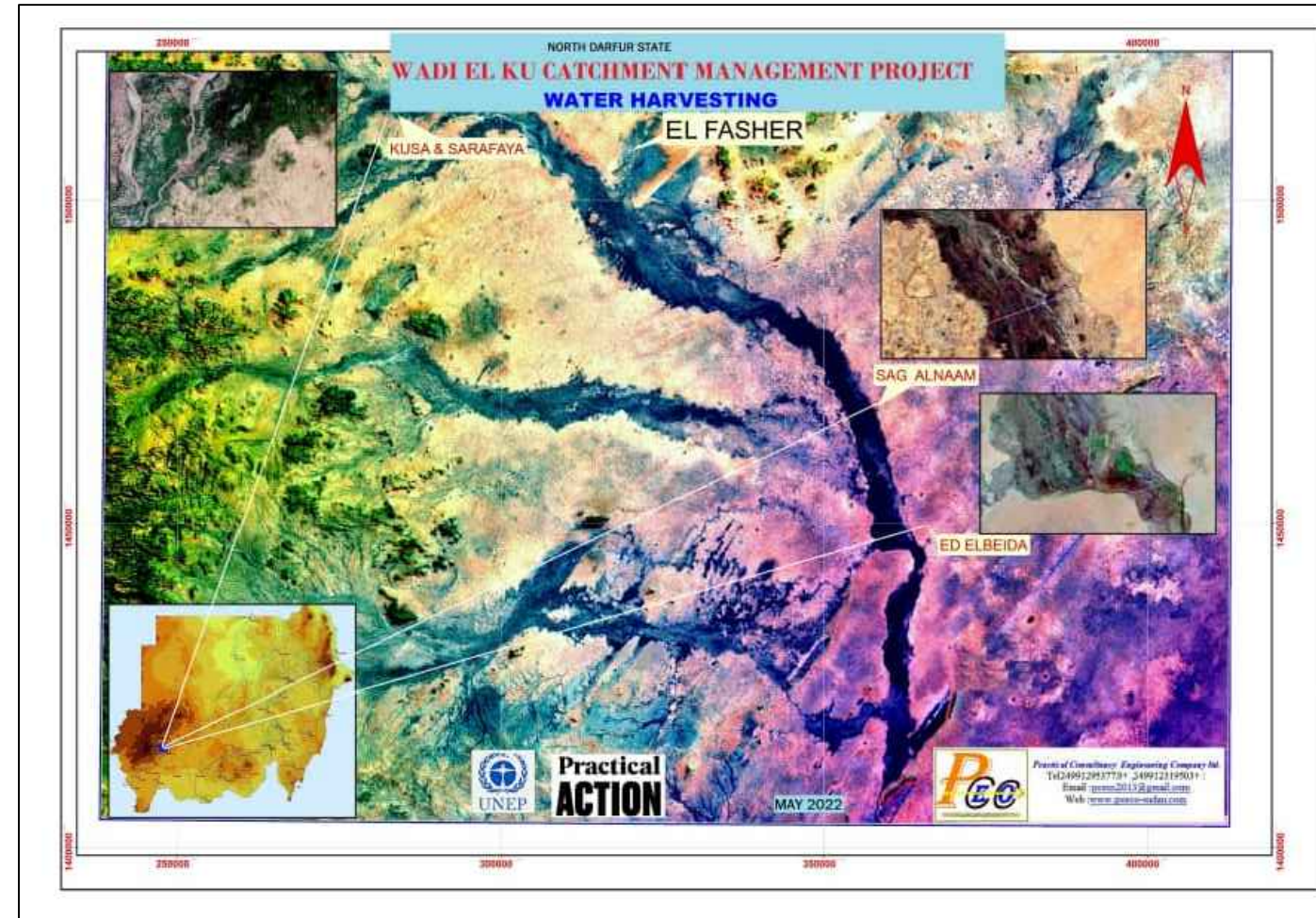




REPUBLIC OF SUDAN

Practical  
**ACTION**

Consultancy Studies and Designs for Water Spreading weirs (Eid elbeida  
Sag Elnaam ,and Kussa & Sarafya) Villages in North Darfur State



DRAWINGS

EIDELBIEDA WATER SPREADING WEIR

CONSULTANT :-



By  
**PRACTICAL**  
**CONSULTANCY ENGINEERING CO. LTD**

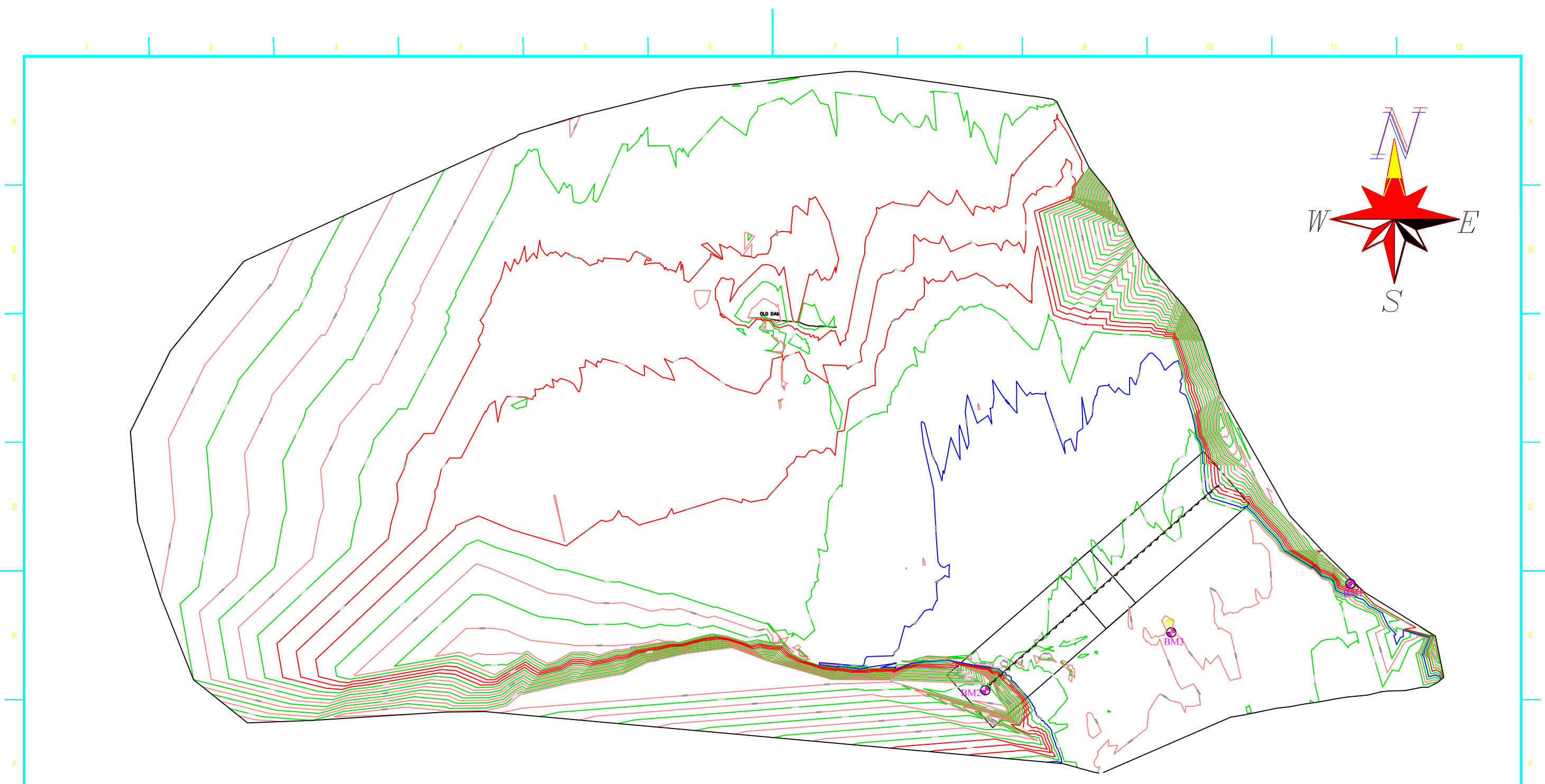
Mobiles :- 00249912319503,00249912953773

Email :pceco2013@gmail.com , Web :www.pceco-sudan.com





November 2022

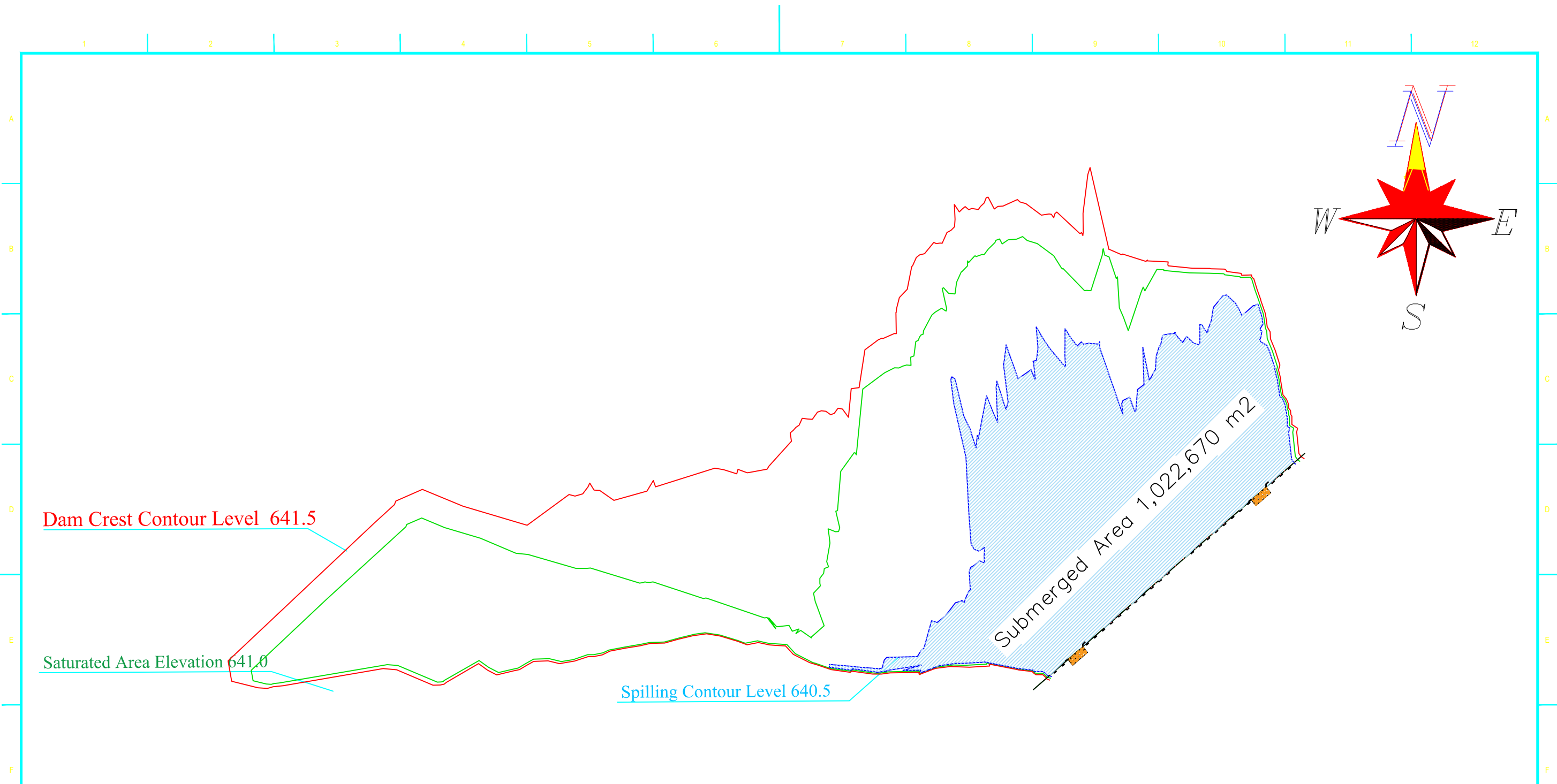
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Name	Easting	Northing	Elevation	Descr.
BM1	364479.759	1447021.628	644.498	BM-AXIS
BM2	362509.923	1446431.015	647.805	BM-AXIS
BM3	363518.041	1446715.891	639.527	BM-MID

