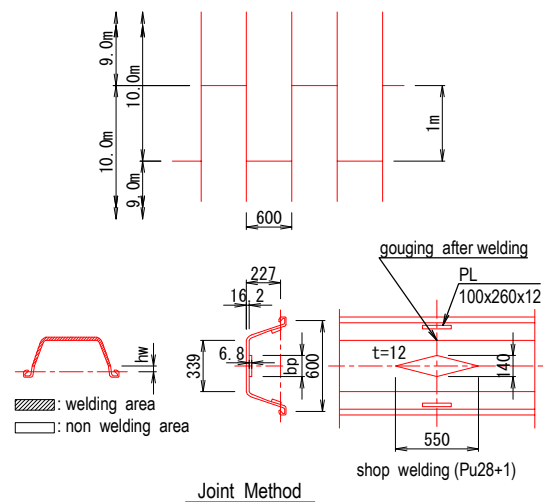
DRW:NO:

TW-19

SANYU CONSULTANTS INC.

PREPARED BY: CHECKED BY: APPROVED BY:

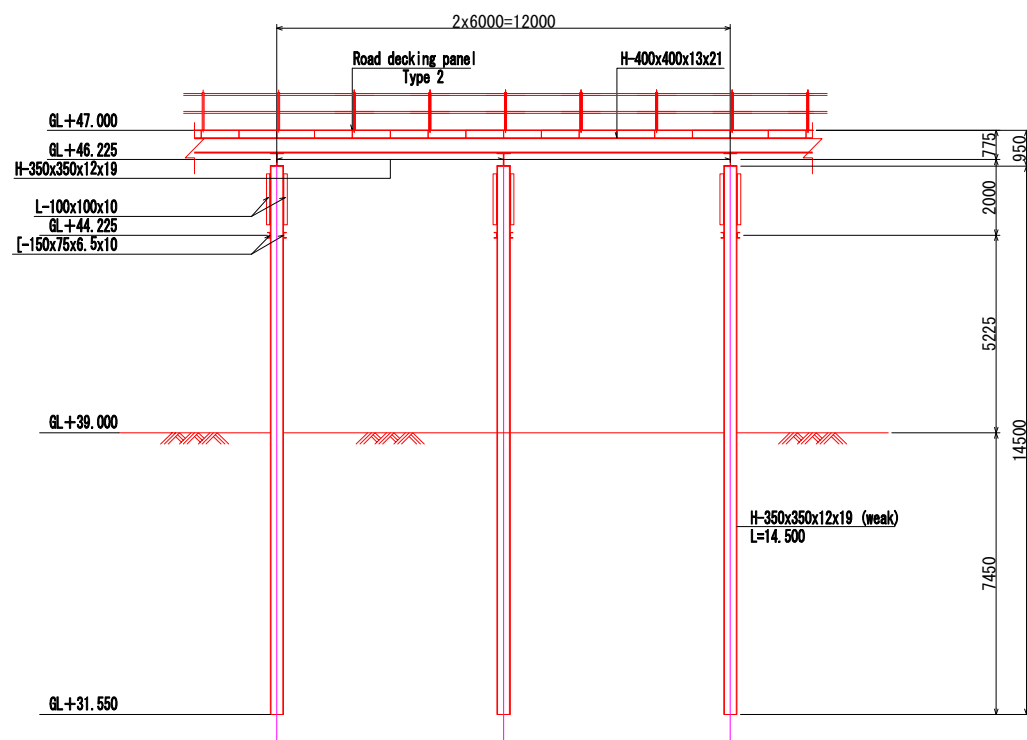
DATE: DATE: DATE: DATE:



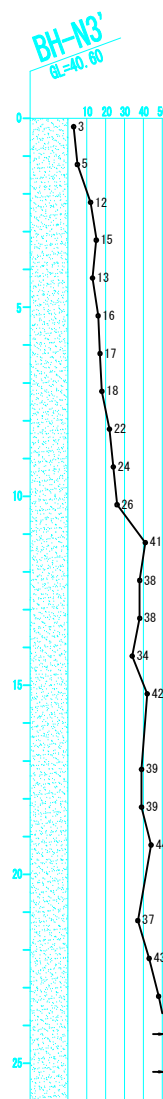
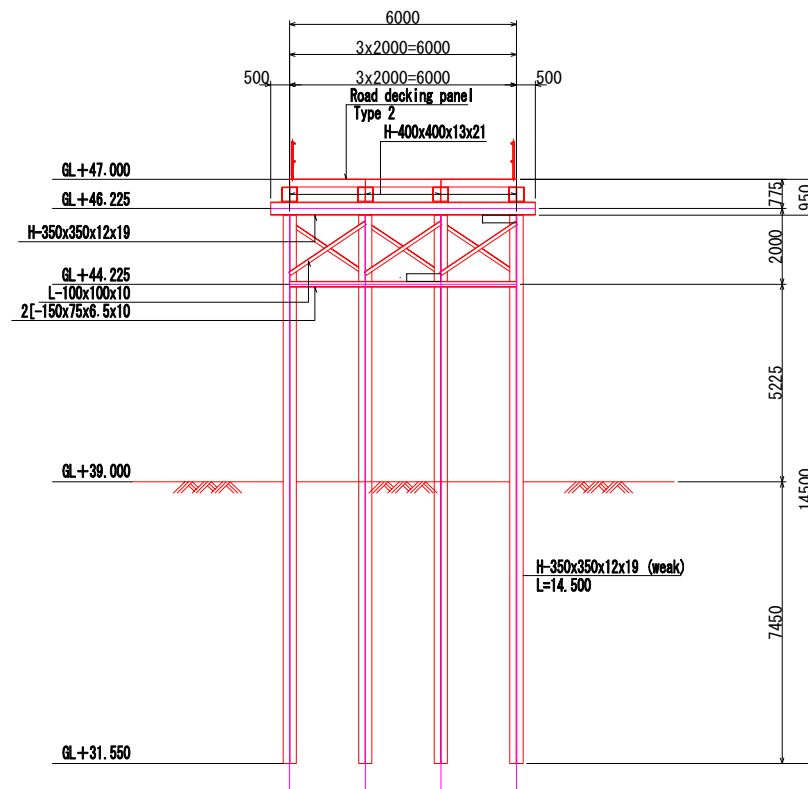
Temporary Bridge (Ibrahimia) B=6m (In Double Sheet Pile)

S = 1:100

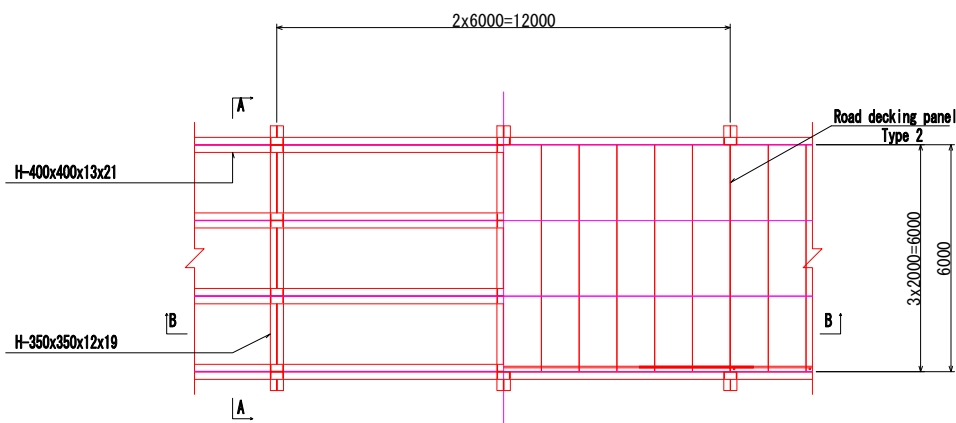
Cross Section B-B



Cross Section A-A



PLAN Map



Main member quantity (per 1 span)

Member	Scale	Unit	Quantity	Unit weight	Weight	Remarks
Steel sheet pile	Road decking panel typ 2	m	36.000	-	-	
Total			36.000m			
Beam seater	H-400x400x13x21	m	24.000	172.0kg/m	4.128t	
Beam	H-350x350x12x19	m	7.000	135.0kg/m	0.945t	
Pile	H-350x350x12x19 (weak)	m	58.000	135.0kg/m	7.830t	
Total					12.903t	

Design condition

Application criteria	Guide line of temporary works
Construction method of pile	Vibro-hammer
Live load	Truck load (T20)
	Crawler crane load (D408S)
	Truck crane load (NK-200)
Shape size	Span 6.000m
	Width 6.000m
	Height 7.225m

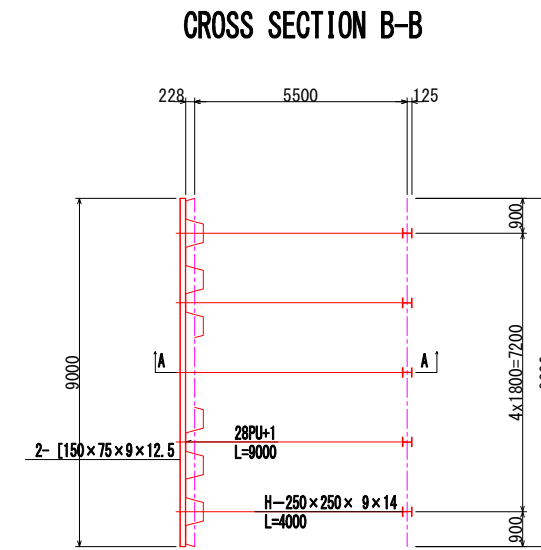
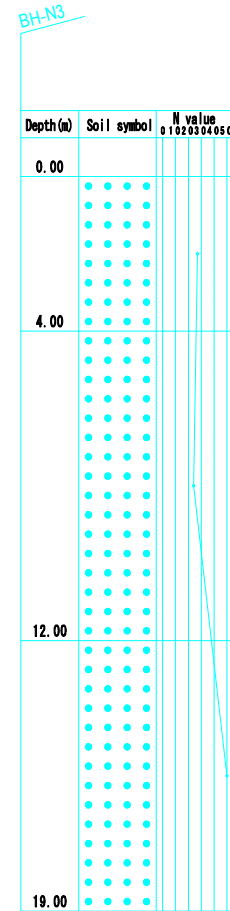
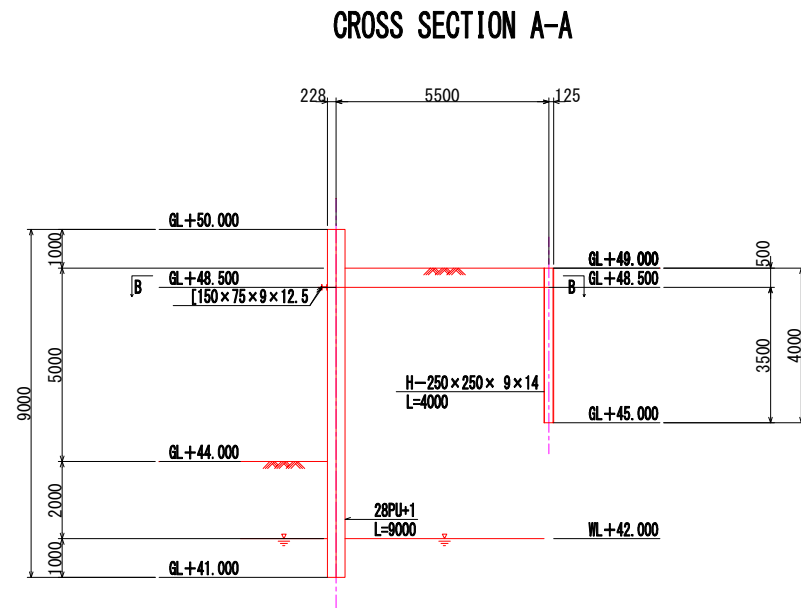
*Geological conditions shall be confirmed before construction

FOR REFERENCE

PROJECT: Arab Republic of Egypt Ministry of Water Resources and Irrigation Reservoir and Grand Barrages Sector			
Detailed Design Study on the Project for Construction of the New Dirout Group of Regulators			
TITLE: Temporary Bridge of Ibrahimia B=6m (In Double Sheet Pile)			DRW:NO: TW-20
SANYU CONSULTANTS INC.			
PREPARED BY:	CHECKED BY:	APPROVED BY:	
DATE:	DATE:	DATE:	DATE:

Temporary Revetment Works (Ibrahimia Left Upper)

S = 1:100



*Geological conditions shall be confirmed before construction

Member quantity

Member	Scale	Unit	Quantity	Unit weight	Weight	Remarks
Revetment wall (Sheet pile)	28PU+1	m	135.000	106.2kg/m	14.337t	
Total					14.337t	
Anchor pile (H-steel pile)	H-250x250x9x14	m	20.000	71.8kg/m	1.436t	
Anchor pile (Tie rod waling)	[150x75x9x12.5]	m	18.000	24.0kg/m	0.432t	
Total					1.868t	
Anchor pile (Tie rod)	φ28.0	m	29.890	4.83kg/m	0.144t	
Total			29.890m		0.144t	

Design Condition

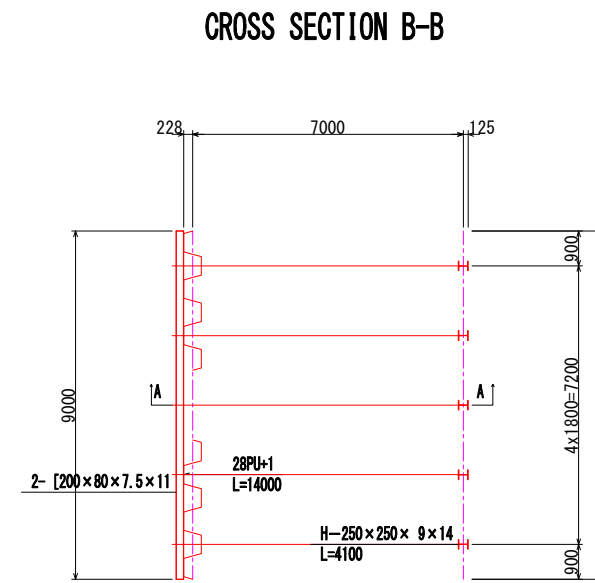
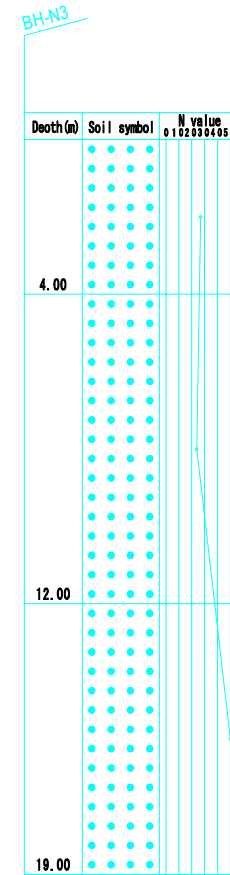
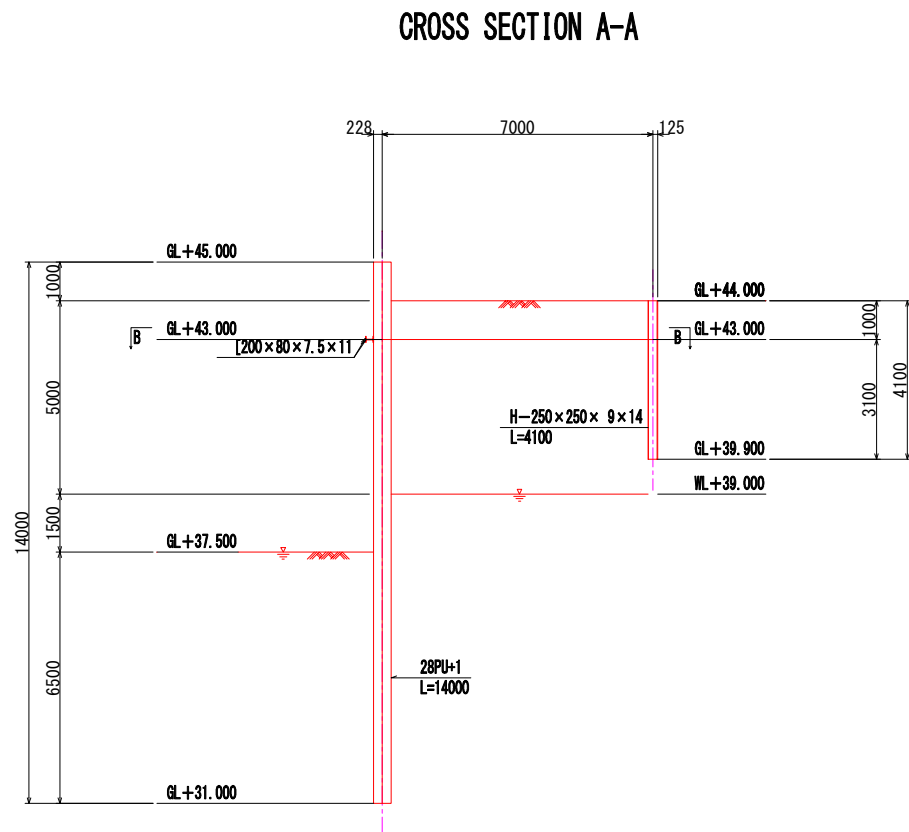
Object structure	
Excavation Area	10.000m × 9.000m
Excavation Depth	4.000m
Water level	WL+42.000m
Surface load	20.00kN/m ²

FOR REFERENCE

PROJECT: Arab Republic of Egypt Ministry of Water Resources and Irrigation Reservoir and Grand Barrages Sector		
Detailed Design Study on the Project for Construction of the New Dirout Group of Regulators		
TITLE: Temporary Revetment Works of Ibrahimia at Left Upper		DRW:NO: TW-21
SANYU CONSULTANTS INC.		
PREPARED BY:	CHECKED BY:	APPROVED BY:
DATE:	DATE:	DATE:

Temporary revetment Works (Ibrahimia Left Lower)

S = 1:100



*Geological conditions shall be confirmed before construction

Member quantity

Member	Scale	Unit	Quantity	Unit weight	Weight	Remarks
Revetment wall (Sheet pile)	PU28+1	m	210.000	106.2kg/m	22.302t	
Total					22.302t	
Anchor pile (H-steel pile)	H-250x250x9x14	m	20.500	71.8kg/m	1.472t	
Anchor pile (Tie rod waling)	[200x80x7.5x11]	m	18.000	24.6kg/m	0.443t	
Total					1.915t	
Anchor pile (Tie rod)	φ28.0	m	75.280	4.83kg/m	0.364t	
Total			75.280m		0.364t	

Design Condition

Object structure	value
Excavation Area	20.000m × 9.000m
Excavation Depth	37.500m
Water level	WL+39.000m
Surface load	10.00kN/m ²

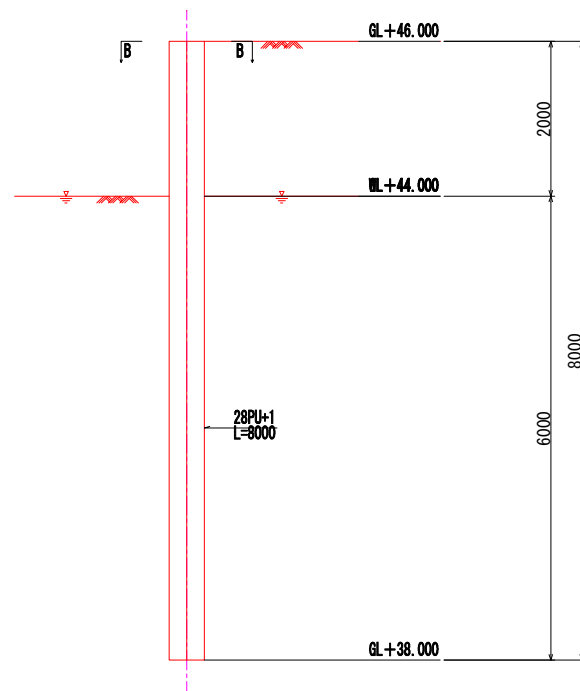
FOR REFERENCE

PROJECT: Arab Republic of Egypt Ministry of Water Resources and Irrigation Reservoir and Grand Barrages Sector		
Detailed Design Study on the Project for Construction of the New Dirout Group of Regulators		
TITLE: Temporary Revetment Works of Ibrahimia at Left Lower	DRW:NO: TW-22	
SANYU CONSULTANTS INC.		
PREPARED BY:	CHECKED BY:	APPROVED BY:
DATE:	DATE:	DATE:

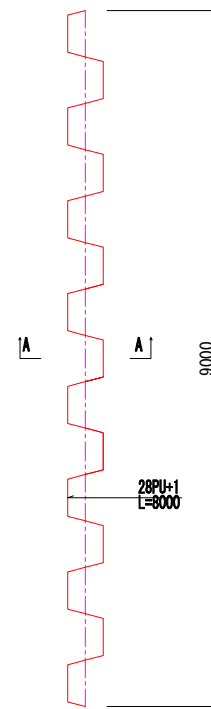
Temporary Revetment Works (Ibrahimia Right)

S = 1:50 1:100

CROSS SECTION A-A



CROSS SECTION B-B



BH-N3

Depth (m)	Soil symbol	N value	US
0.00		10	0.0
1.00		12	0.0
2.00		15	0.0
3.00		18	0.0
4.00		20	0.0
5.00		22	0.0
6.00		25	0.0
7.00		28	0.0
8.00		30	0.0
9.00		32	0.0
10.00		35	0.0
11.00		38	0.0
12.00		40	0.0

*Geological conditions shall be confirmed before construction

Member quantity

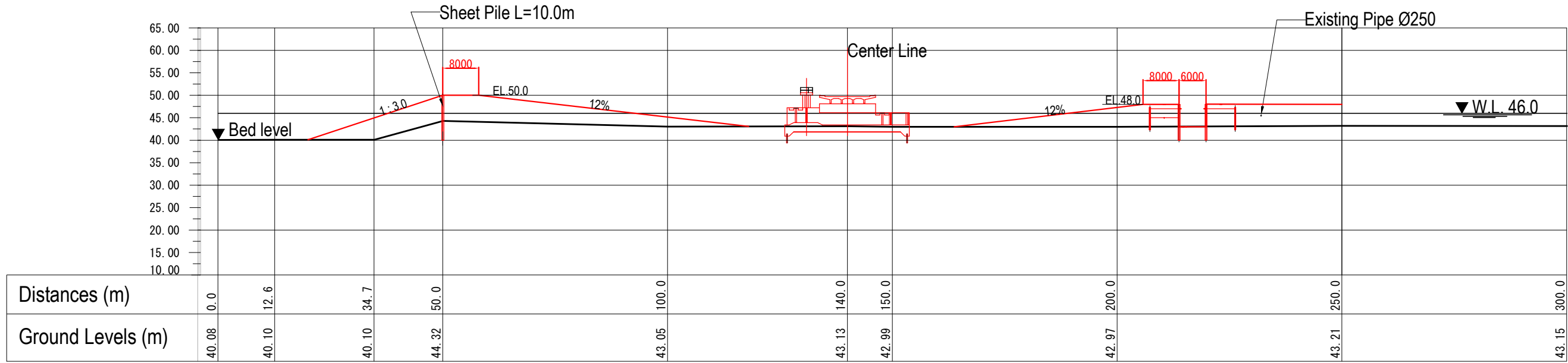
Member	Scale	Unit	Quantity	Unit weight	Weight	Remarks
Revetment wall (Sheet pile)	PU28+1 (S355GP)	m	120.000	106.2kg/m	12.744t	
Total					12.744t	

Design Condition

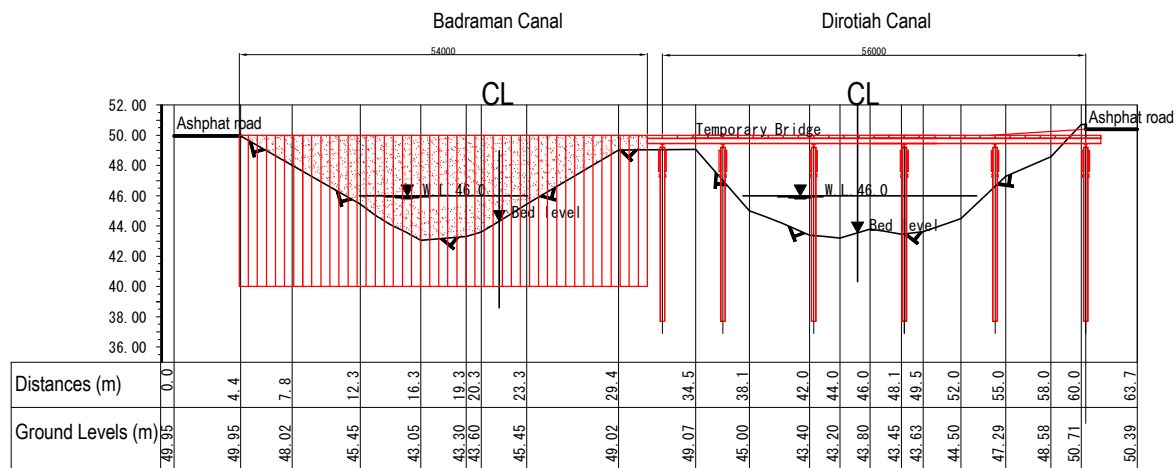
Object structure	
Excavation Area	10.000m x 9.000m
Excavation Depth	44.000m
Water level	WL +44.000m
Surface load	20.00kN/m ²