<b>CLIENT</b>  <b>Practical ACTION</b>	<b>PROJECT</b> Consultancy Studies and Designs for Water Spreading weirs (Eid elbeida Sag Elnaam, and Kussa & Sarafya) Villages in North Darfur State  By <b>PRACTICAL CONSULTANCY ENGINEERING CO. LTD</b> <small>Moobes - 00249912319503,0024991295373          Email: pcco3013@gmail.com, Web: www.pcco-sudan.com</small>	<b>REV.</b> Third REDESIGNED AS DIRECTED AND APPROVED BY THE CLIENT Nov. 2022 	<b>DESCRIPTION</b> CONTOUR MAP AND DAM LAYOUT	<b>DATE SIGN</b> Nov. 2022 	<b>DRAWING NAME:</b> CONTOUR MAP AND DAM LAYOUT	<b>DESIGNED:</b> Dr.Eng. HASHIM M. HAMID	<b>DRAWN:</b> Eng. Ahmed M. Dayer	<b>Edelbieda Wier</b>	<b>SCALE:</b> 1
		<b>CHECKED &amp; APPROVAL:</b> Prof.Eng. Bashar .Kamal	<b>SURVEYED</b> Eng. Ishag Abdalla Bakhit	<b>CONTRACT No</b> November 2022	<b>DATE:</b> November 2022	<b>DRAWING NO:</b>			



Dam Crest Contour Level 641.5

Saturated Area Elevation 641.0

Spilling Contour Level 640.5

Submerged Area 1,022,670 m<sup>2</sup>

Name	Easting	Northing	Elevation	Descr.
<b>BM1</b>	364479.759	1447021.628	644.498	BM-AXIS
<b>BM2</b>	362509.923	1446431.015	647.805	BM-AXIS
<b>BM3</b>	363518.041	1446715.891	639.527	BM-MID

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RESERVOIR CAPACITY AND DAM CREST CONTOURS AND SATURATED AREA LAYOUT

DESIGNED:  
Dr.Eng. HASHIM M. HAMID

DRAWN:  
Eng. Ahmed M. Dayer

**Edelbieda Wier**

SCALE:

CHECKED & APPROVAL:  
Prof.Eng. Bashar. Kamal

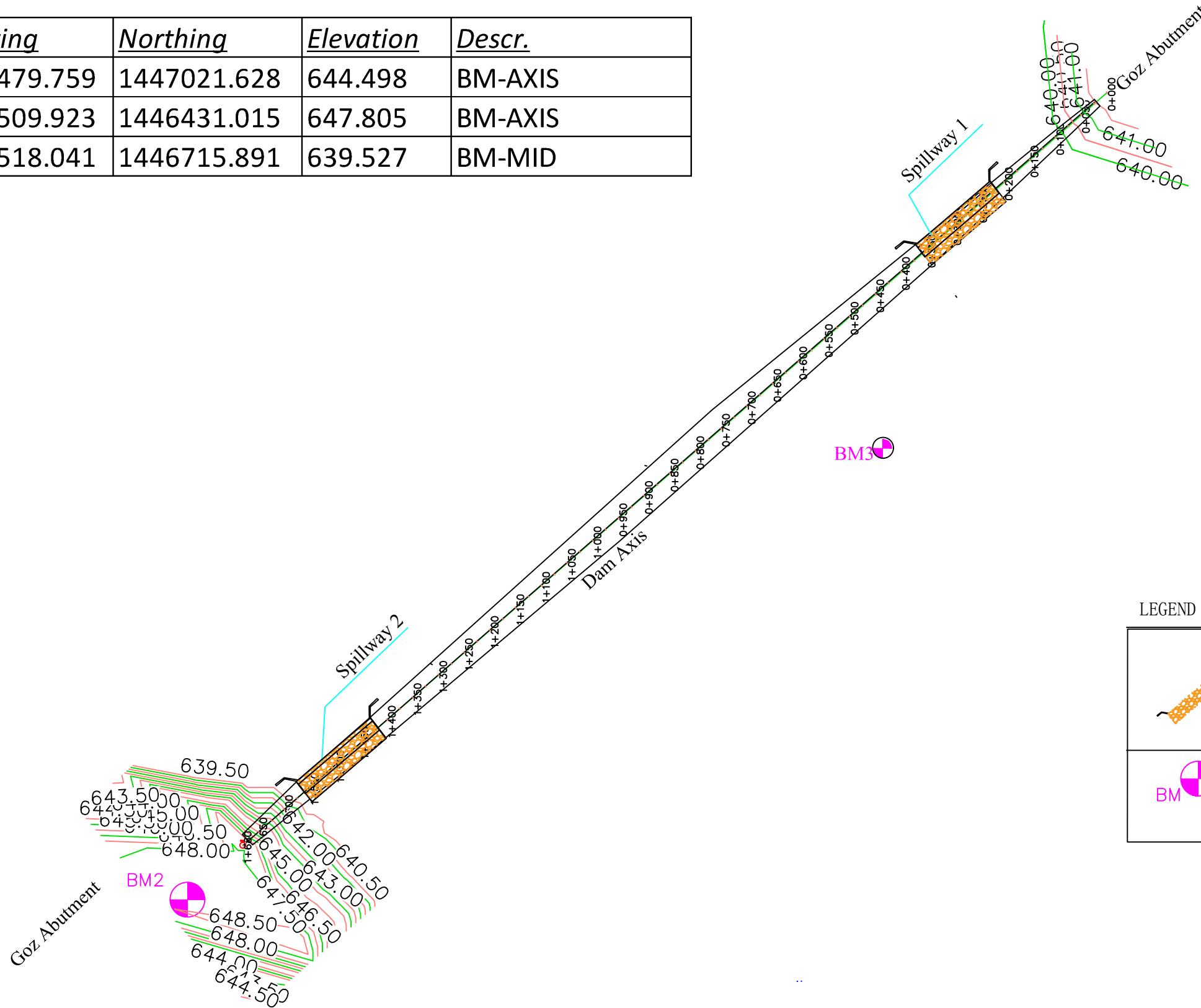
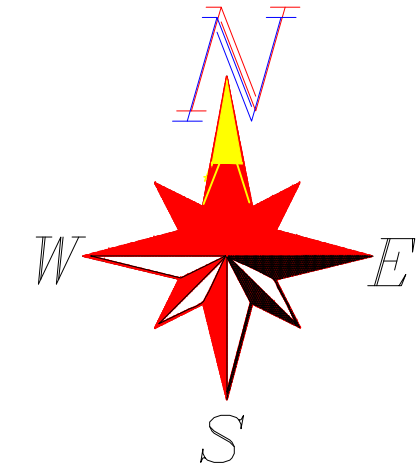
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**2**

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BM2	362509.923	1446431.015	647.805	BM-AXIS
BM3	363518.041	1446715.891	639.527	BM-MID



LEGEND

	SPILLWAY
	BENCHMARK

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DRAWING NAME: DAM AND SPILLWAY PLAN

DESIGNED: Dr.Eng. HASHIM M. HAMID  
DRAWN: Eng. Ahmed M. Dayer

**Edelbieda Wier**

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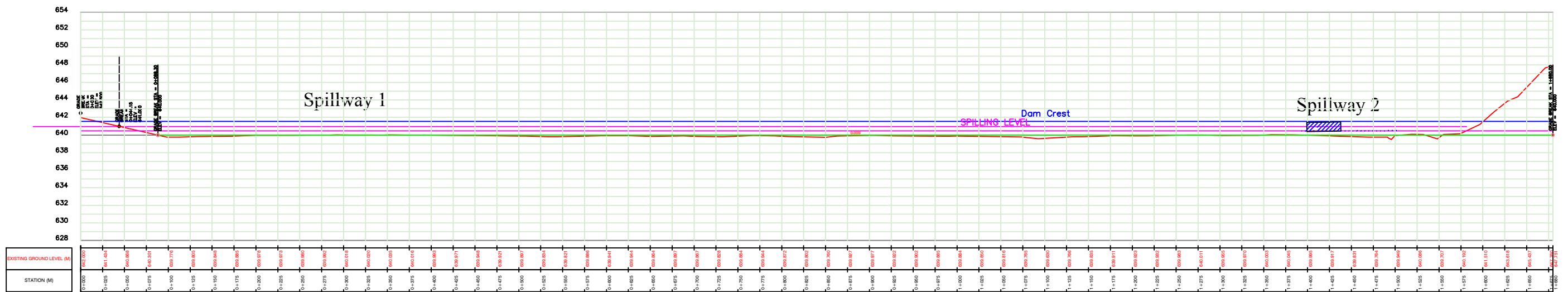
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SURVEYED: Eng. Ishag Abdalla Bakhit