FOR REFERENCE

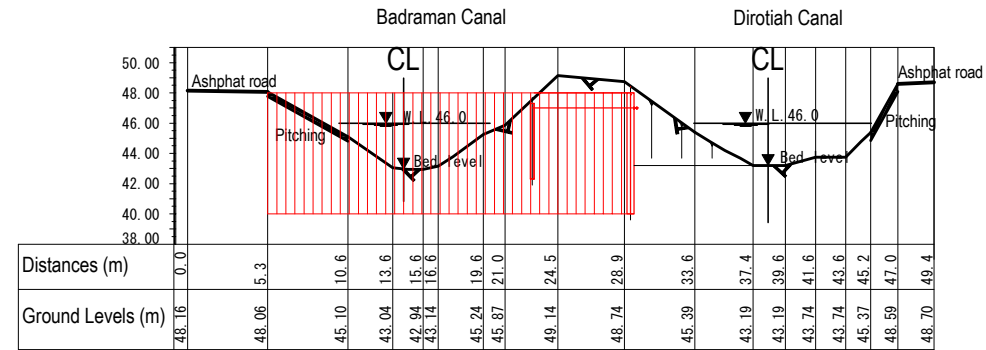
PROJECT: Arab Republic of Egypt Ministry of Water Resources and Irrigation Reservoir and Grand Barrages Sector		
Detailed Design Study on the Project for Construction of the New Dirout Group of Regulators		
TITLE: Temporary Revetment Works of Ibrahimia at Right		DRW:NO: TW-23
SANYU CONSULTANTS INC.		
PREPARED BY:	CHECKED BY:	APPROVED BY:
DATE:	DATE:	DATE:



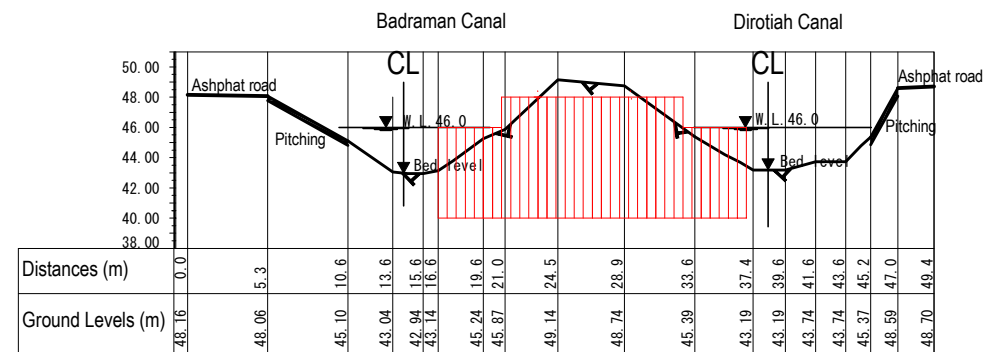
Badraman Canal Longitudinal Section
SCALE 1 : 1,000



Cross Section No 4 (Upstream Side)
SCALE 1 : 500



Cross Section of Connection Cannal (Upstream Side at Badraman)
SCALE 1 : 500



Cross Section of Connection Cannal (Downstream Side)
SCALE 1 : 500

FOR REFERENCE

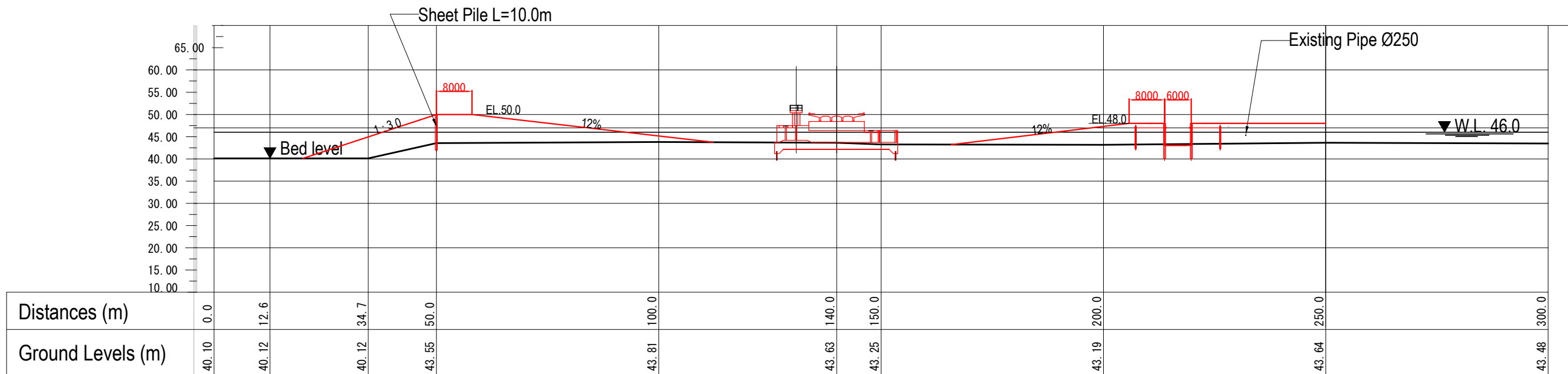
PROJECT: Arab Republic of Egypt
Ministry of Water Resources and Irrigation
Reservoir and Grand Barrages Sector

Detailed Design Study on the Project for
Construction of the New Dirout Group of Regulators

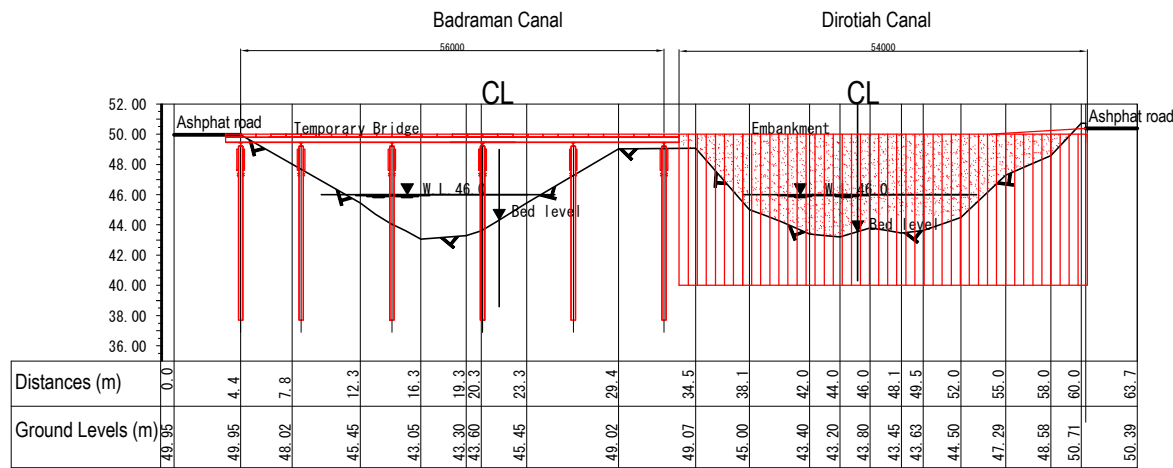
TITLE: Longitudinal Section of Badraman
DRW. NO. TW-24

SANYU CONSULTANTS INC.

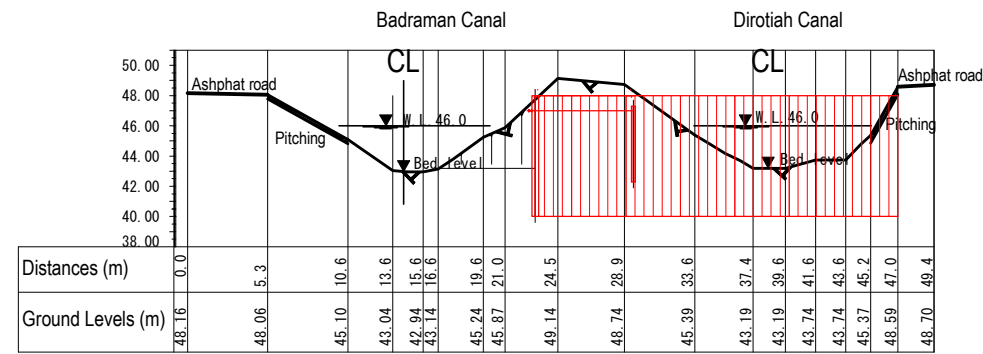
PREPARED BY:	CHECKED BY:	APPROVED BY:
DATE:	DATE:	DATE:



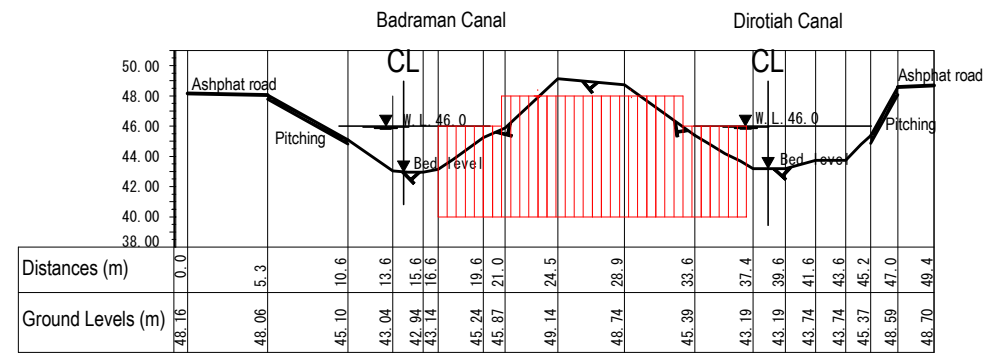
Dirotiah Canal Longitudinal Section
SCALE 1 : 1,000



Cross Section No 4 (Upstream Side)
SCALE 1 : 500



Cross Section of Connection Cannal (Upstream Side at Dirotiah)
SCALE 1 : 500



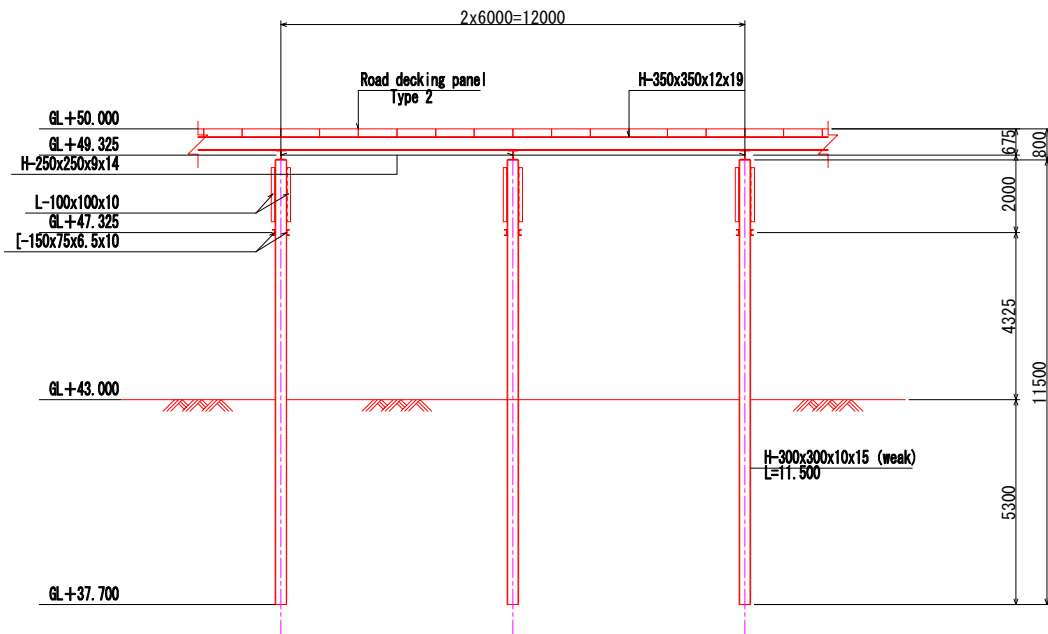
Cross Section of Connection Cannal (Downstream Side)
SCALE 1 : 500

FOR REFERENCE

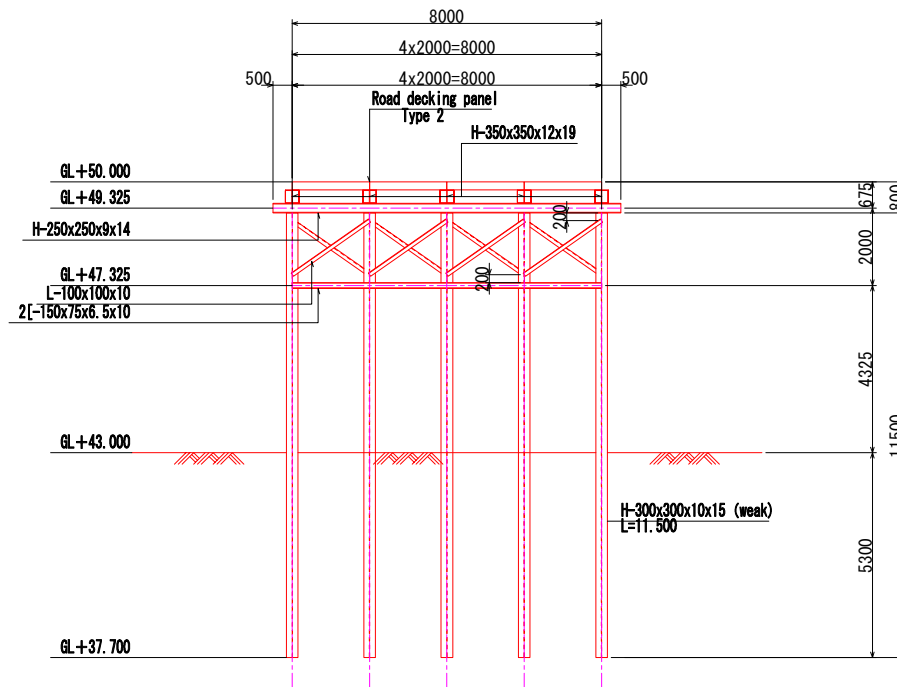
PROJECT: Arab Republic of Egypt Ministry of Water Resources and Irrigation Reservoir and Grand Barrages Sector			
Detailed Design Study on the Project for Construction of the New Dirout Group of Regulators			
TITLE: Longitudinal Section of Dirotiah			DRW. NO. TW-25
SANYU CONSULTANTS INC.			
PREPARED BY:	CHECKED BY:	APPROVED BY:	
DATE:	DATE:	DATE:	DATE:

Temporary Bridge (Badraman & Diroutiah) B=8m S = 1:100

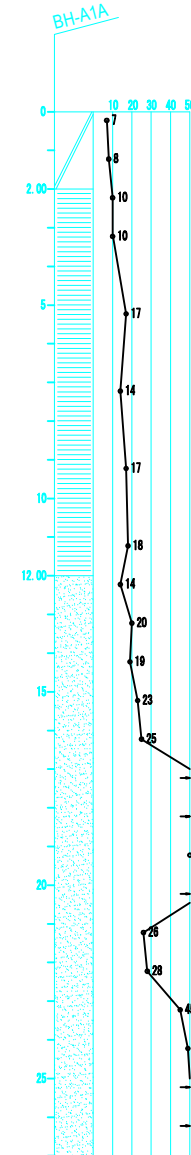
CROSS SECTION B-B



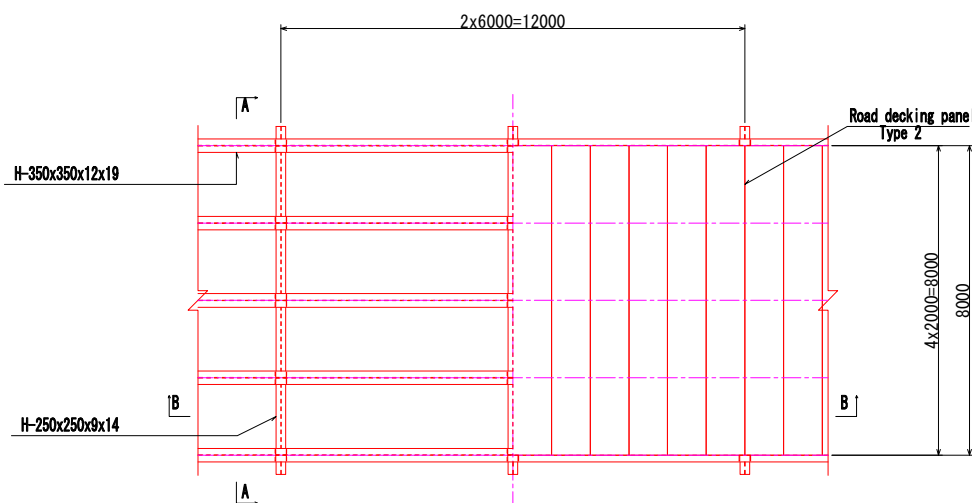
CROSS SECTION A-A



*Geological conditions shall be confirmed before construction



PLAN



Main member quantity (per 1 span)

Member	Scale	Unit	Quantity	Unit weight	Weight	Remarks
Steel sheet pile	Road decking panel type 2	m ²	48.000	-	-	
Total			48.000m ²			
Beam seater	H-350x350x12x19	m	30.000	135.0kg/m	4.050t	
Beam	H-250x250x9x14	m	9.000	71.8kg/m	0.646t	
Pile	H-300x300x10x15 (weak)	m	57.500	93.0kg/m	5.348t	
Total					10.044t	

Design condition

Application criteria	Guide line of temporary works	
Construction method of pile	Vibro-hammer	
Live load	Truck load (T20) Crawler crane load (P&H440S) Truck crane load (Rough terrain crane 25t)	
Shape size	Span	6.000m
	Width	8.000m
	Height	6.325m

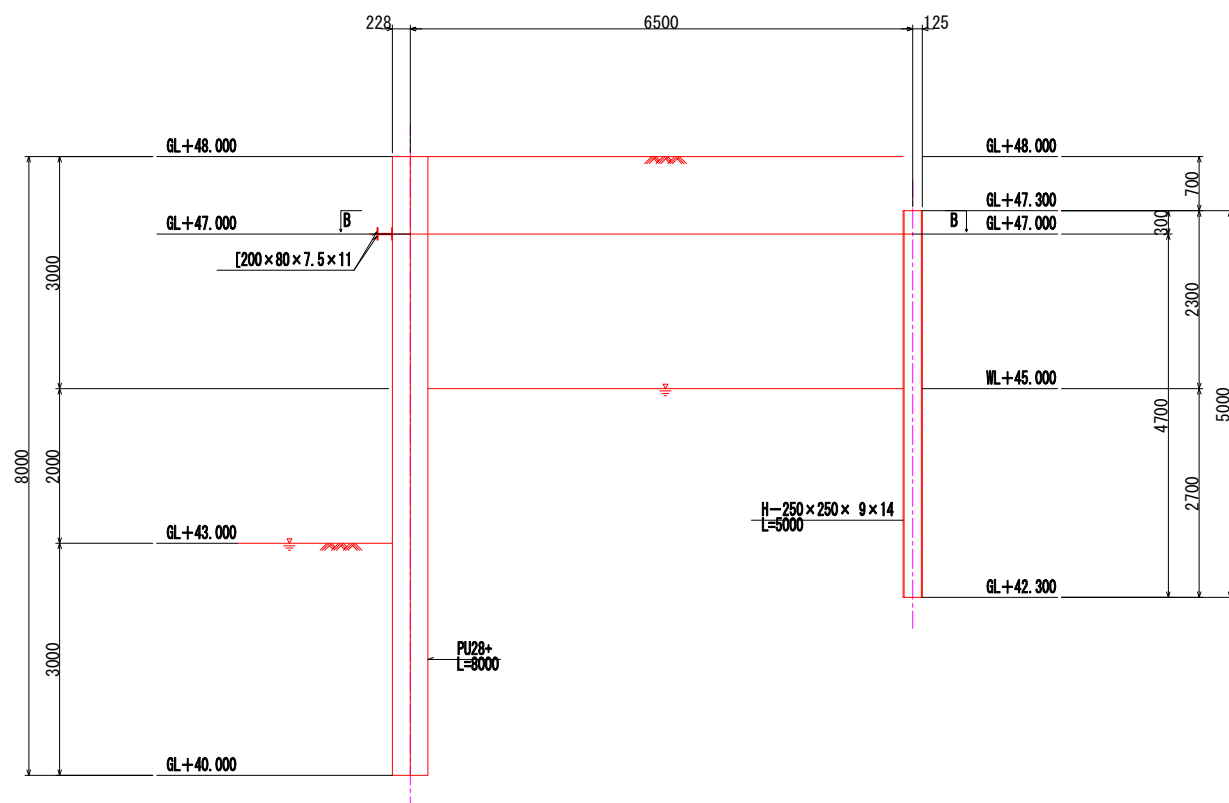
FOR REFERENCE

PROJECT: Arab Republic of Egypt Ministry of Water Resources and Irrigation Reservoir and Grand Barrages Sector		
Detailed Design Study on the Project for Construction of the New Dirout Group of Regulators		
TITLE: Temporary Bridge of Badraman and Diroutiah B=8m	DRW:NO: TW-26	
SANYU CONSULTANTS INC.		
PREPARED BY:	CHECKED BY:	APPROVED BY:
DATE:	DATE:	DATE:

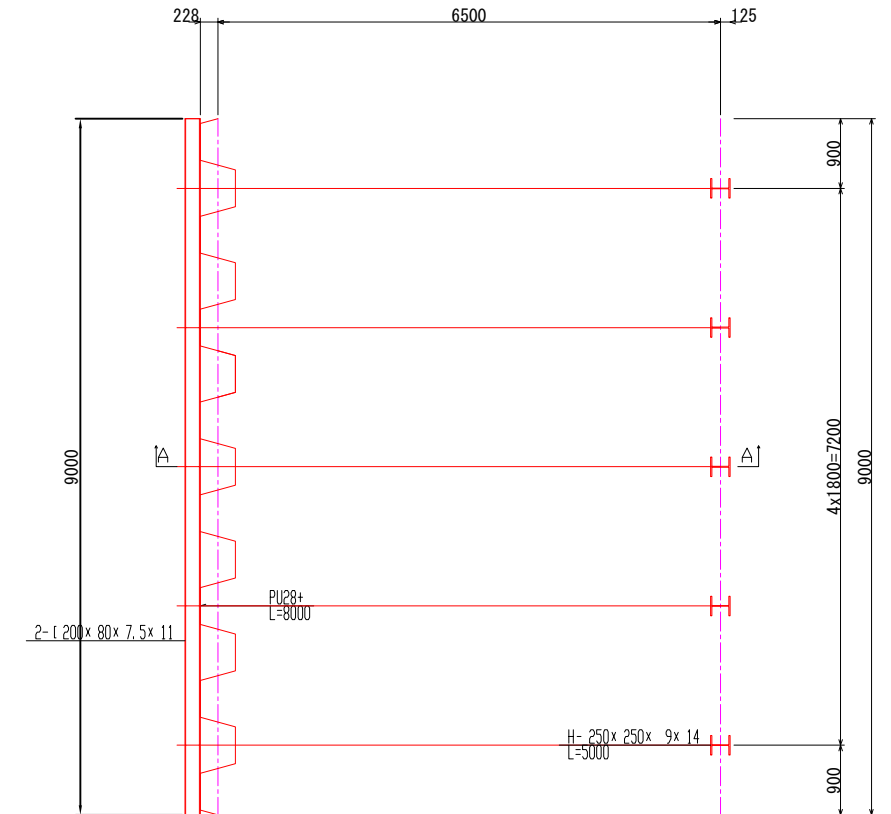
Temporary Revetment Works (Badraman & Diroutiah Downstreams)

S = 1:50 1:100

CROSS SECTION A-A



CROSS SECTION B-B



BH-A1A
EL.49.18

Depth (m)	Soil symbol	N value
0.00		10
1.00		12
2.00		15
3.00		18
4.00		20
5.00		22
6.00		25
7.00		28
8.00		30
9.00		32
10.00		35
11.00		38
12.00		40

*Geological conditions shall be confirmed before construction

Member quantity

Member	Scale	Unit	Quantity	Unit weight	Weight	Remarks
Steel sheet pile	PU28+1 (S355GP)	m	120.000	106.2kg/m	12.744t	
Total					12.744t	
Beam seater	H-250x250x9x14	m	25.000	71.8kg/m	1.759t	
Beam	[200x80x7.5x11]	m	18.000	24.6kg/m	0.443t	
Pile	Total				2.238t	
	φ28.0	m	35.140	4.83kg/m	0.170t	
Total					0.170t	

Design Condition

Object structure	value
Excavation Area	8.000m x 9.000m
Excavation Depth	43.000m
Water level	WL+45.000m
Surface load	10.00kN/m ²