CONTRACT No. DATE: November 2022

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# EDBEIDA PROFILES



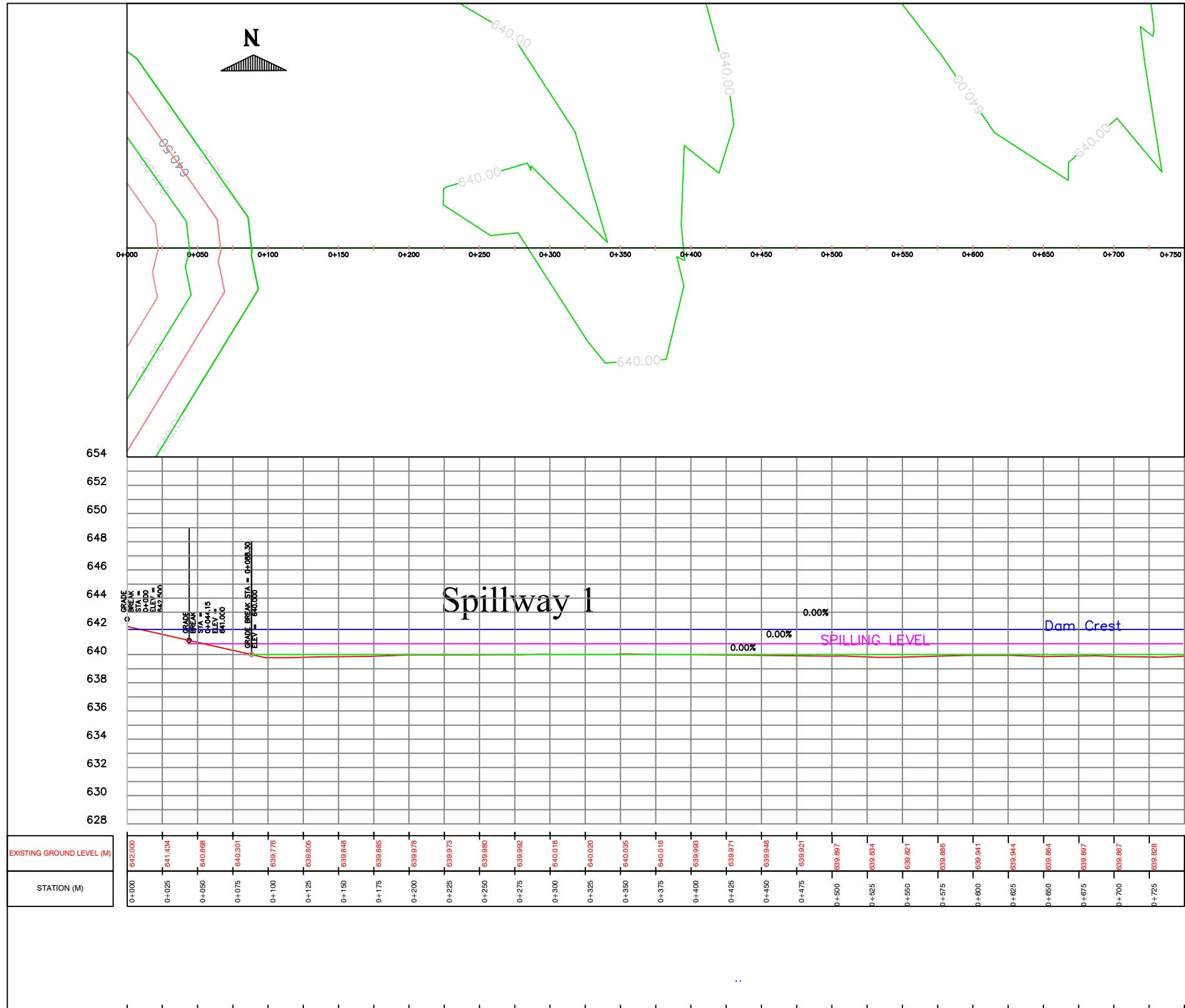
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REV.	DESCRIPTION	DATE	SIGN.
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<b>DAM AXIS PROFILE</b>			
DESIGNED: Dr.Eng. HASHIM M. HAMID	DRAWN: Eng .Ahmed M .Dayer	<b>Edelbieda Wier</b>	
CHECKED & APPROVAL: Prof.Eng .Bashar .Kamal	SURVEYED: Eng .Ishag Abdalla Bakhit	CONTRACT No	DATE: November 2022
			SCALE: <b>4</b>
			DRAWING NO:



EXISTING GROUND LEVEL (M)	642.000	641.404	640.888	640.301	639.776	639.805	639.848	639.885	639.978	639.973	639.980	639.982	640.018	640.020	640.035	640.016	639.983	639.971	639.948	639.921	639.897	639.834	639.821	639.886	639.941	639.944	639.864	639.897	639.867	639.828	639.854
STATION (M)	0+000	0+025	0+050	0+075	0+100	0+125	0+150	0+175	0+200	0+225	0+250	0+275	0+300	0+325	0+350	0+375	0+400	0+425	0+450	0+475	0+500	0+525	0+550	0+575	0+600	0+625	0+650	0+675	0+700	0+725	0+750



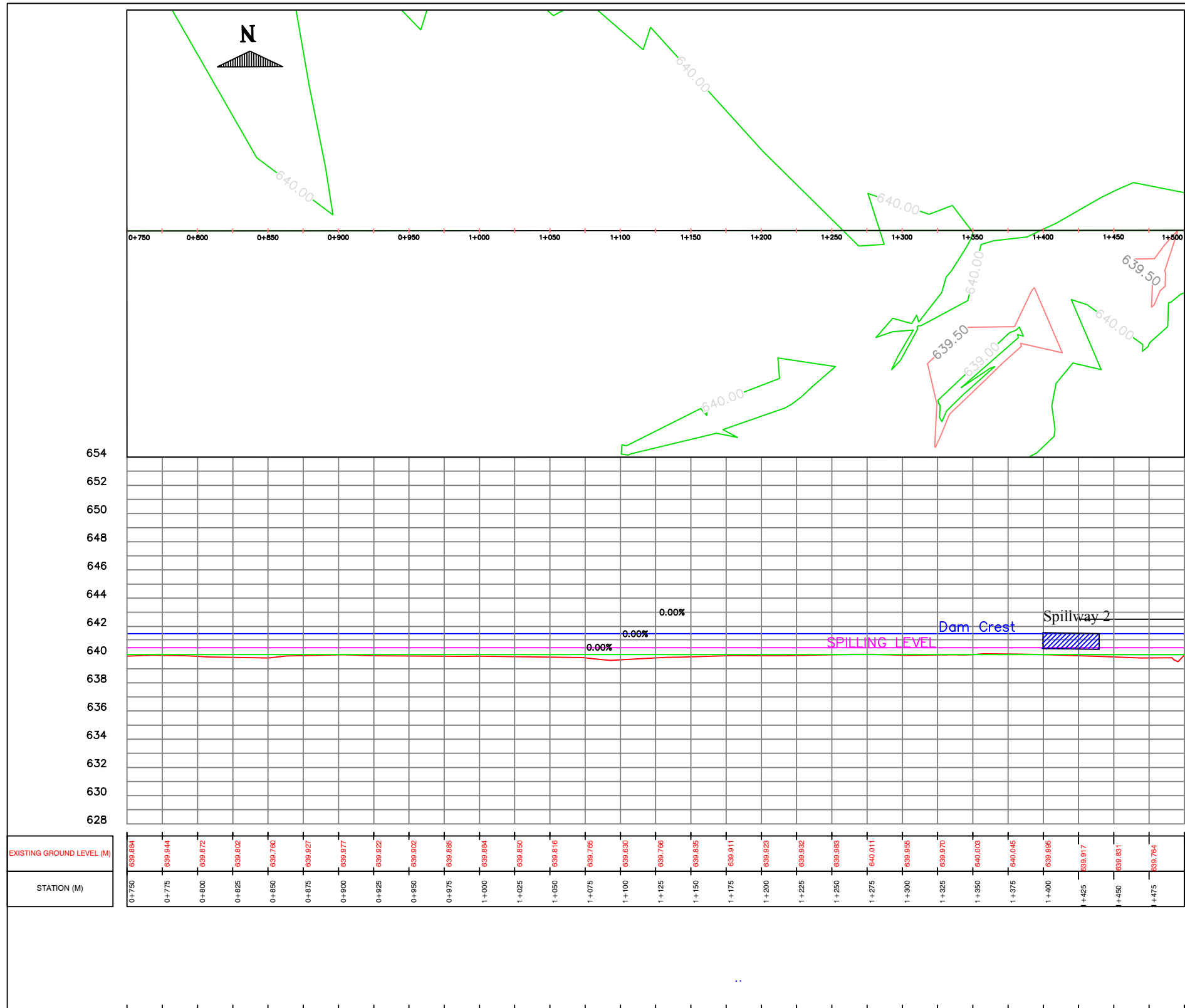
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 Email: pceco313@gmail.com, Web: www.pceco-sudan.com

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<b>DRAWING NAME:</b> PROFILE CH 0+000 TO CH 0+750			
<b>DESIGNED:</b> Dr.Eng. HASHIM M. HAMID	<b>DRAWN:</b> Eng. Ahmed M. Dayer	<b>Edelbieda Wier</b>	<b>SCALE:</b>
<b>CHECKED &amp; APPROVAL:</b> Prof.Eng. Bashar .Kamal	<b>SURVEYED:</b> Eng. Ishag Abdalla Bakhit	<b>CONTRACT No</b>	<b>DATE:</b> November 2022
		<b>DRAWING NO:</b>	<b>5</b>



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Consultancy Studies and Designs for Water Spreading weirs (Eid elbeida Sag Elnaam, and Kussa & Sarafya) Villages in North Darfur State



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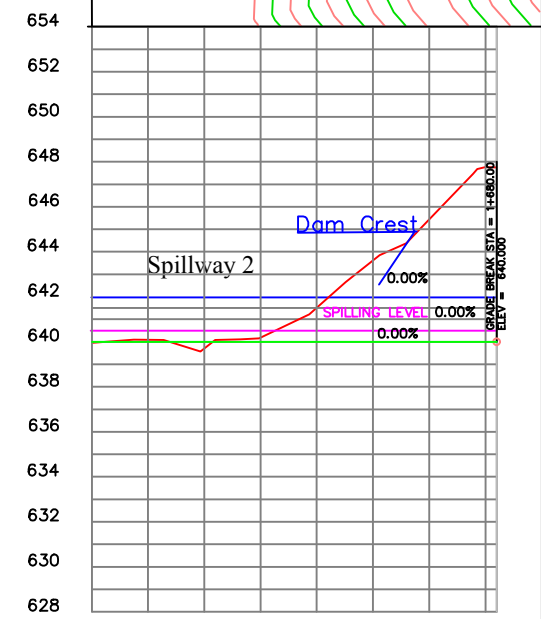
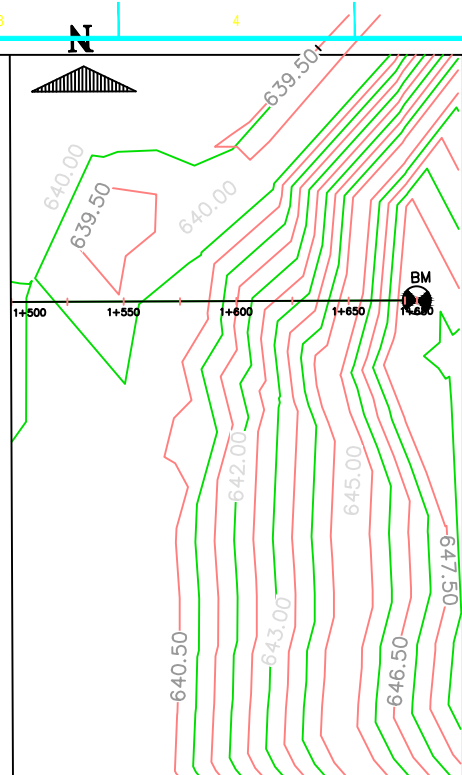
DRAWING NAME: **PROFILE CH 0+750 TO CH 1+500**

DESIGNED: Dr.Eng. HASHIM M. HAMID	DRAWN: Eng. Ahmed M. Dayer
CHECKED & APPROVAL: Prof.Eng. Bashar. Kamal	SURVEYED Eng. Ishag Abdalla Bakhit

<b>Edelbieda Wier</b>	SCALE:
CONTRACT No	DATE: November 2022

DRAWING NO:	<b>6</b>
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EXISTING GROUND LEVEL (M)	639.919	640.086	639.707	640.192	641.510	646.018	646.487	647.751
STATION (M)	1+500	1+525	1+550	1+575	1+600	1+625	1+650	1+680