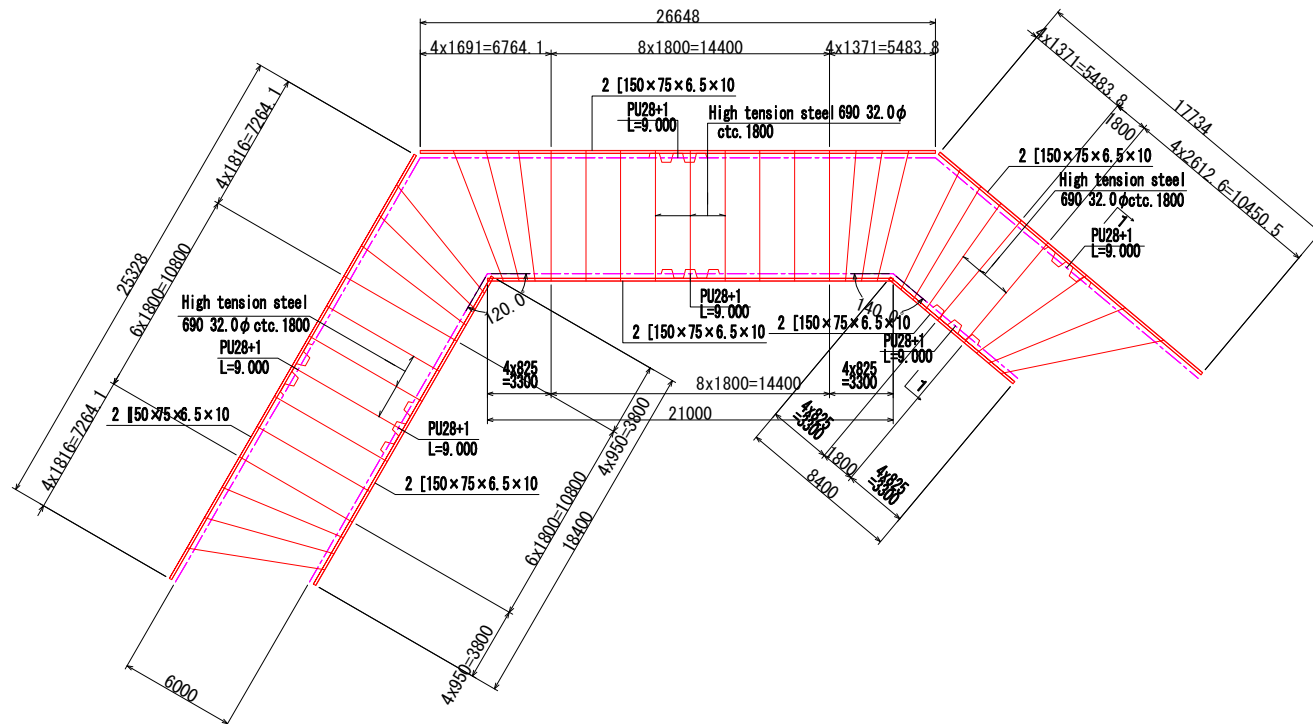
FOR REFERENCE

PROJECT: Arab Republic of Egypt Ministry of Water Resources and Irrigation Reservoir and Grand Barrages Sector		
Detailed Design Study on the Project for Construction of the New Dirout Group of Regulators		
TITLE: Temporary Revetment Works (Badraman and Diroutiah)	DRW:NO: TW-27	
SANYU CONSULTANTS INC.		
PREPARED BY:	CHECKED BY:	APPROVED BY:
DATE:	DATE:	DATE:

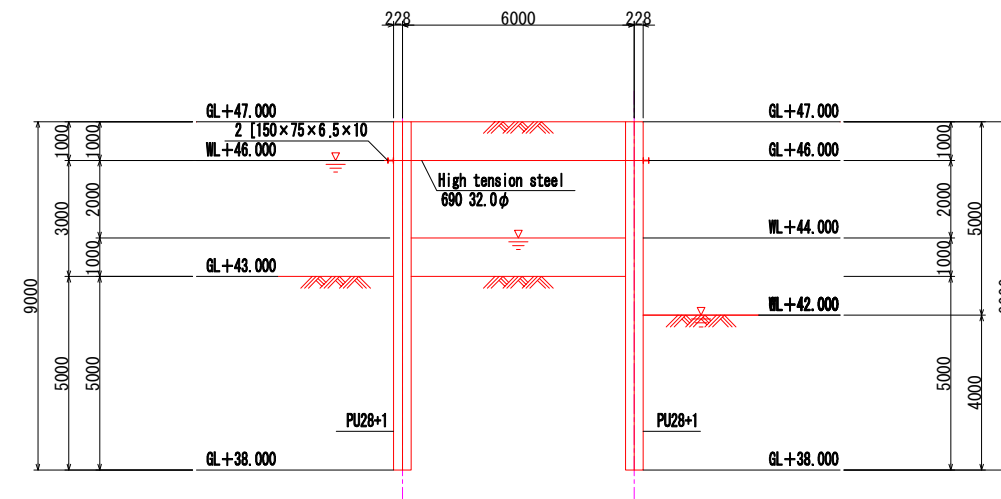
Double Sheet Pile (Abo Gabal)

S = 1:100 1:200

Plane Map



CROSS SECTION 1-1



BH-N5
EL.43.58

Depth (m)	Soil symbol	N value
1.00		
2.00		
4.00		
6.00		
8.00		
9.00		
10.00		
11.00		
12.00		
13.00		
14.00		
15.00		
16.00		
17.00		
18.00		

Member quantity

Member	Specification	Scale	Unit	Quantity	Unit weight	Weight	Remarks
Steel sheet pile	S355GP	PU28+1	m	1764.000	106.2kg/m	187.337t	
Total						187.337t	
Tension rod	High tension steel 690	32.0 phi	m	249.087	-	-	
Total				249.087m			
	SS400	[150x75x6.5x10]	m	235.020	18.6kg/m	4.370t	
Total						4.370t	

Design Condition

Object structure	Double sheet pile
Total length of wall	47.800m
Water level	W. L. 46.000m
Earth pressure	Coulomb
Water pressure for stability	Sand layer
Overburden load	0.00kN/m2
Filling soil inside	Sand

*Geological conditions shall be confirmed before construction

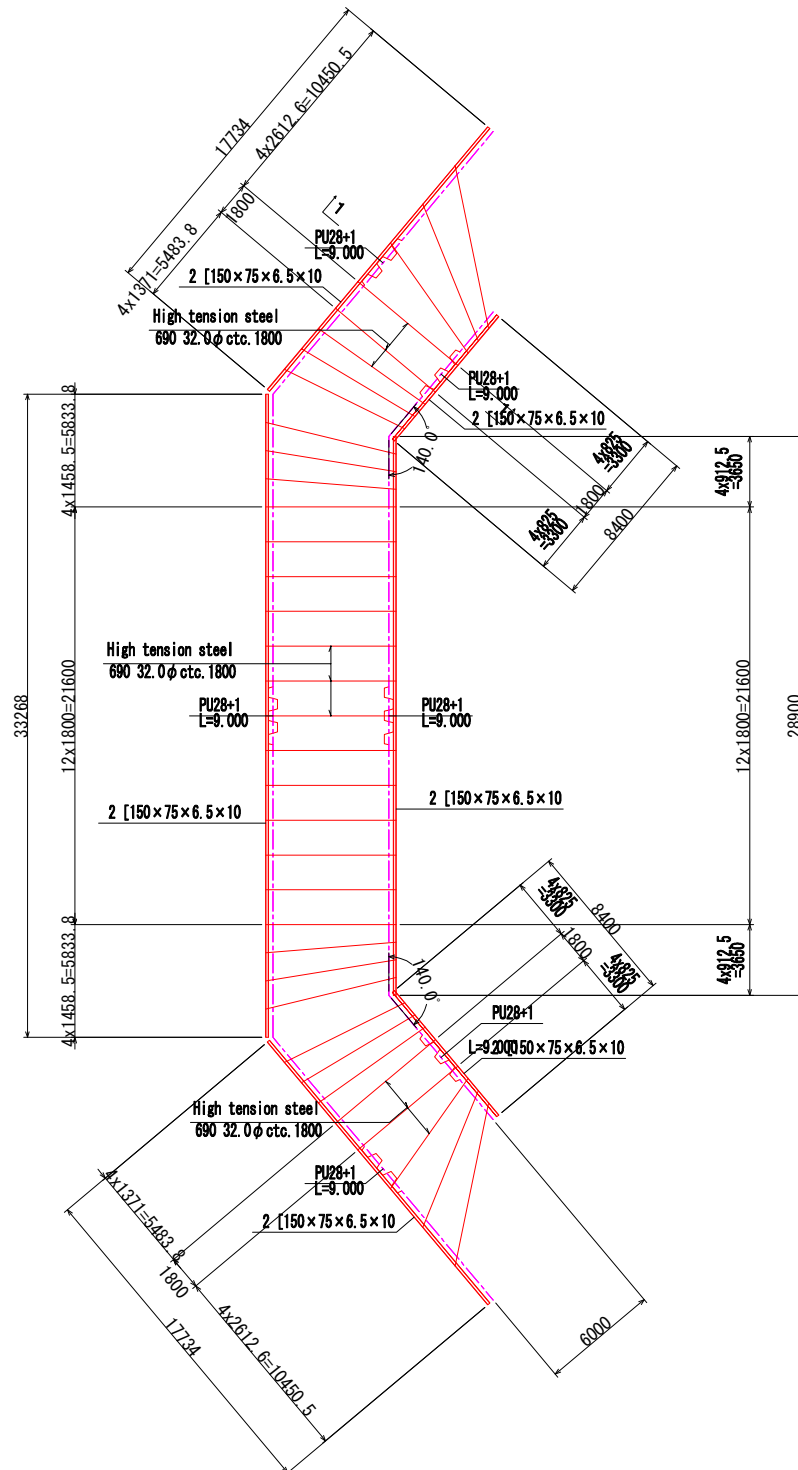
FOR REFERENCE

PROJECT: Arab Republic of Egypt Ministry of Water Resources and Irrigation Reservoir and Grand Barrages Sector			
Detailed Design Study on the Project for Construction of the New Dirout Group of Regulators			
TITLE: Double Sheet Pile of Abo Gabal			DRW:NO: TW-28
SANYU CONSULTANTS INC.			
PREPARED BY:	CHECKED BY:	APPROVED BY:	
DATE:	DATE:	DATE:	DATE:

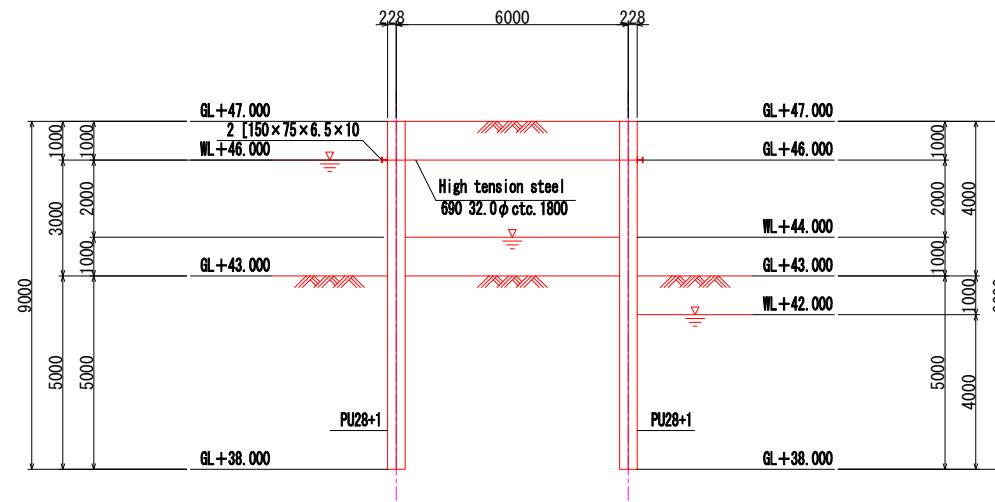
Double Sheet Pile (Sahelyia)

S = 1:100 1:200

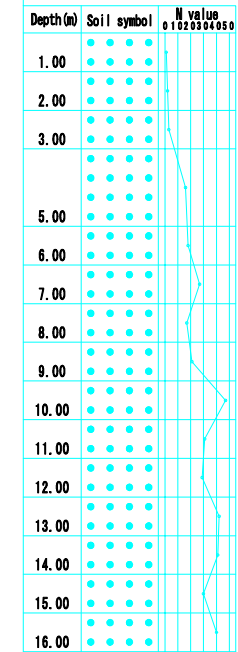
Plane Map



CROSS SECTION 1-1



BH-N6
EL.43.22



*Geological conditions shall be confirmed before construction

Member quantity

Member	Specification	Scale	Unit	Quantity	Unit weight	Weight	Remarks
Steel sheet pile	PU28+1 (S355GP)	PU28+1	m	1719.000	106.2kg/m	182.557t	
Total						182.557t	
Tension rod	High tension steel 690	32.0 phi	m	243.666	-	-	
Total				243.666m			
Channel Steel	SS400	[150x75x6.5x10]	m	228.872	18.6kg/m	4.257t	
Total						4.257t	

Design Condition

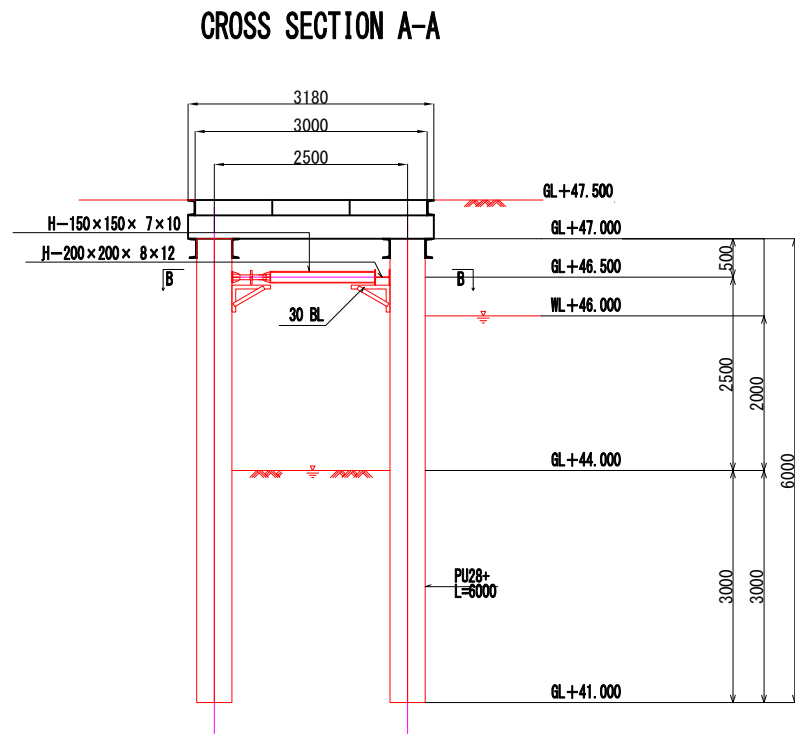
Object structure	Double sheet pile
Total length of wall	45.700m
Water level	W.L. 46.000m
Earth pressure	Coulomb
Water pressure for stability	Sand layer
Overburden load	0.00kN/m2
Filling soil inside	Sand

FOR REFERENCE

PROJECT:		Arab Republic of Egypt Ministry of Water Resources and Irrigation Reservoir and Grand Barrages Sector	
Detailed Design Study on the Project for Construction of the New Dirout Group of Regulators			
TITLE:		Double Sheet Pile of Sahelyia	
DRW:NO:		TW-29	
SANYU CONSULTANTS INC.			
PREPARED BY:	CHECKED BY:	APPROVED BY:	
DATE:	DATE:	DATE:	DATE:

Diversion Canal (Abo Gabal and Saheyliya)

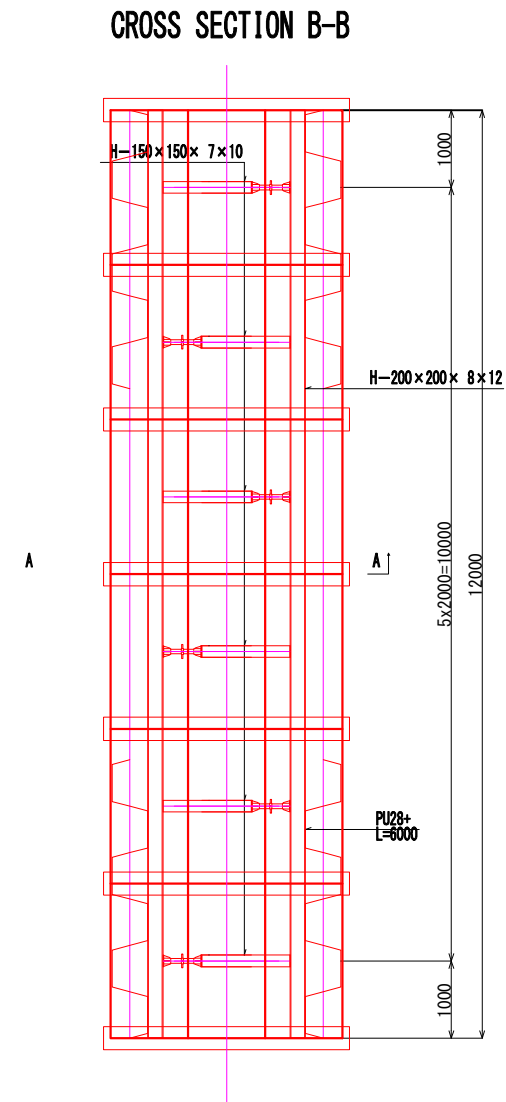
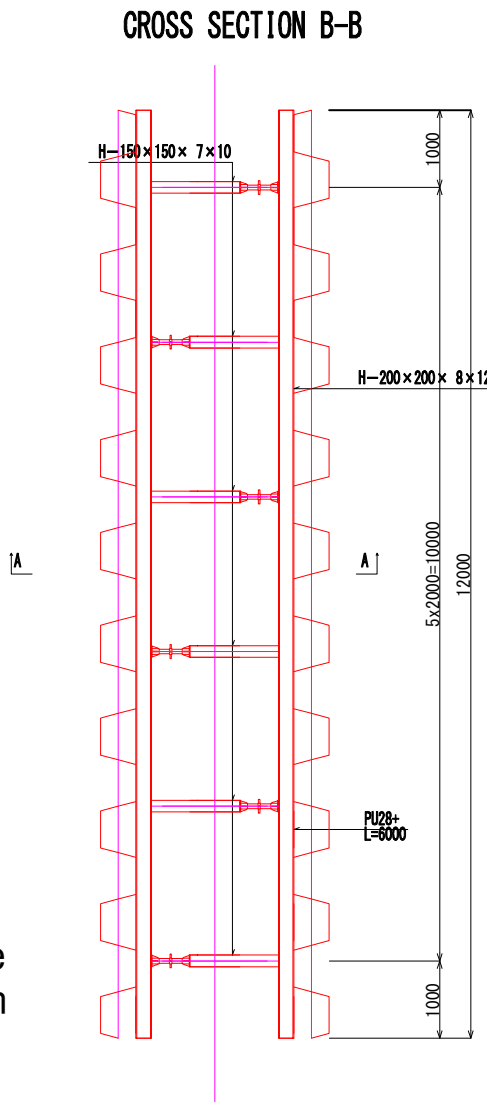
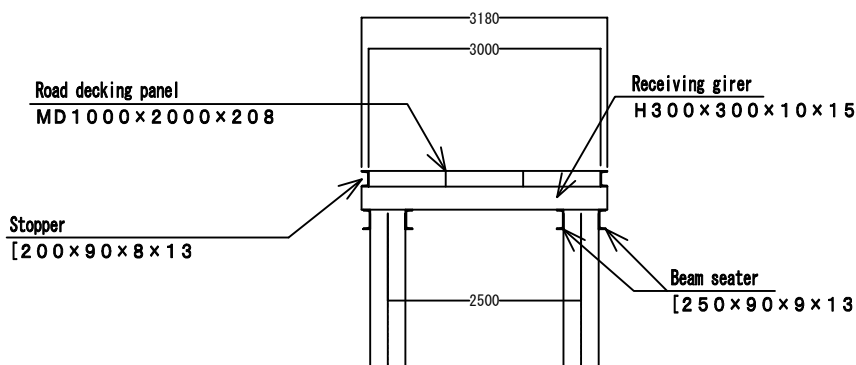
S = 1:50 1:100



BH-N5
EL.43.58

Depth (m)	Soil symbol	N value
1.00		
3.00		
5.00		
7.00		
8.00		
9.00		
10.00		
11.00		
12.00		
13.00		
14.00		
15.00		

*Geological conditions shall be confirmed before construction



Main member quantity (per 1 span)

Member	Scale	Unit	Quantity	Unit weight	Weight	Remarks
Revetment wall (Sheet pile)	PU28+1 (S355GP)	m	120.000	106.2kg/m	12.744t	
Total					12.744t	
Brace Support (waling)	H-200x200x8x12	m	12.000	49.9kg/m	0.599t	
Brace Support (Brace)	H-150x150x7x10	m	1.932	31.1kg/m	0.060t	
Total					0.659t	

Design Condition

Object structure	value
Excavation Area	2.044m x 12.000m
Excavation Depth	44.000m
Water level	WL+46.000m
Surface load	10.00kN/m ²

FOR REFERENCE

PROJECT: Arab Republic of Egypt Ministry of Water Resources and Irrigation Reservoir and Grand Barrages Sector		
Detailed Design Study on the Project for Construction of the New Dirout Group of Regulators		
TITLE: Diversion Canal of Abo Gabal and Saheyliya	DRW:NO: TW-30	
SANYU CONSULTANTS INC.		
PREPARED BY:	CHECKED BY:	APPROVED BY:
DATE:	DATE:	DATE:

Construction road(1)

SCALE 1:1,000

Sheet Pile
L=135m

Engineering
Irrigation

IP.1
IA = 21-10-21
R = 110.000
TL = 20.559
CL = 40.648
SL = -1.905

Irrigation
Department

Sheet Pile
L=130m

IP.2
IA = 20-22-25
R = 55.000
TL = 19.887
CL = 19.657
SL = 0.881

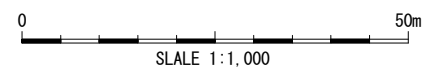
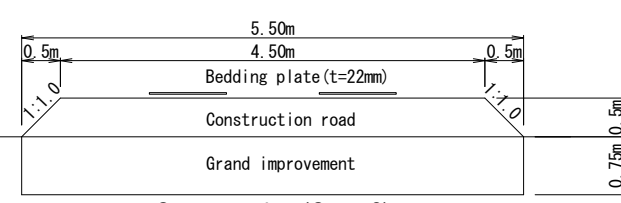
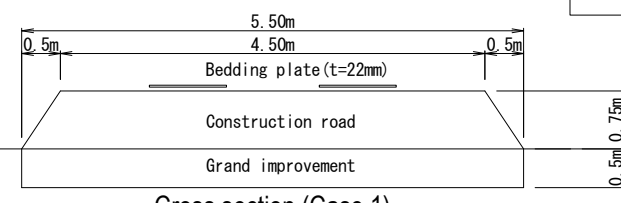
River Bed Protection
L=2600m²

New Badraman Regulator

New Ibrahimia Regulator

New Bahr Yusef Regulator

FOR REFERENCE



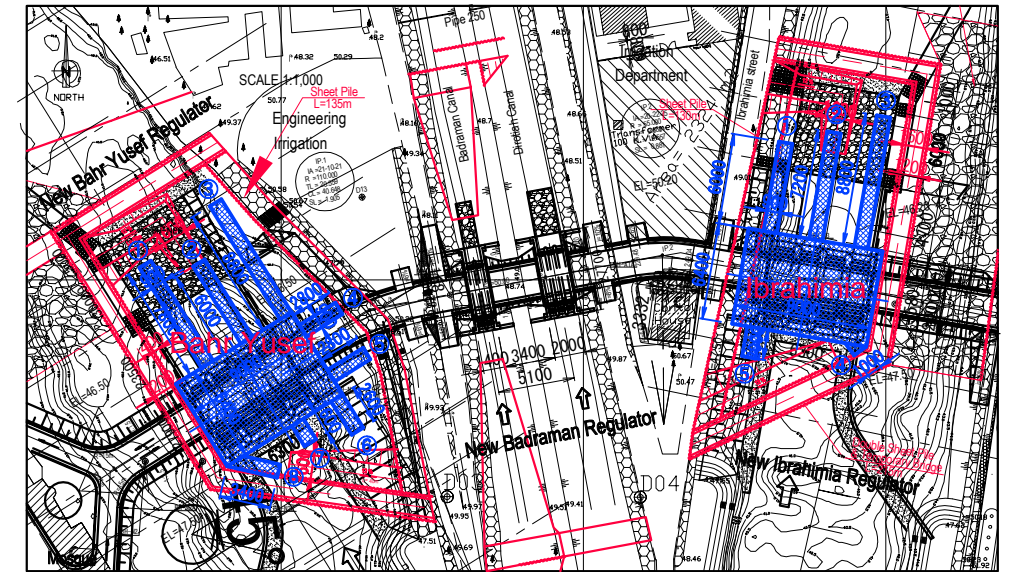
PROJECT:		
Arab Republic of Egypt Ministry of Water Resources and Irrigation Reservoir and Grand Barrages Sector		
Detailed Design Study on the Project for Construction of the New Dirout Group of Regulators		
TITLE:	CONSTRUCTION ROADS (1)	DRW. NO. TW-31
SANYU CONSULTANTS INC.		
PREPARED BY:	CHECKED BY:	APPROVED BY:
DATE:	DATE:	DATE:

Construction road(2)