**Practical ACTION**

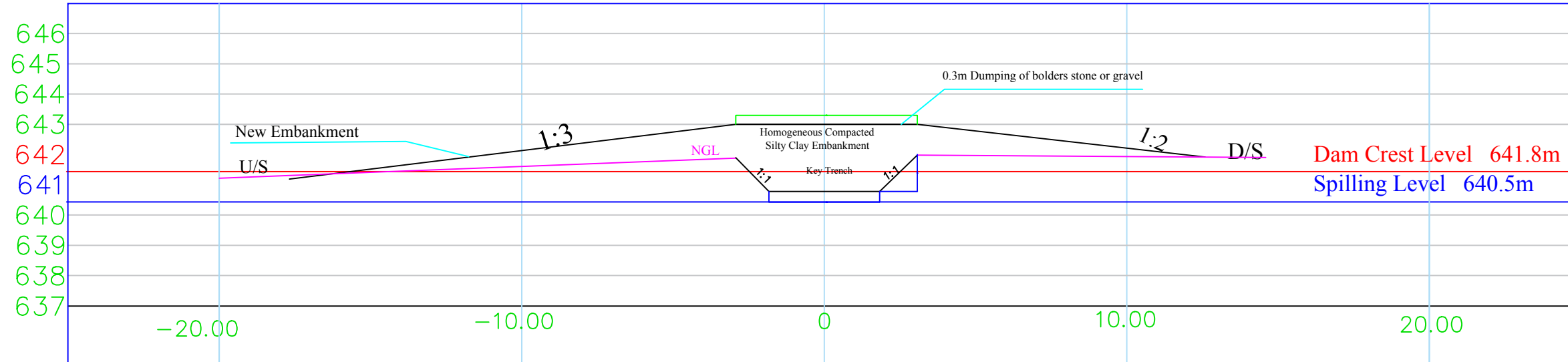
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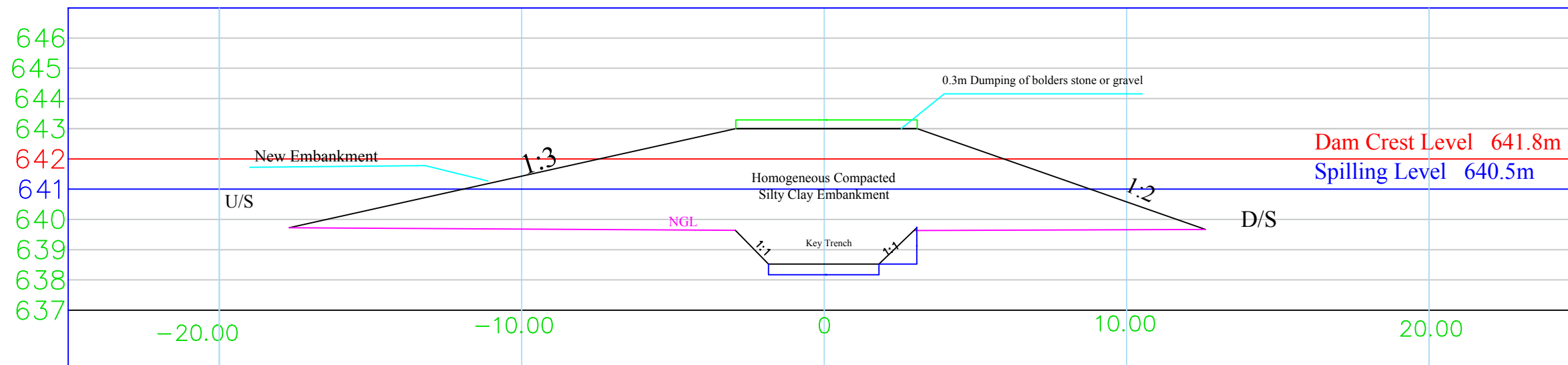
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<b>DESIGNED:</b> Dr.Eng. HASHIM M. HAMID	<b>DRAWN:</b> Eng .Ahmed M .Dayer	<b>Edelbieda Wier</b>	<b>SCALE:</b>
<b>CHECKED &amp; APPROVAL:</b> Prof.Eng .Bashar .Kamal	<b>SURVEYED</b> Eng .Ishag Abdalla Bakhit	<b>CONTRACT No</b>	<b>DATE:</b> November 2022
		<b>DRAWING NO:</b>	<b>7</b>

CH 0+000.00



CH 0+100.00



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 Consultancy Studies and Designs for Water Spreading weirs (Eid elbeida Sag Elnaam ,and Kussa & Sarafya) Villages in North Darfur State

By  
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DRAWING NAME:

**CROSS SECTION OF DAM EMBANKMENT**

DESIGNED:  
 Dr.Eng. HASHIM M. HAMID

DRAWN:  
 Eng. Ahmed M. Dayer

**Edelbieda Wier**

SCALE:

CHECKED & APPROVAL:  
 Prof.Eng. Bashar .Kamal

SURVEYED  
 Eng. Ishag Abdalla Bakhit

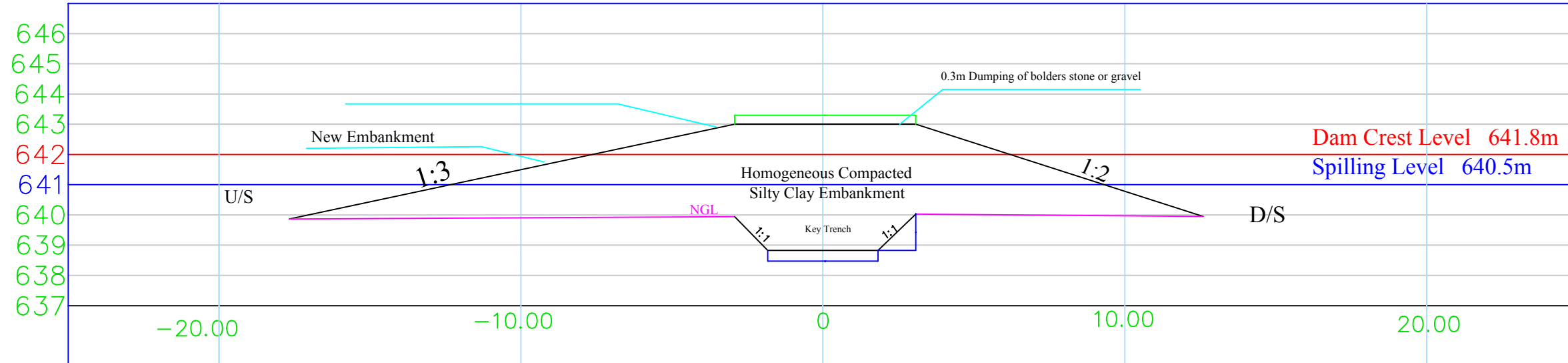
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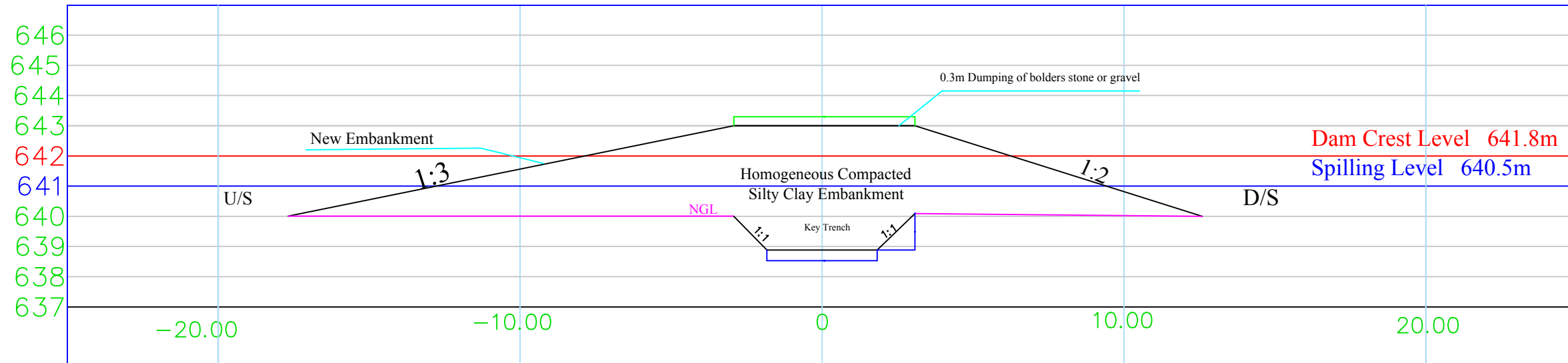
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# CH 0+200.00



# CH 0+300.00



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PROJECT  
Consultancy Studies and Designs for Water Spreading weirs (Eid elbeida Sag Elnaam, and Kussa & Sarafya) Villages in North Darfur State



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Third	REDESIGNED AS DIRECTED AND APPROVED BY THE CLIENT	Nov. 2022	<i>[Signature]</i>

DRAWING NAME:

**CROSS SECTION OF DAM EMBANKMENT**

DESIGNED:  
Dr.Eng. HASHIM M. HAMID

DRAWN:  
Eng. Ahmed M. Dayer

**Edelbieda Wier**

SCALE:

CHECKED & APPROVAL:  
Prof.Eng. Bashar .Kamal

SURVEYED  
Eng. Ishag Abdalla Bakhit

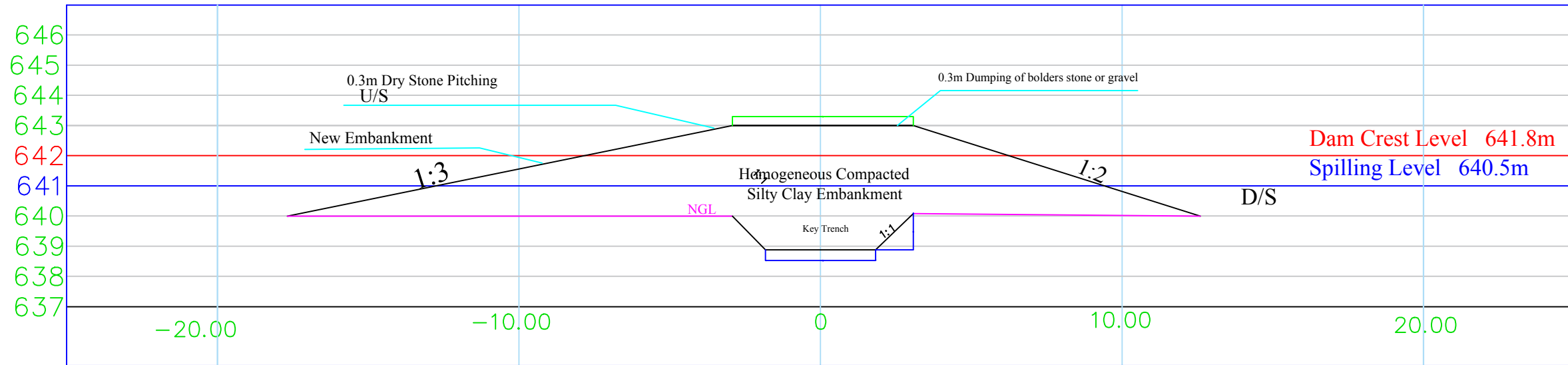
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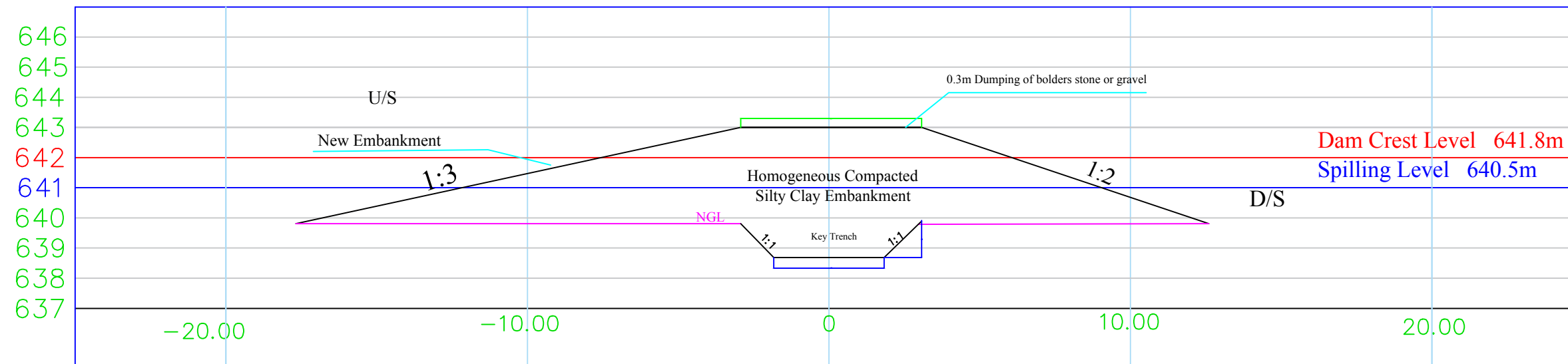
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# CH 0+500.00



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PROJECT  
Consultancy Studies and Designs for Water Spreading weirs (Eid elbeida Sag Elnaam, and Kussa & Sarafya) Villages in North Darfur State



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DESIGNED:  
Dr.Eng. HASHIM M. HAMID

DRAWN:  
Eng. Ahmed M. Dayer

**Edelbieda Wier**

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**10**

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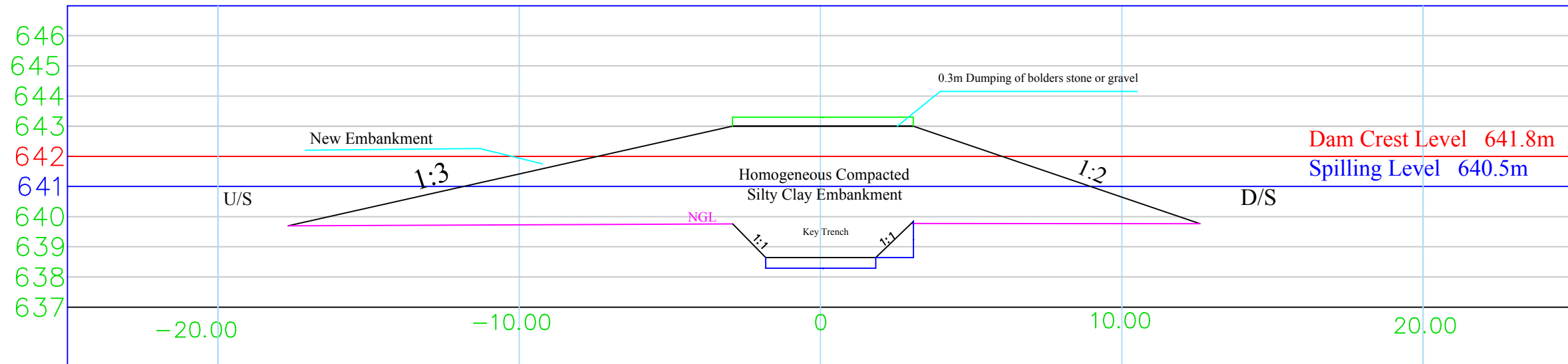
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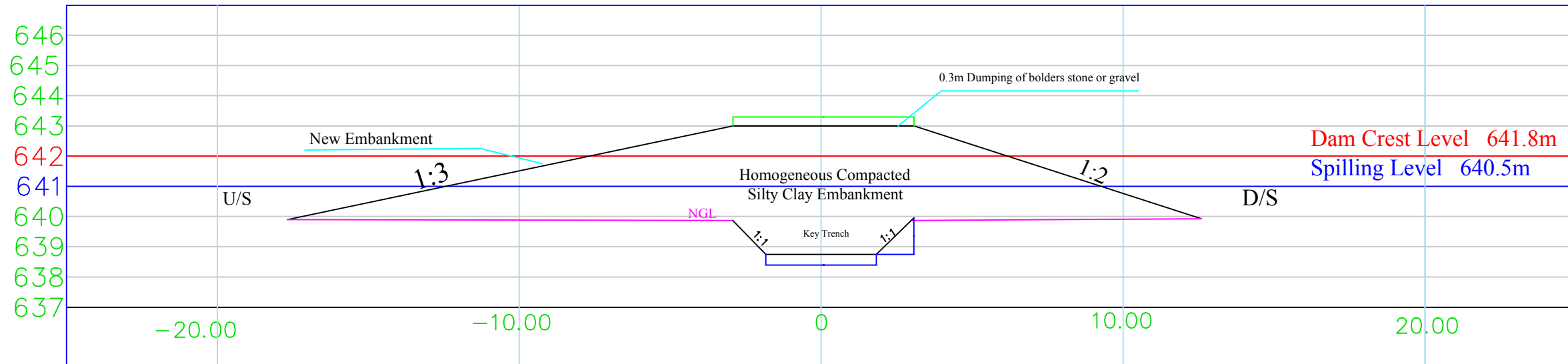
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CH 0+600.00



CH 0+700.00



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DRAWN:  
Eng. Ahmed M. Dayer

**Edelbieda Wier**

SCALE:

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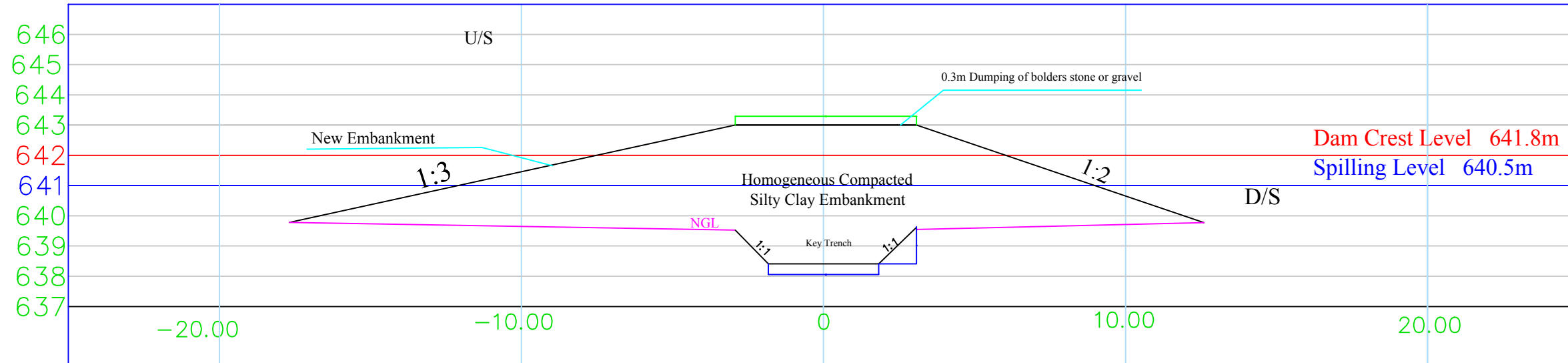
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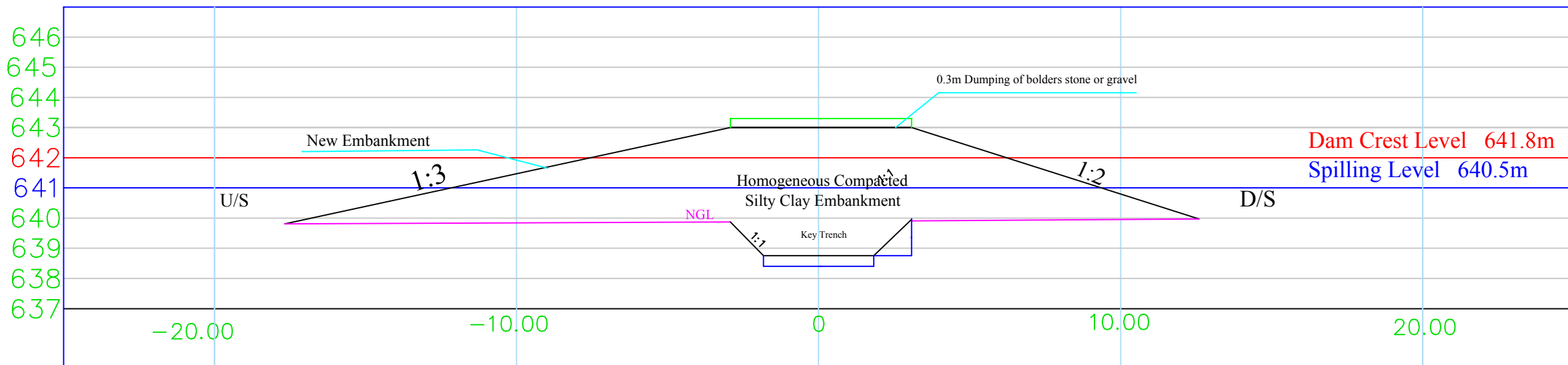
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DESIGNED:  
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DRAWN:  
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**Edelbieda Wier**

SCALE:

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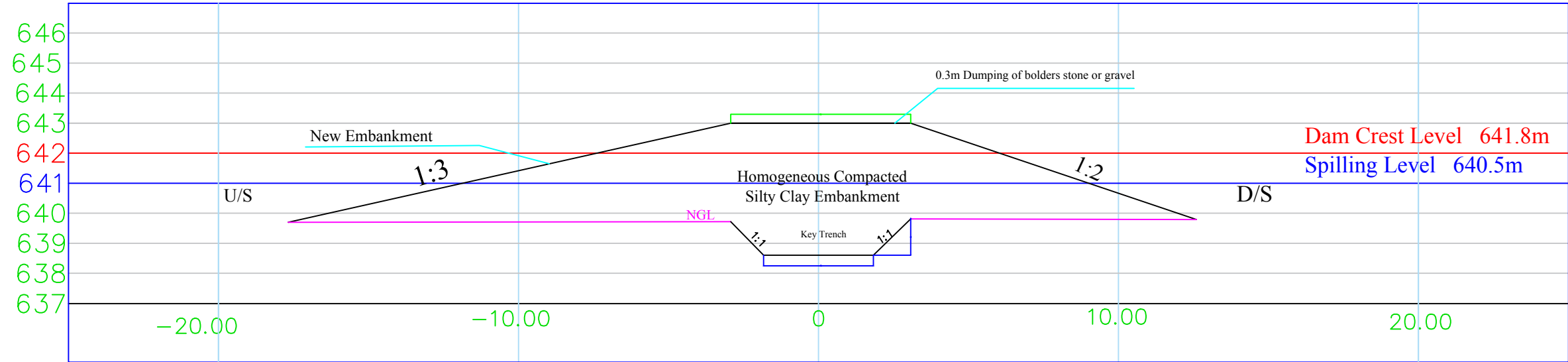
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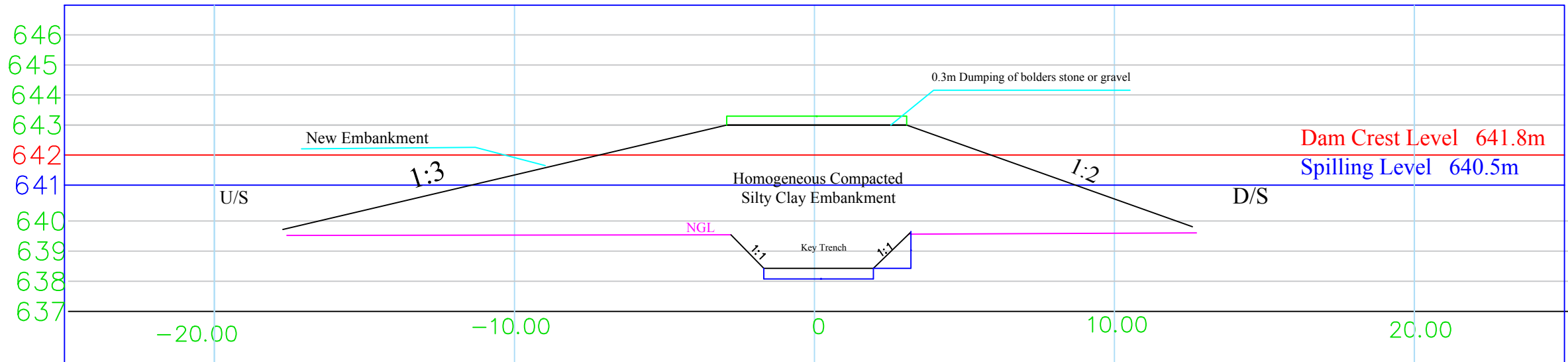
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# CH 1+000.00



# CH 1+100.00



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DESIGNED:  
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DRAWN:  
Eng. Ahmed M. Dayer

**Edelbieda Wier**

SCALE:

CHECKED & APPROVAL:  
Prof.Eng. Bashar .Kamal

SURVEYED  
Eng. Ishag Abdalla Bakhit

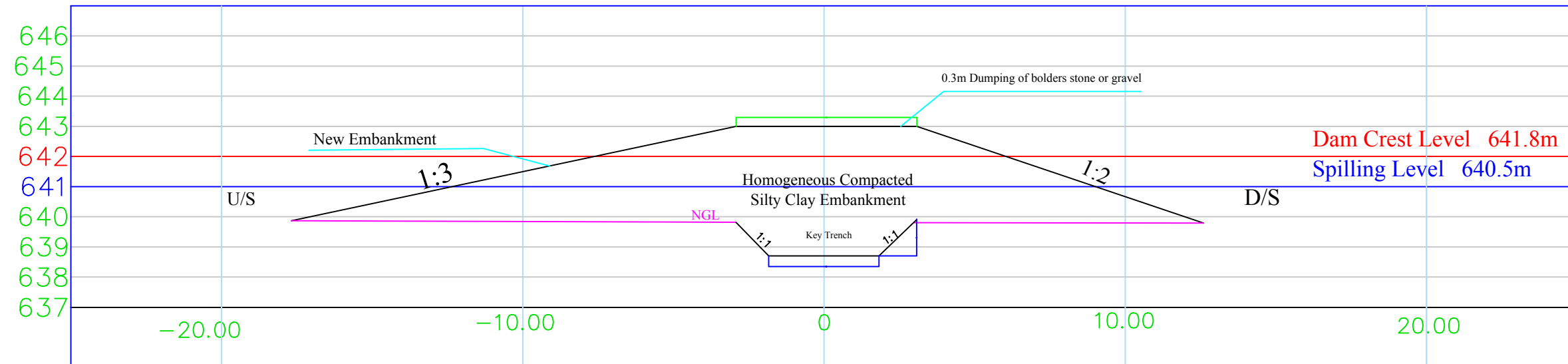
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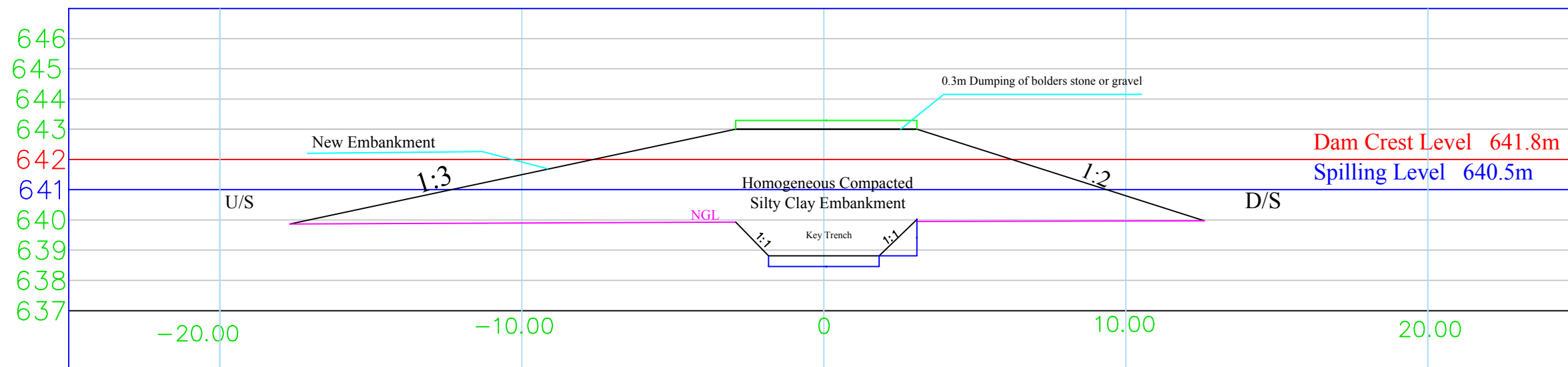
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DESIGNED:  
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DRAWN:  
Eng. Ahmed M. Dayer

**Edelbieda Wier**

SCALE:

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SURVEYED  
Eng. Ishag Abdalla Bakhit

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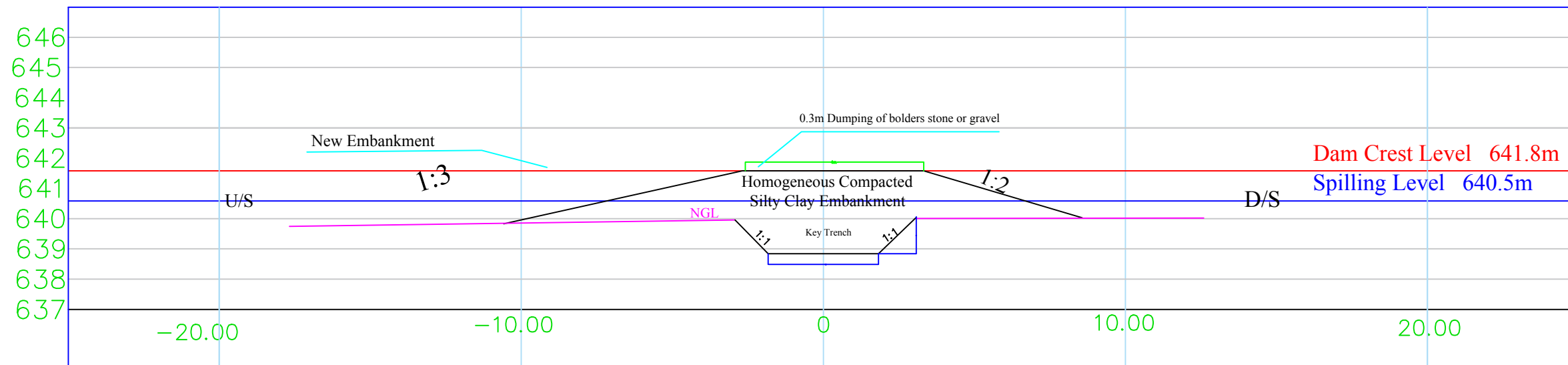
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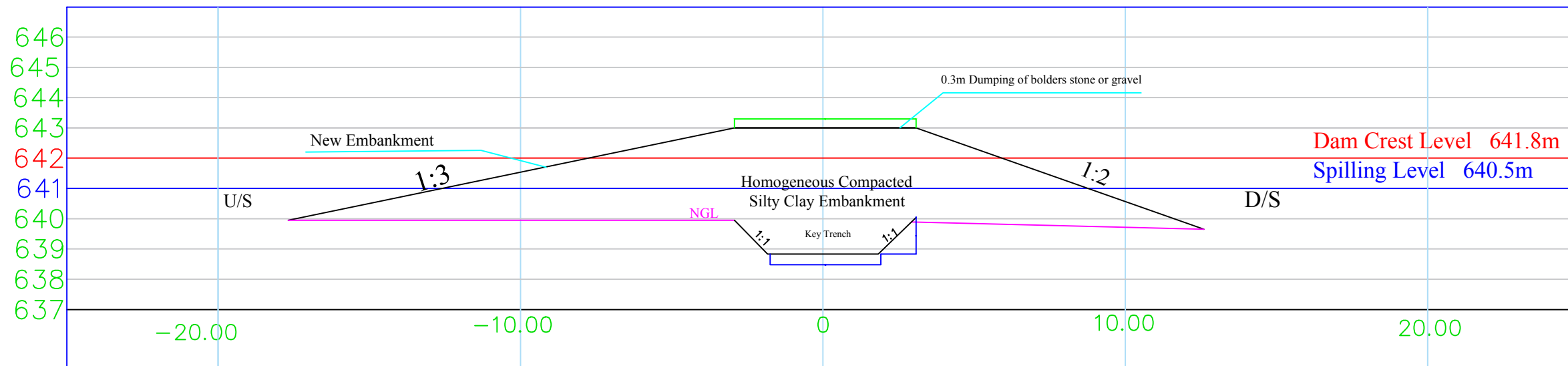
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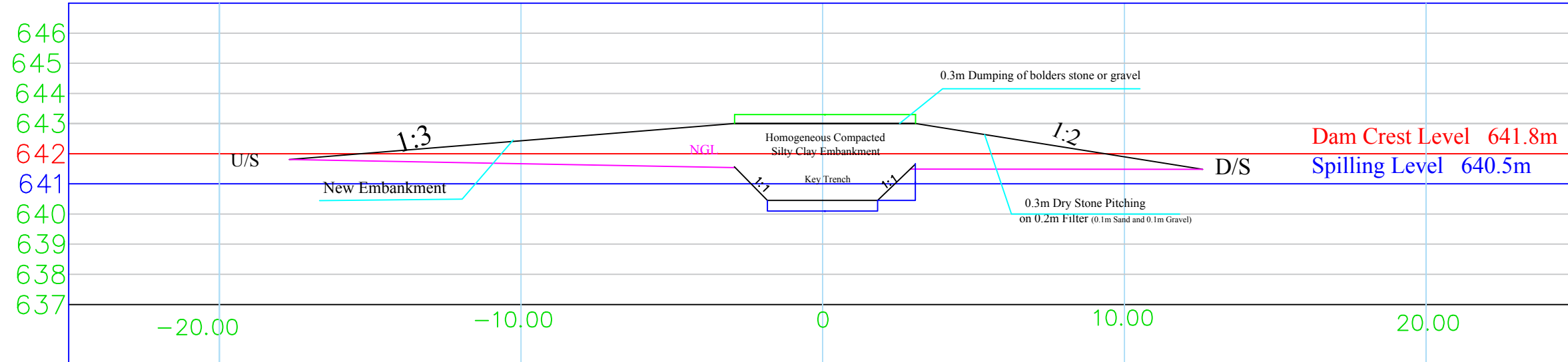
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 Email: pceco2013@gmail.com, Web: www.pceco-sudan.com

REV.	DESCRIPTION	DATE	SIGN.
Third	REDESIGNED AS DIRECTED AND APPROVED BY THE CLIENT	Nov.2022	<i>[Signature]</i>

<b>DRAWING NAME:</b>			
<b>CROSS SECTION OF DAM EMBANKMENT</b>			
<b>DESIGNED:</b> Dr.Eng. HASHIM M. HAMID	<b>DRAWN:</b> Eng. Ahmed M. Dayer	<b>Edelbieda Wier</b>	<b>SCALE:</b>
<b>CHECKED &amp; APPROVAL:</b> Prof.Eng. Bashar .Kamal	<b>SURVEYED</b> Eng. Ishag Abdalla Bakhit	<b>CONTRACT No</b>	<b>DRAWING NO:</b>
		<b>DATE:</b> November 2022	<b>15</b>

# CH 1+600.00



CLIENT



**Practical ACTION**

PROJECT  
Consultancy Studies and Designs for Water Spreading weirs (Eid elbeida Sag Elnaam, and Kussa & Sarafya) Villages in North Darfur State

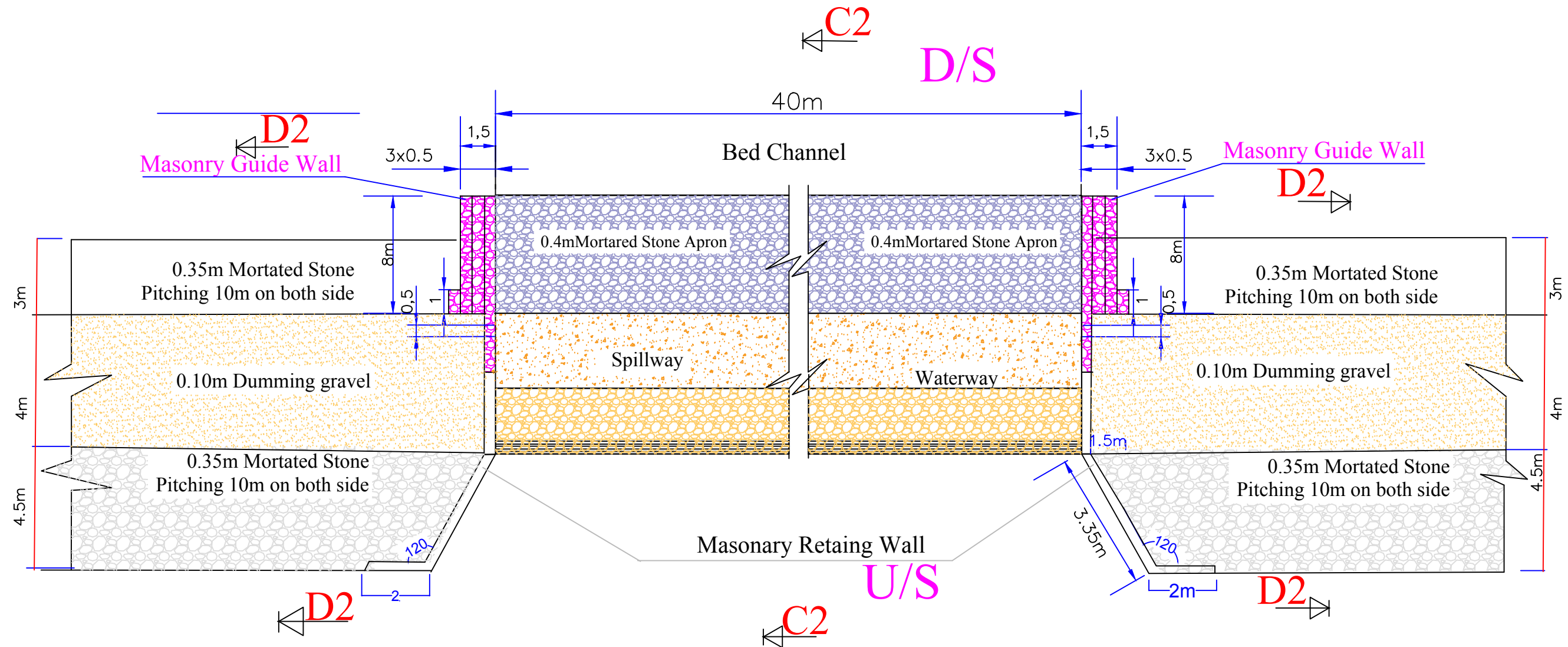


By  
**PRACTICAL CONSULTANCY ENGINEERING CO. LTD**  
Mobbles - 00249912319803, 0024991293773  
Email: pceco3013@gmail.com, Web: www.pceco-sudan.com

REV.	DESCRIPTION	DATE	SIGN.
Third	REDESIGNED AS DIRECTED AND APPROVED BY THE CLIENT	Nov. 2022	<i>[Signature]</i>

DRAWING NAME: CROSS SECTION OF DAM EMBANKMENT			
DESIGNED: Dr.Eng. HASHIM M. HAMID	DRAWN: Eng. Ahmed M. Dayer	<b>Edelbieda Wier</b>	
CHECKED & APPROVAL: Prof.Eng. Bashar .Kamal	SURVEYED Eng. Ishag Abdalla Bakhit	CONTRACT No	DATE: November 2022
		SCALE:	<b>16</b>
		DRAWING NO:	

Plan of Main Spillway1 at Ch. 0+160 – 0+200 and spillway 2 at Ch.1+400– 1+440, Spilling Elevation 641

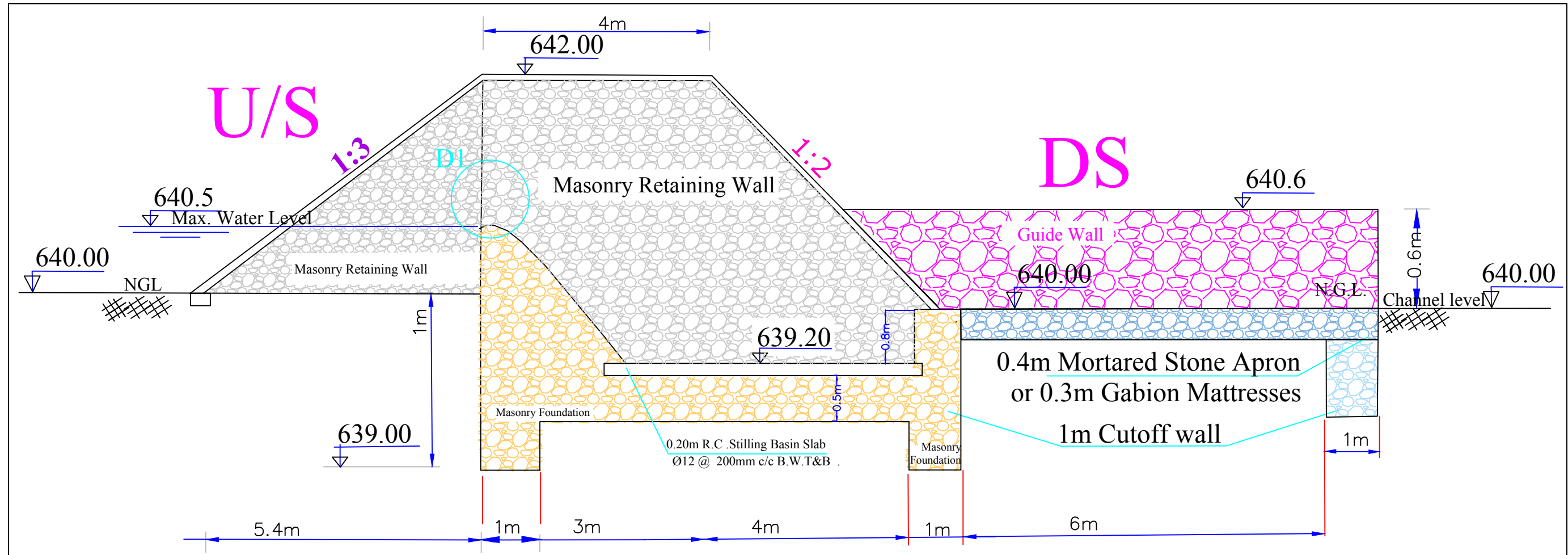


**PROJECT**  
 Consultancy Studies and Designs for Water Spreading weirs (Eid elbeida Sag Elnaam and Kussa & Sarafya) Villages in North Darfur State

By  
**PRACTICAL CONSULTANCY ENGINEERING CO. LTD**  
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 Email: pceco2013@gmail.com, Web: www.pceco-sudan.com

REV.	DESCRIPTION	DATE	SIGN.
Third	REDESIGNED AS DIRECTED AND APPROVED BY THE CLIENT	Nov.2022	[Signature]

<b>DRAWING NAME:</b> Plan of Main Spillway1 at Ch. 0+200 – 0+400 and spillway 2 at Ch.1+4– 1+600, Spilling Elevation 641			
<b>DESIGNED:</b> Dr.Eng. HASHIM M. HAMID	<b>DRAWN:</b> Eng .Ahmed M .Dayer	<b>SCALE:</b>	
<b>CHECKED &amp; APPROVAL:</b> Prof.Eng .Bashar .Kamal	<b>SURVEYED:</b> Eng .Ishag Abdalla Bakhit	<b>CONTRACT No.</b>	<b>DATE:</b> November 2022
		<b>DRAWING NO:</b>	<b>17</b>

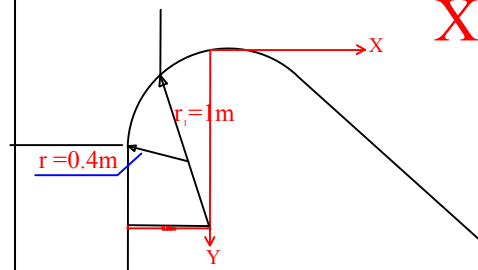


D1

Setting Out Of Curve

$$X^{1.85} = 2H^{0.85} Y \quad (\text{Where } X \text{ \& } Y \text{ are the co-ordinates of any point on the profile measured from apex of the crest.})$$

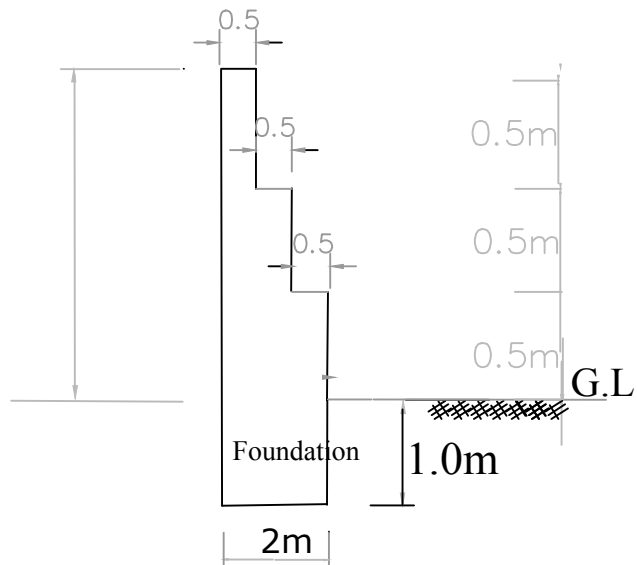
H=1.6m



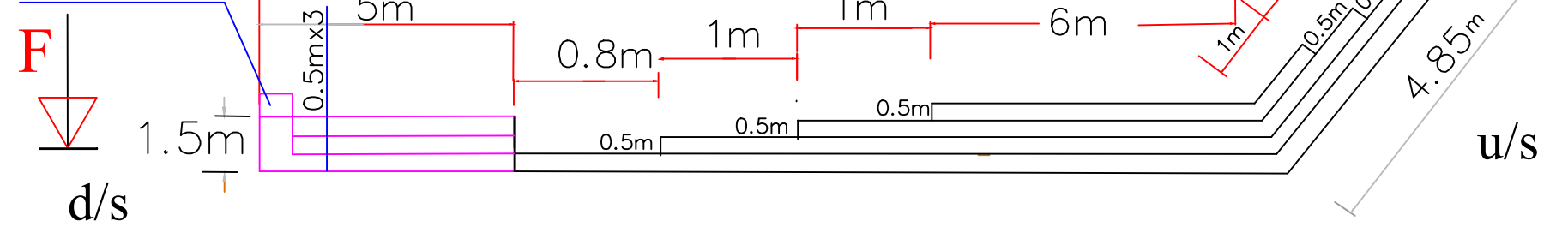
<b>CLIENT</b> 	<b>PROJECT</b> Consultancy Studies and Designs for Water Spreading weirs (Eid elbeida Sag Elnaam, and Kussa & Sarafya) Villages in North Darfur State 	<b>REV.</b> Third REDESIGNED AS DIRECTED AND APPROVED BY THE CLIENT	<b>DESCRIPTION</b> Nov. 2022	<b>DATE SIGN</b> 	<b>DRAWING NAME:</b> Cross Section C 2-C 2 of the overflow Ogee Spillway land 2			
		<b>DESIGNED:</b> Dr.Eng. HASHIM M. HAMID	<b>DRAWN:</b> Eng. Ahmed M. Dayer	<b>Edelbieda Wier</b>		<b>SCALE:</b> 	<b>18</b>	
<b>CHECKED &amp; APPROVAL:</b> Prof.Eng. Bashar. Kamal	<b>SURVEYED</b> Eng. Ishag Abdalla Bakhit	<b>CONTRACT No</b>	<b>DATE:</b> November 2022	<b>DRAWING NO:</b>				

Cross Section G-G

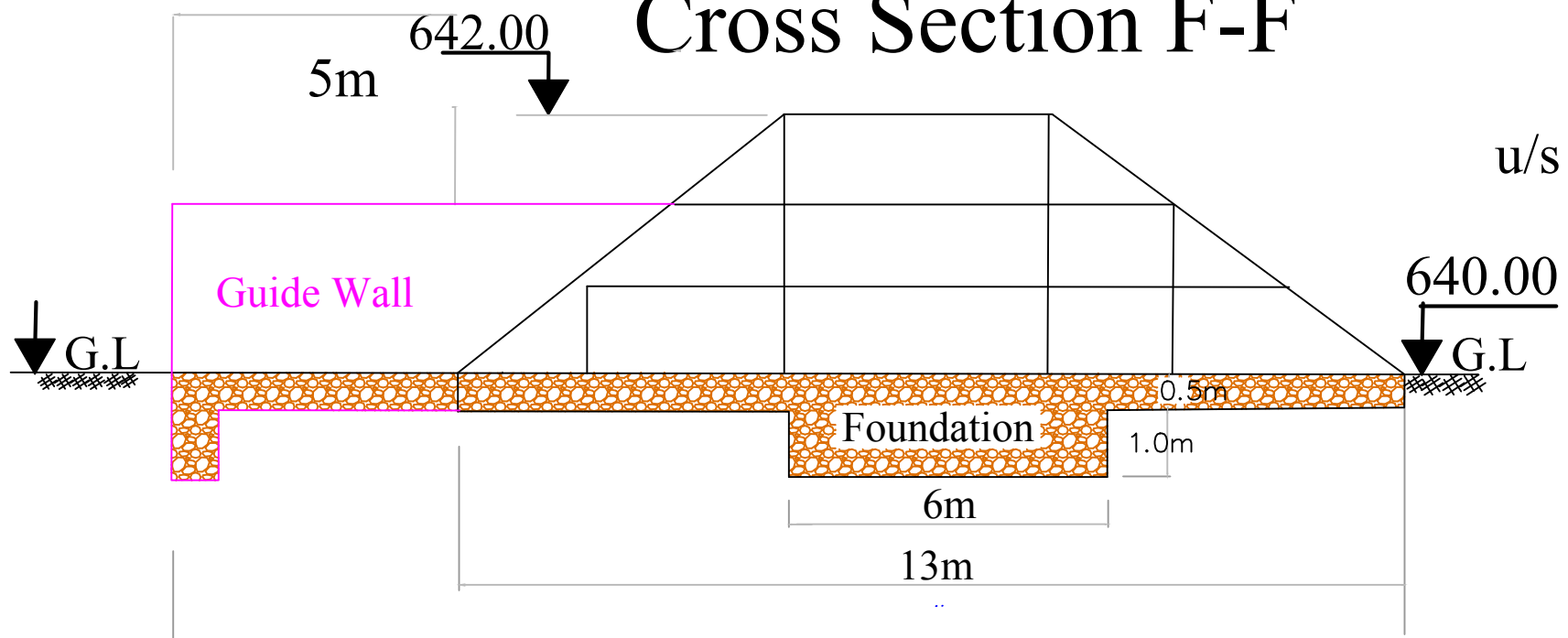
Masonry Retaining Wall



Guide Wall



Cross Section F-F



CLIENT



**Practical ACTION**

PROJECT  
Consultancy Studies and Designs for Water Spreading weirs (Eid elbeida Sag Elnaam and Kussa & Sarafya) Villages in North Darfur State



By  
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REV. DESCRIPTION DATE SIGN

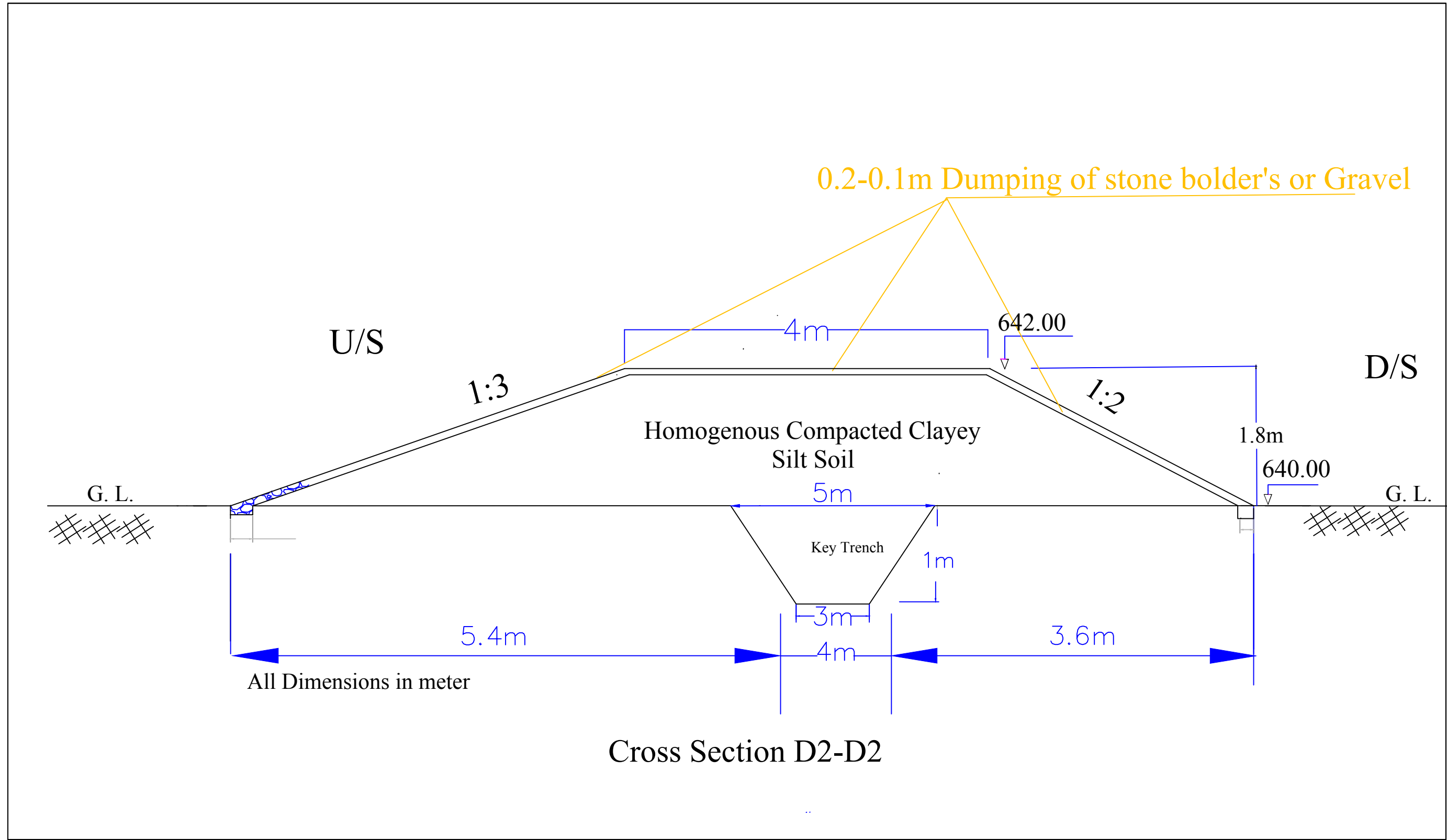
REV.	DESCRIPTION	DATE	SIGN
Third	REDESIGNED AS DIRECTED AND APPROVED BY THE CLIENT	Nov. 2022	[Signature]

DRAWING NAME:  
Foundation and Retaining Walls Details of the Spillway



DESIGNED: Dr.Eng. HASHIM M. HAMID	DRAWN: Eng. Ahmed M. Dayer
CHECKED & APPROVAL: Prof.Eng. Bashar .Kamal	SURVEYED Eng. Ishag Abdalla Bakhit

<b>Edelbieda Wier</b>	SCALE:
CONTRACT No	DATE: November 2022

DRAWING NO:
-------------



Cross Section D2-D2

<b>CLIENT</b>  <b>Practical ACTION</b>	<b>PROJECT</b> Consultancy Studies and Designs for Water Spreading weirs (Eid elbeida Sag Elnaam, and Kussa & Sarafya) Villages in North Darfur State  By <b>PRACTICAL CONSULTANCY ENGINEERING CO. LTD</b> <small>Mobiles - 00249912319503, 00249912953773          Email pceco3013@gmail.com, Web www.pceco-sudan.com</small>	<b>REV.</b> Third REDESIGNED AS DIRECTED AND APPROVED BY THE CLIENT Nov. 2022	<b>DESCRIPTION</b> REDESIGNED AS DIRECTED AND APPROVED BY THE CLIENT	<b>DATE SIGN</b> Nov. 2022	<b>DRAWING NAME:</b> Cross Section D-2D ,2Adjacent to the Spillways				
		<b>DESIGNED:</b> Dr.Eng. HASHIM M. HAMID	<b>DRAWN:</b> Eng. Ahmed M. Dayer	<b>Edelbieda Wier</b>		<b>SCALE:</b> 20	<b>CHECKED &amp; APPROVAL:</b> Prof.Eng. Bashar. Kamal	<b>SURVEYED</b> Eng. Ishag Abdalla Bakhit	<b>CONTRACT No</b> November 2022