SCALE 1:500

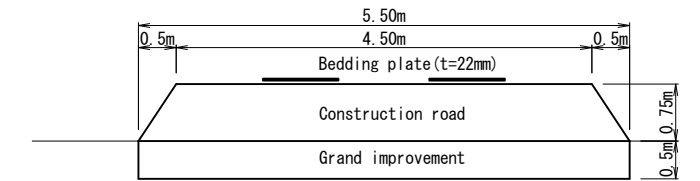
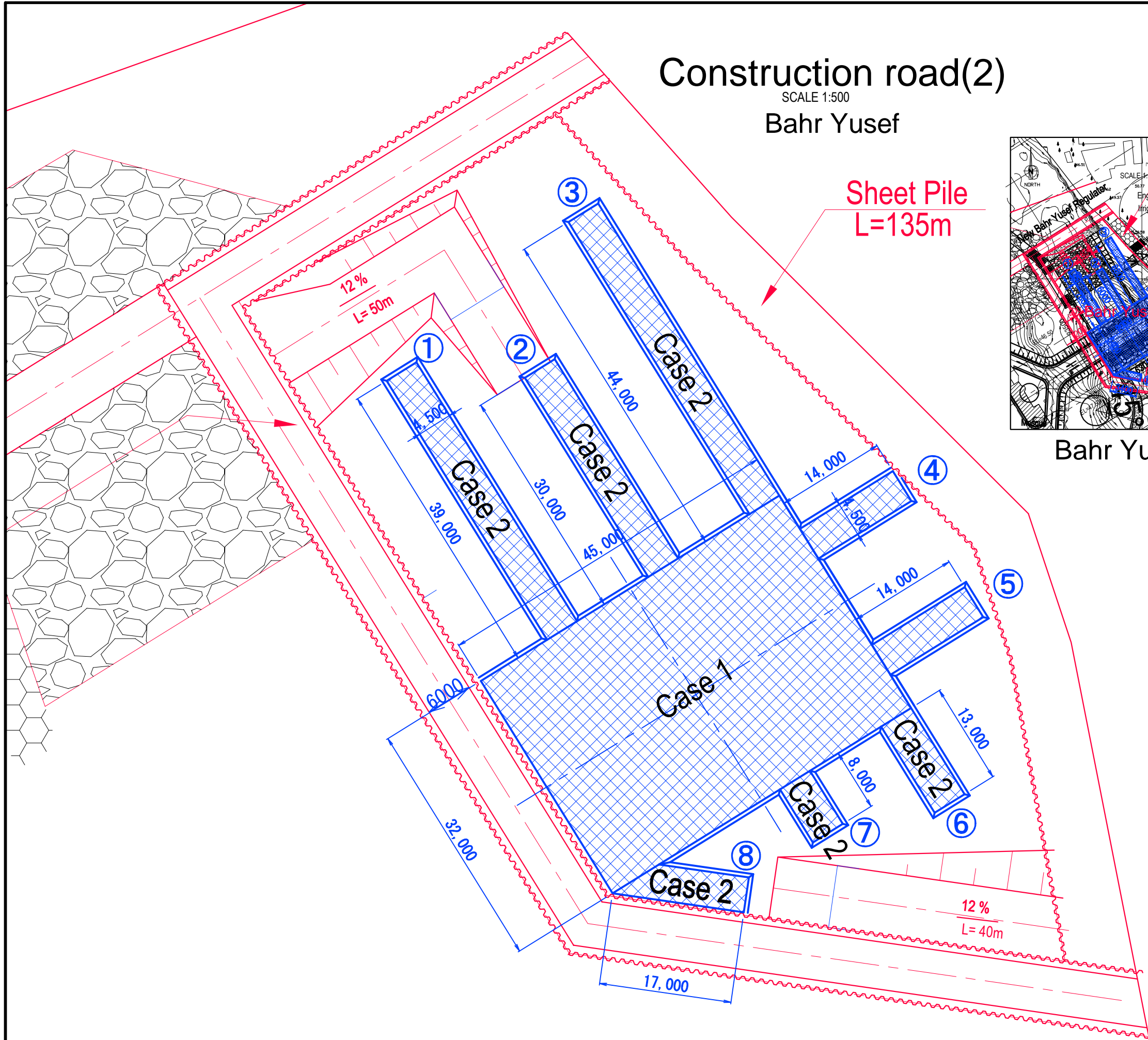
Bahr Yusef

Sheet Pile
L=135m

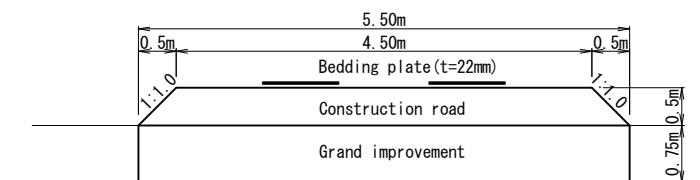


Bahr Yusef

Ibrahimia



Cross section (Case 1)
SCALE 1:100



Cross section (Case 2)
SCALE 1:100

FOR REFERENCE

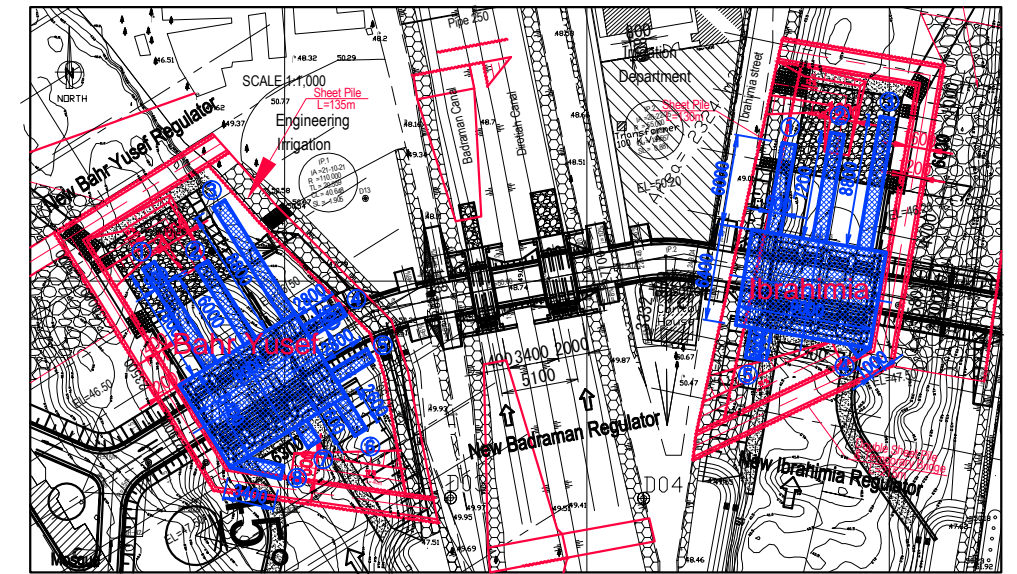


PROJECT: Arab Republic of Egypt Ministry of Water Resources and Irrigation Reservoir and Grand Barrages Sector			
Detailed Design Study on the Project for Construction of the New Dirout Group of Regulators			
TITLE: Construction Roads (2)	DRW. NO. TW-32		
SANYU CONSULTANTS INC.			
PREPARED BY:	CHECKED BY:	APPROVED BY:	
DATE:	DATE:	DATE:	DATE:

Construction road(3)

SCALE 1:500

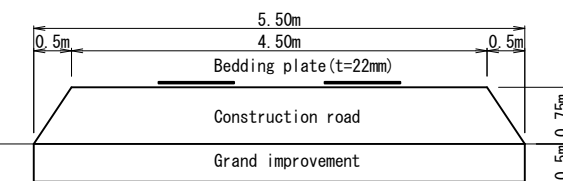
Ibrahimia



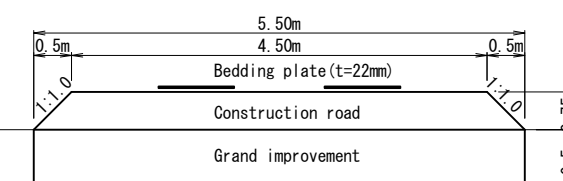
Bahr Yusef

Ibrahimia

River Bed Protection
L=2600m²

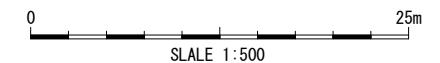


Cross section SCALE 1:100

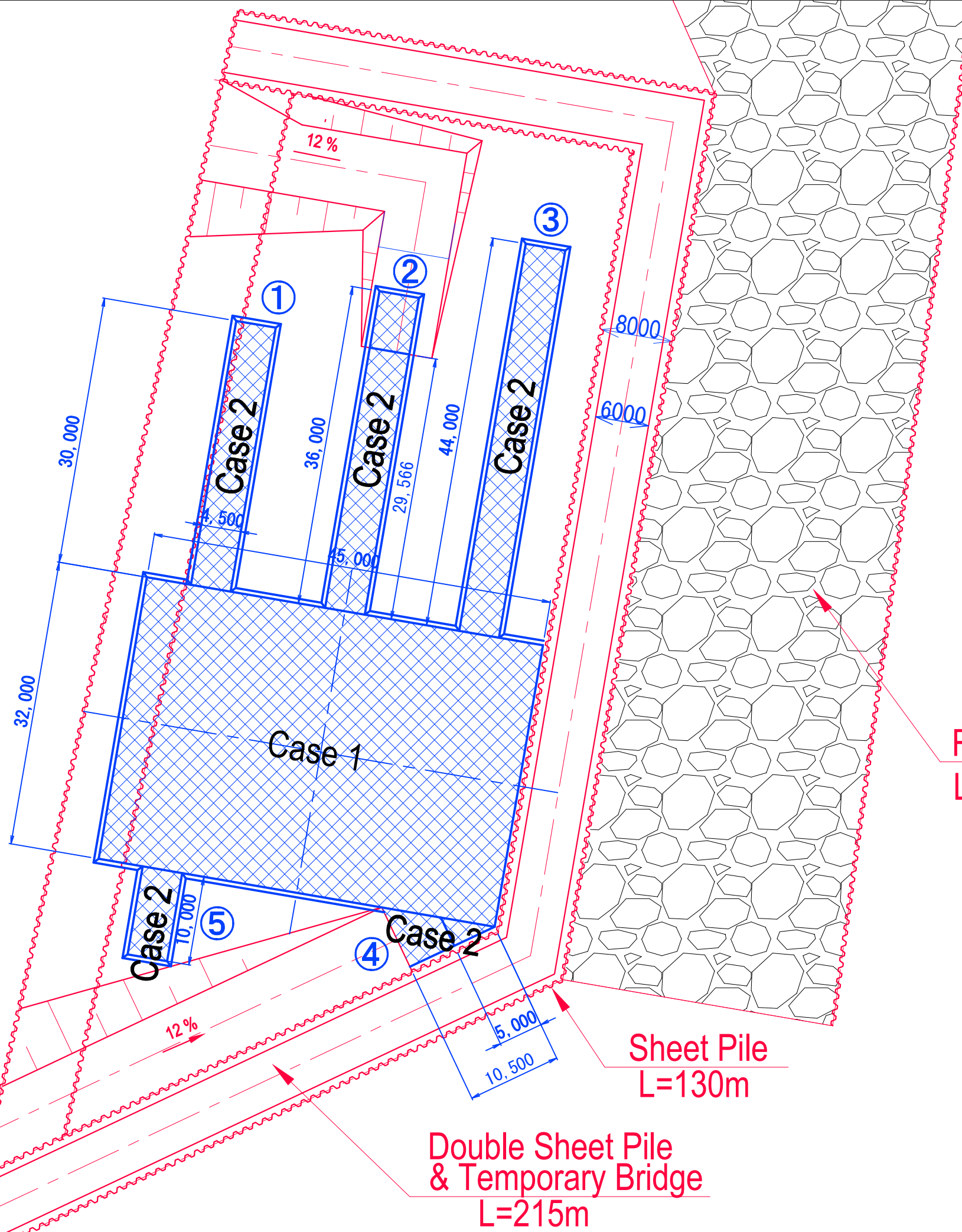


Cross section SCALE 1:100

FOR REFERENCE

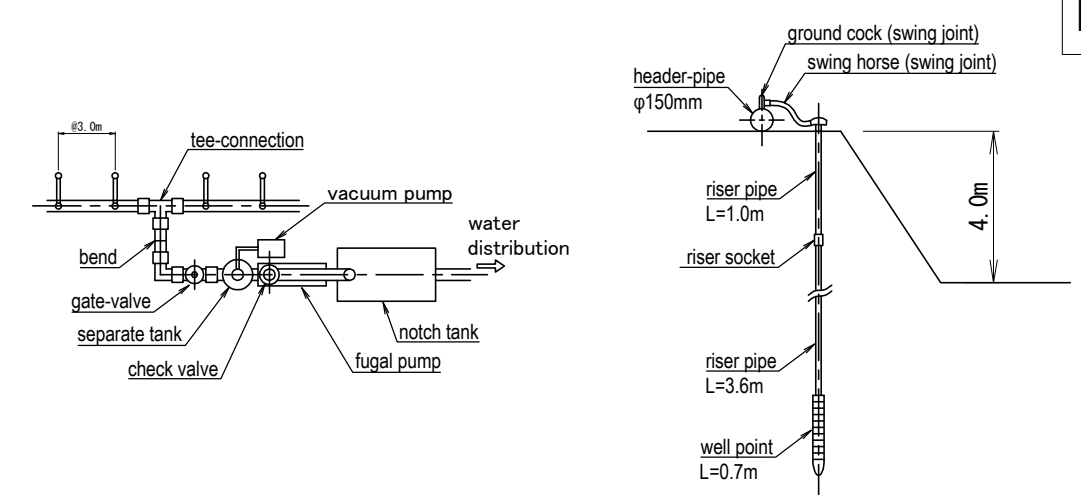


PROJECT:		
Arab Republic of Egypt Ministry of Water Resources and Irrigation Reservoir and Grand Barrages Sector		
Detailed Design Study on the Project for Construction of the New Dirout Group of Regulators		
TITLE:	DRW. NO.	
Construction Roads (3)	TW 33	
SANYU CONSULTANTS INC.		
PREPARED BY:	CHECKED BY:	APPROVED BY:
DATE:	DATE:	DATE:

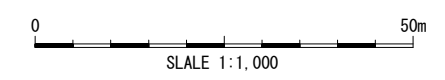


Well-point work(1)

SCALE 1:1,000



FOR REFERENCE



PROJECT:		
Arab Republic of Egypt Ministry of Water Resources and Irrigation Reservoir and Grand Barrages Sector		
Detailed Design Study on the Project for Construction of the New Dirout Group of Regulators		
TITLE:		DRW. NO.
Well-point work(1)		TW-34
SANYU CONSULTANTS INC.		
PREPARED BY:	CHECKED BY:	APPROVED BY:
DATE:	DATE:	DATE:

Engineering
Irrigation

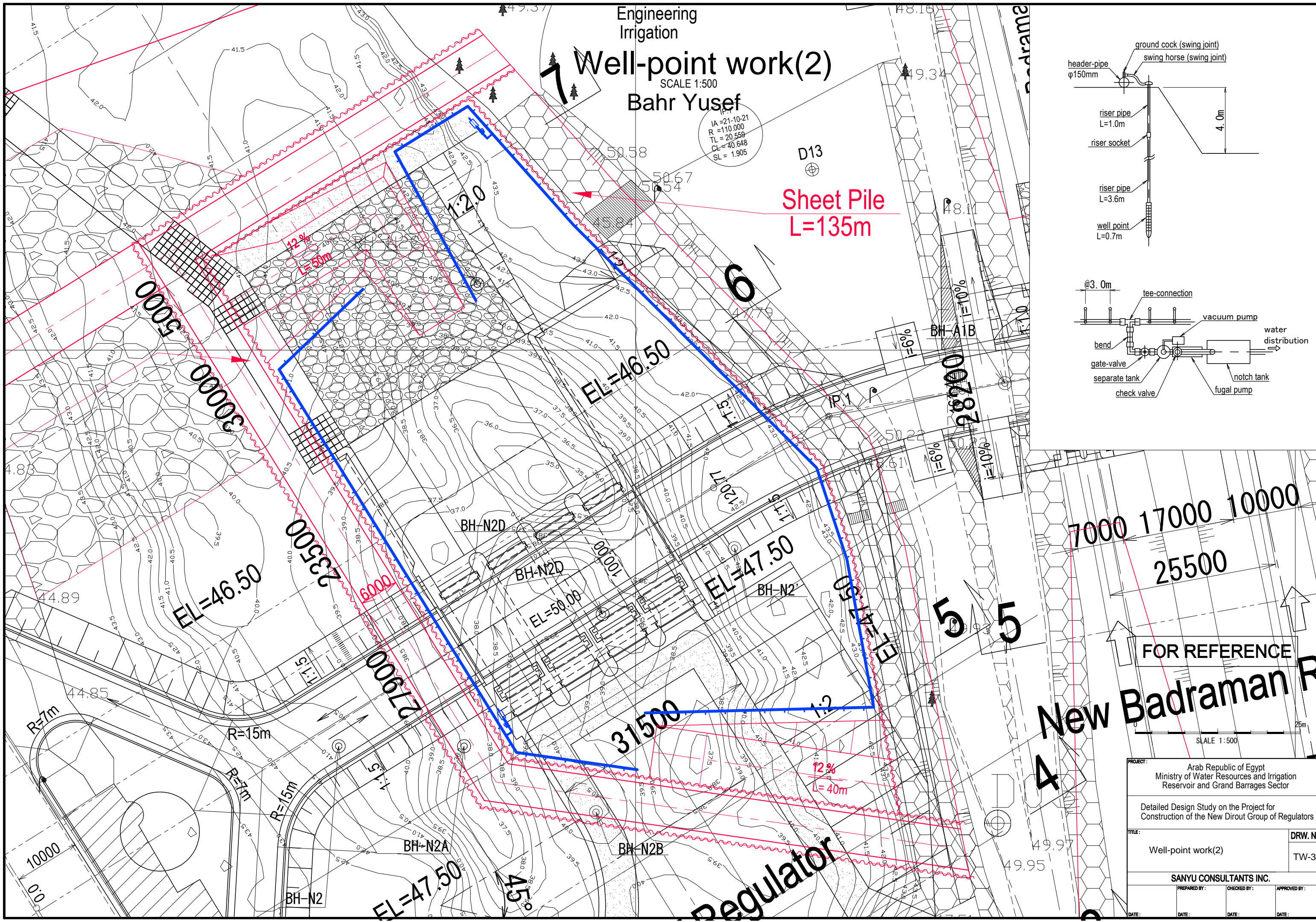
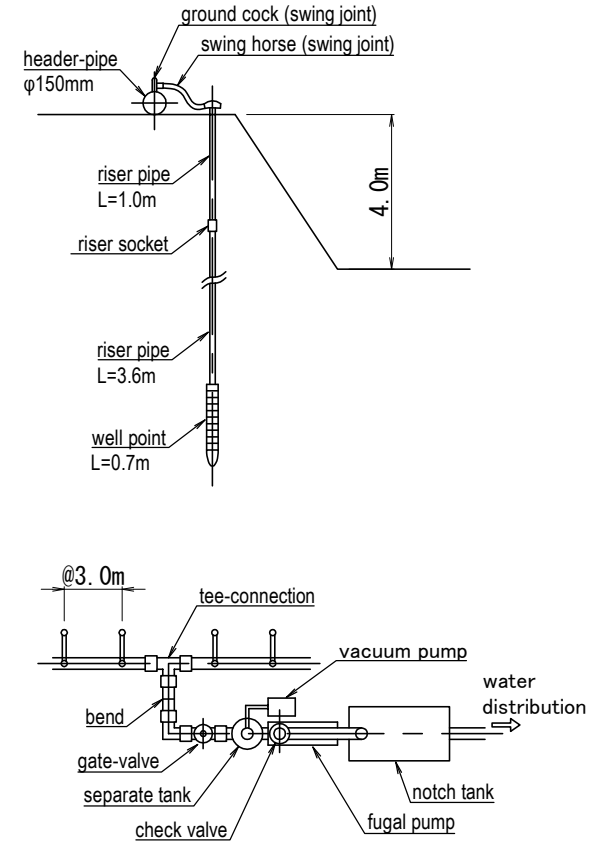
Well-point work(2)

SCALE 1:500

Bahr Yusef

IA = 21-10-21
R = 110.000
TL = 20.558
CL = 40.648
SL = 1.905

Sheet Pile
L=135m



FOR REFERENCE
New Badraman R

7000 17000 10000
25500

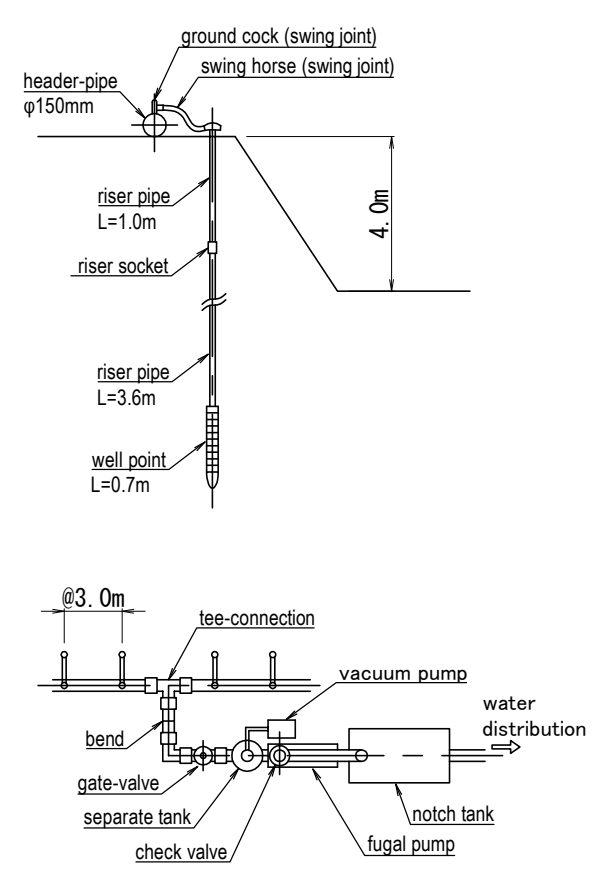
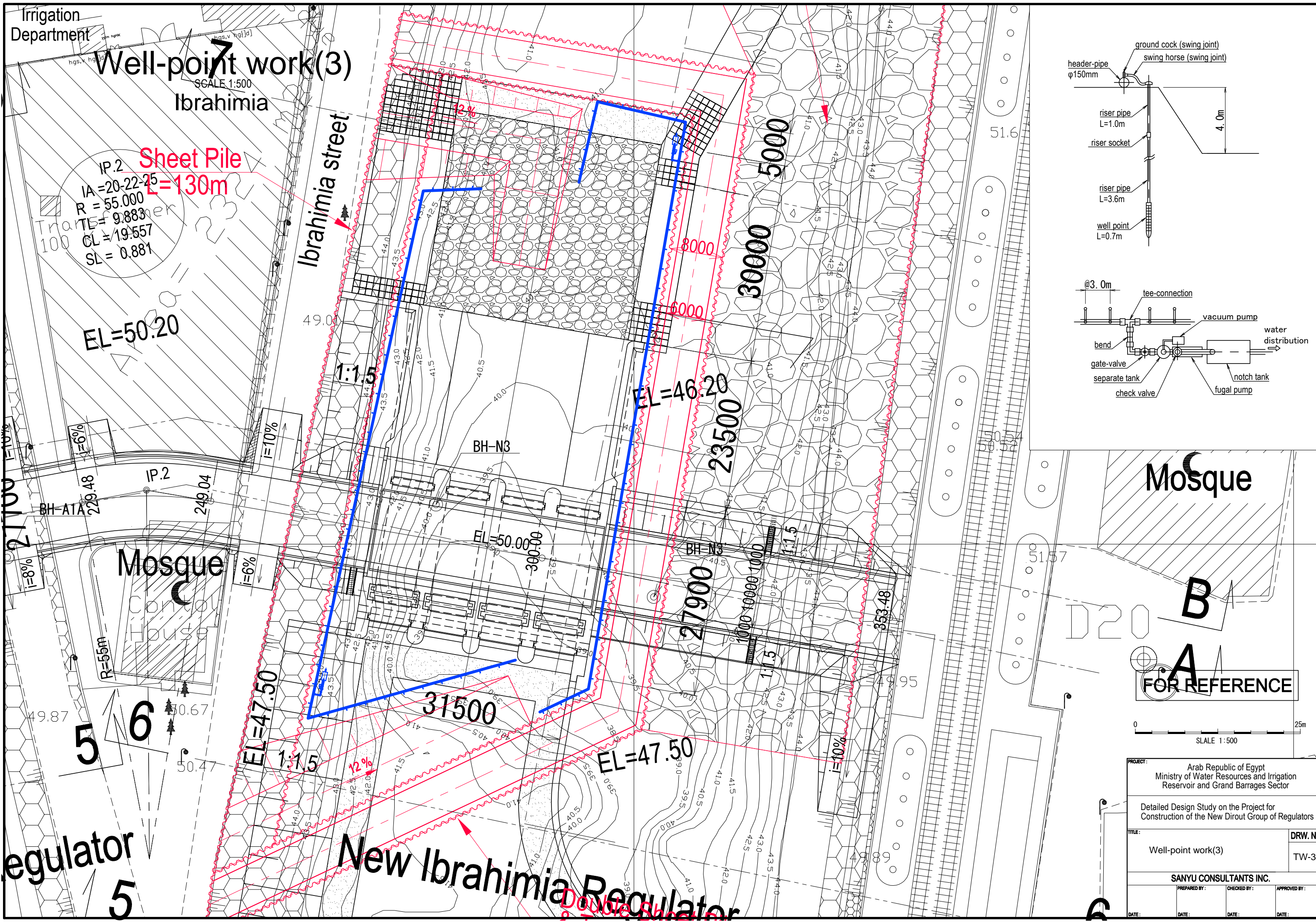
SCALE 1:500

PROJECT: Arab Republic of Egypt Ministry of Water Resources and Irrigation Reservoir and Grand Barrages Sector		
Detailed Design Study on the Project for Construction of the New Dirout Group of Regulators		
TITLE: Well-point work(2)	DRW. NO. TW-35	
SANYU CONSULTANTS INC.		
PREPARED BY:	CHECKED BY:	APPROVED BY:
DATE:	DATE:	DATE:

Irrigation Department
Well-point work(3)
 SCALE 1:500
 Ibrahimia

Sheet Pile
L=130m

IP.2
 IA = 20-22-25
 R = 55.000
 TE = 9.883
 CL = 19.557
 SL = 0.881



Mosque

B

A

FOR REFERENCE



PROJECT: Arab Republic of Egypt Ministry of Water Resources and Irrigation Reservoir and Grand Barrages Sector			
Detailed Design Study on the Project for Construction of the New Dirout Group of Regulators			
TITLE: Well-point work(3)			DRW. NO. TW-36
SANYU CONSULTANTS INC.			
PREPARED BY:	CHECKED BY:	APPROVED BY:	
DATE:	DATE:	DATE:	DATE: