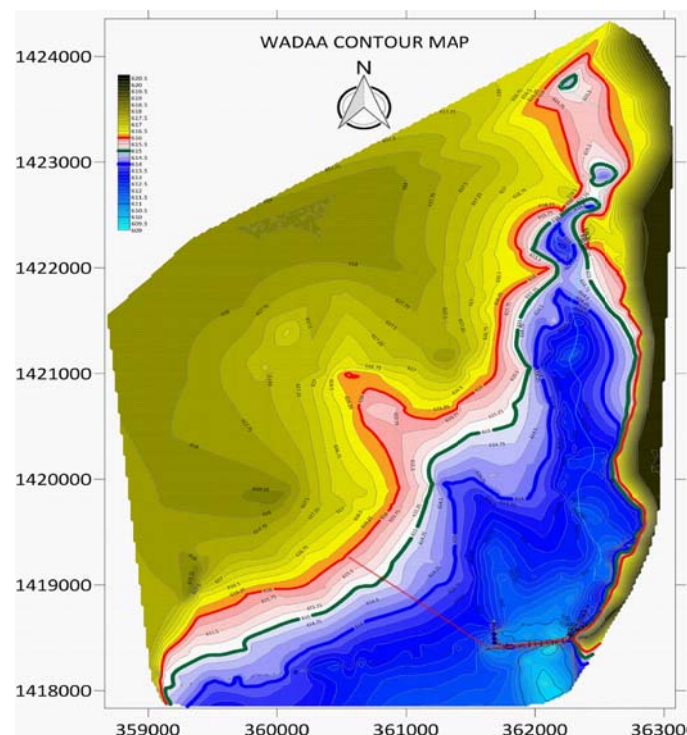




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**Practical
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Provision of Assessment and Studies for Rehabilitation of Wadaah Earthfill Dam in North Darfur State



DRAWINGS

Rehabilitation of Wadaa Earth Dam

Client Option Three

CONSULTANT :-



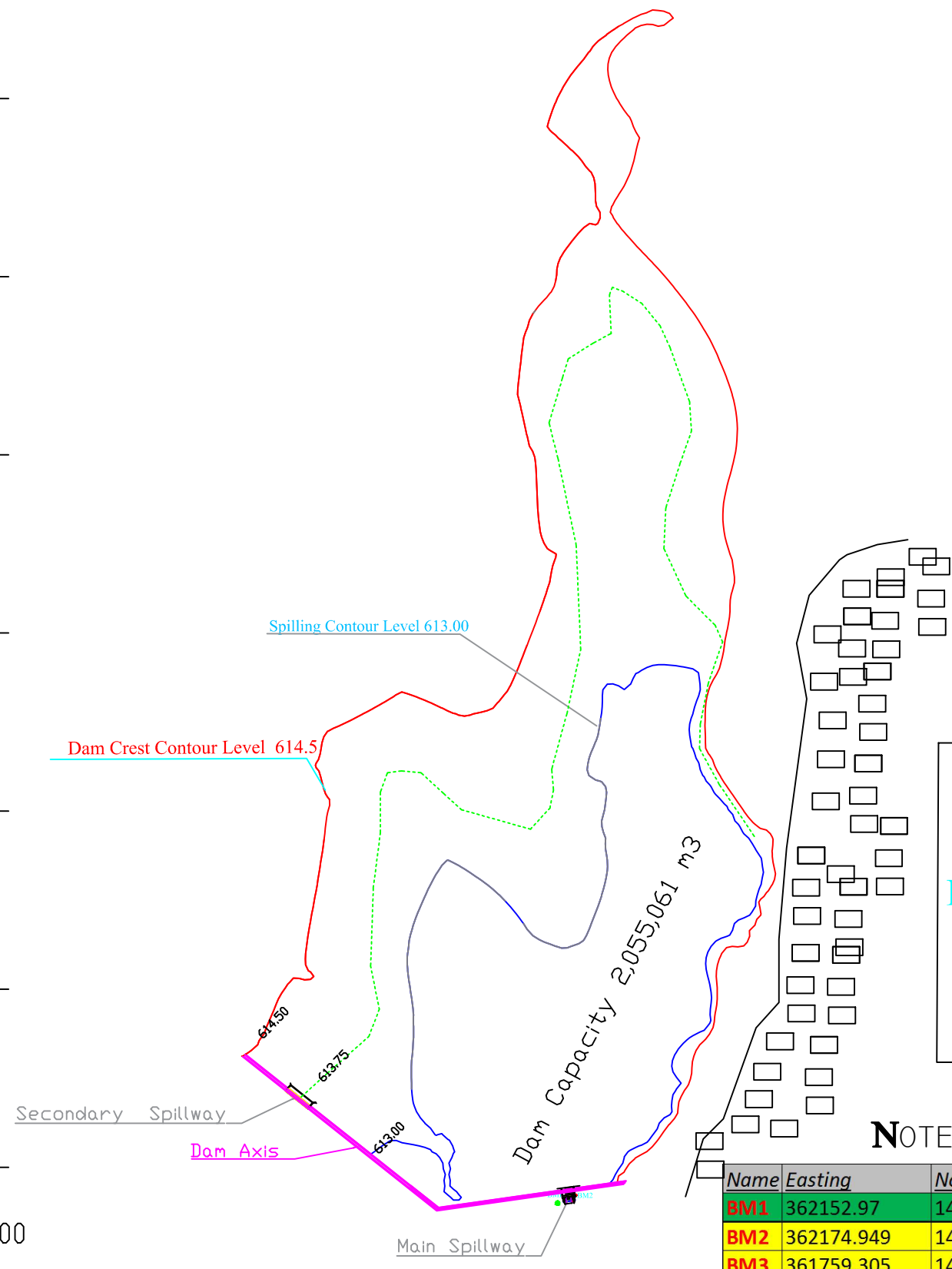
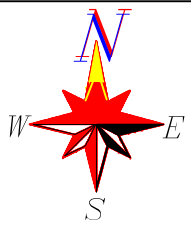
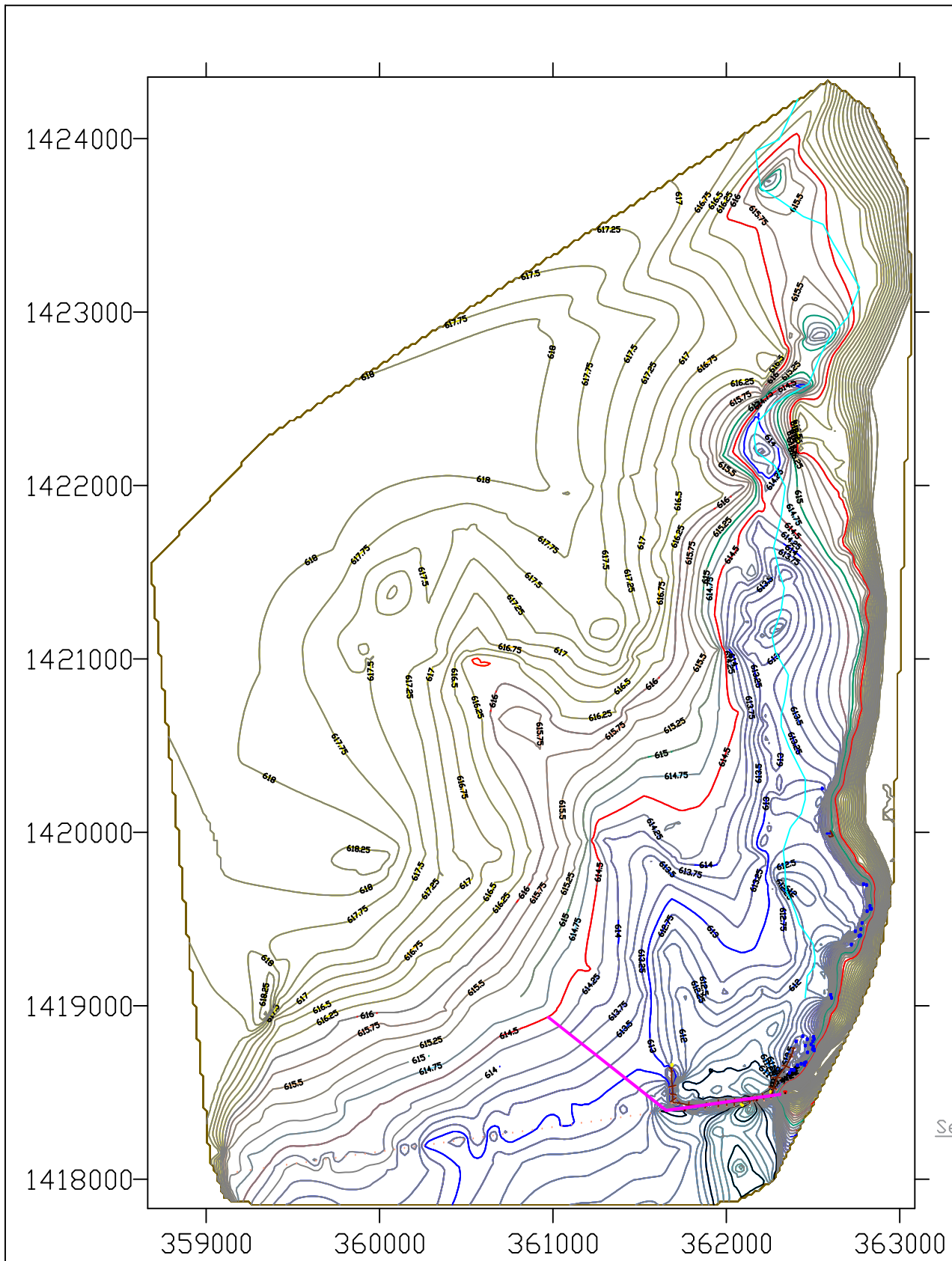
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CONSULTANCY ENGINEERING CO. LTD

November 2022

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LEGEND

- Borehole For Soil Test
- Existing Water Yard
- BMI Benchmark
- Residential Area

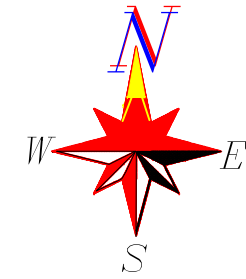
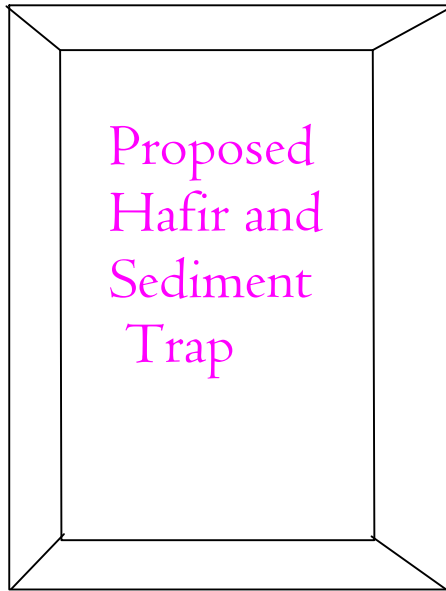
NOTE COORDINATS AND ELEVATION OF BENCH MARKS

Name	Easting	Northing	Elevation	Descr.
BM1	362152.97	1418467.606	613.307	DAM TOP
BM2	362174.949	1418458.136	611.493	WALL END DS
BM3	361759.305	1418399.909	611.201	WELL

 Practical ACTION	PROJECT Provision of Assessment and Studies for Rehabilitation of Wadaah Earthfill Dam in North Darfur State By PRACTICAL CONSULTANCY ENGINEERING CO. LTD <small>Mobiles - 00249912319503, 00249912953773 Email: pceco2013@gmail.com, Web: www.pceco-sudan.com</small>	REV.	DESCRIPTION	DATE	SIGN.	DRAWING NAME: Contour Map and Dam Layout, RESERVOIR CAPACITY AND DAM CREST CONTOURS AND SATURATED AREA LAYOUT			
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					CHECKED:	SURVEYED Eng. Ishag Abdalla Bakhit	CONTRACT No	DATE: November 2022	DRAWING NO:

LEGEND

- Borehole For Soil Test
- Existing Water Yard
- BMI Benchmark



D14

Secondary Spillway
Dam Axis

Protection Embankment
Optional

Main Spillway

BMI

BM2

BM3

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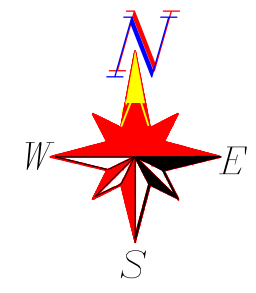
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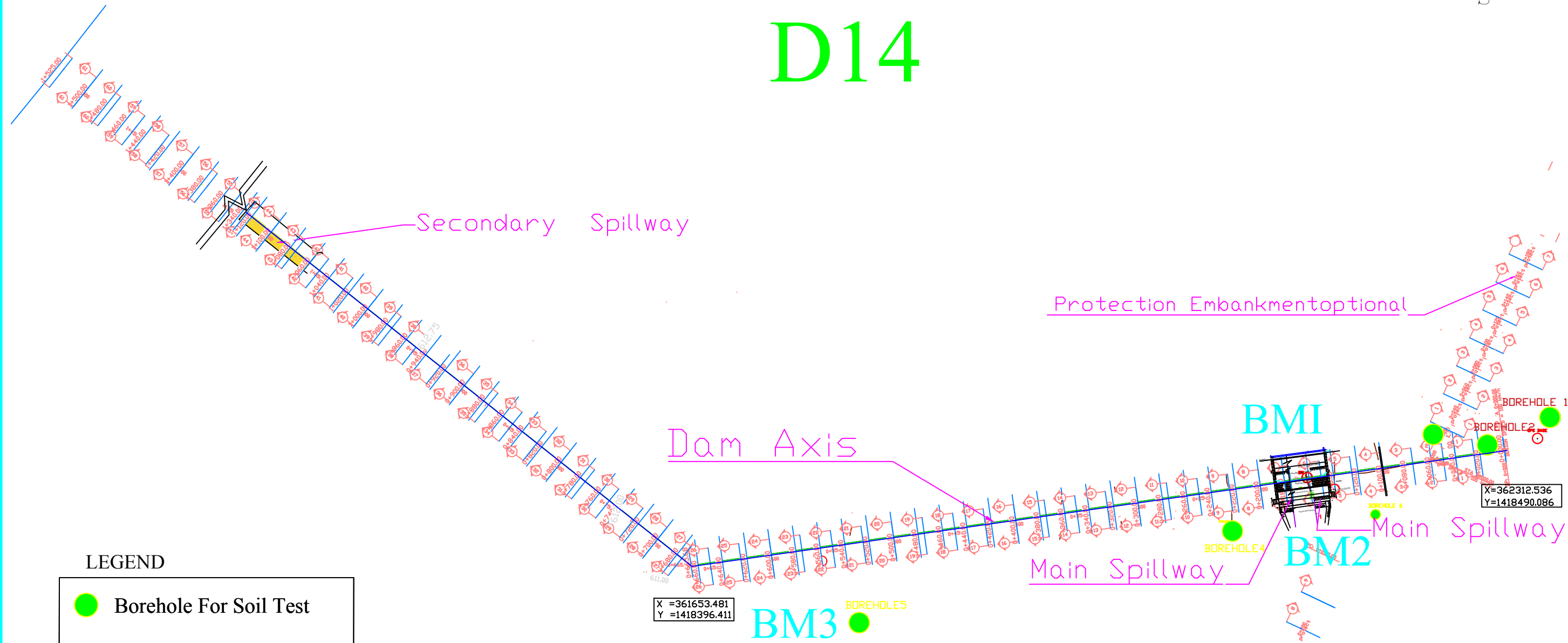
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DRAWING NO:



D14

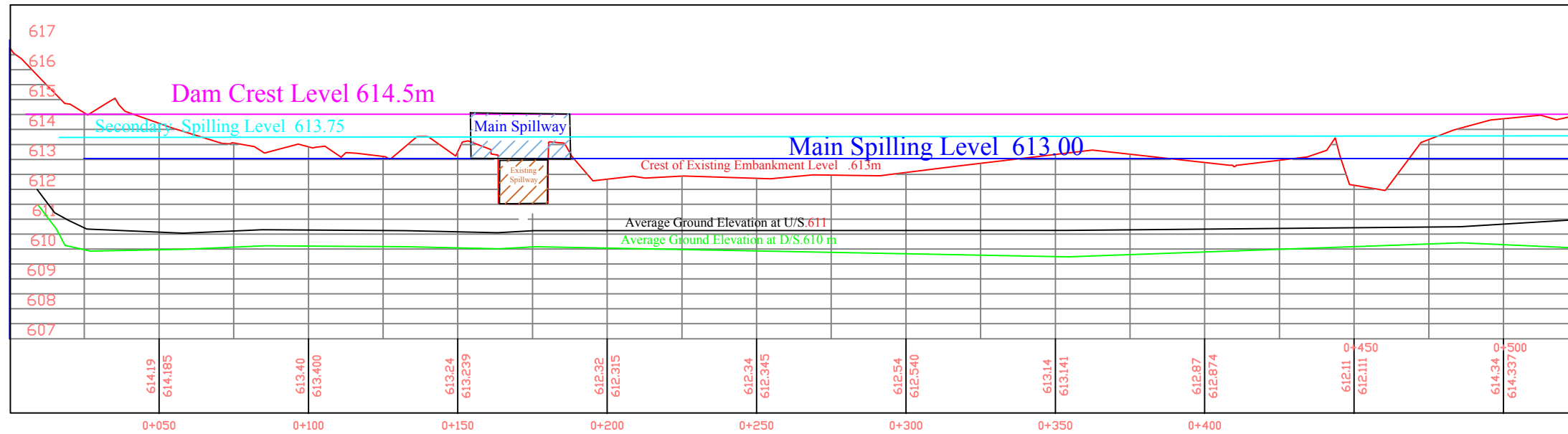


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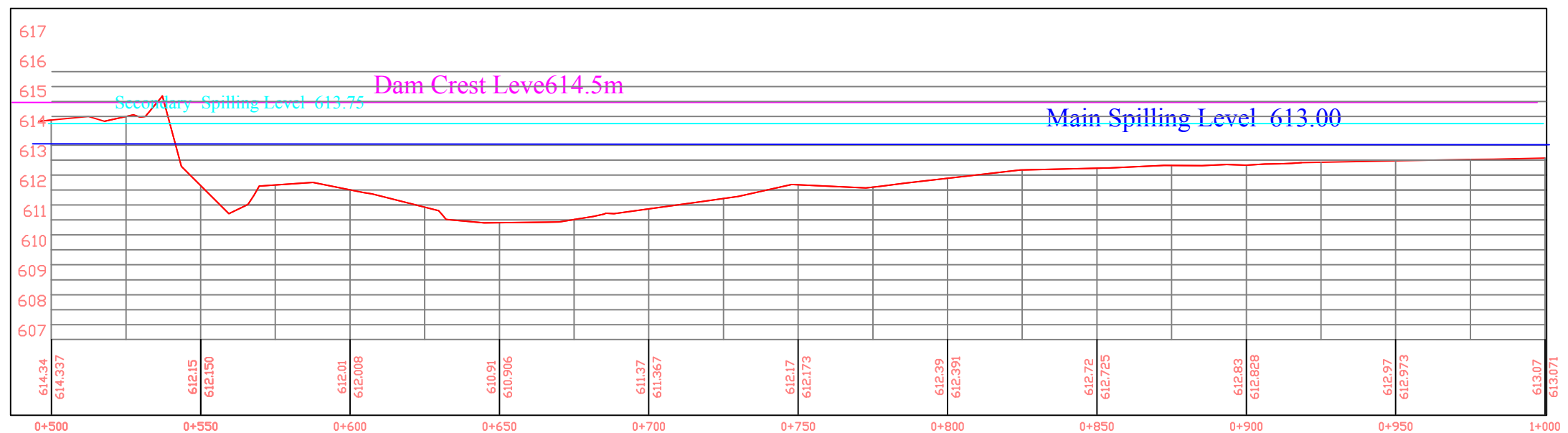
- Borehole For Soil Test
- Existing Water Yard
- BMI Benchmark

<p>CLIENT</p>	<p>PROJECT Provision of Assessment and Studies for Rehabilitation of Wadaah Earthfill Dam in North Darfur State</p> <p>By PRACTICAL CONSULTANCY ENGINEERING CO. LTD</p> <p><small>Mobiles - 00249912319503, 00249912953773 Email: pceco2013@gmail.com, Web: www.pceco-sadan.com</small></p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>REV.</th> <th>DESCRIPTION</th> <th>DATE</th> <th>SIGN.</th> </tr> </thead> <tbody> <tr> <td>Four</td> <td>Redesign as Directed and Approved by the Client</td> <td>Nov. 2022</td> <td></td> </tr> </tbody> </table>	REV.	DESCRIPTION	DATE	SIGN.	Four	Redesign as Directed and Approved by the Client	Nov. 2022		<p>DRAWING NAME: Earth Dam ,Embankment and Protection Embankment Layout Details</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%;">DESIGNED: Dr.Eng. HASHIM M. HAMID</td> <td style="width: 25%;">DRAWN: Eng .Ahmed M .Dayer</td> <td style="width: 25%;">CONTRACT No Wadaah Earthfill Dam (Rehabilitation Work Client Option III)</td> <td style="width: 25%;">SCALE: 3</td> </tr> <tr> <td>CHECKED:</td> <td>SURVEYED Eng .Ishag Abdalla Bakhit</td> <td>DATE: November 2022</td> <td>DRAWING NO:</td> </tr> </table>	DESIGNED: Dr.Eng. HASHIM M. HAMID	DRAWN: Eng .Ahmed M .Dayer	CONTRACT No Wadaah Earthfill Dam (Rehabilitation Work Client Option III)	SCALE: 3	CHECKED:	SURVEYED Eng .Ishag Abdalla Bakhit	DATE: November 2022	DRAWING NO:
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DESIGNED: Dr.Eng. HASHIM M. HAMID	DRAWN: Eng .Ahmed M .Dayer	CONTRACT No Wadaah Earthfill Dam (Rehabilitation Work Client Option III)	SCALE: 3																
CHECKED:	SURVEYED Eng .Ishag Abdalla Bakhit	DATE: November 2022	DRAWING NO:																

Dam Axis Designed Profile Ch 0+00 - 0+500.



Ch 0+500 - 1+000.



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PROJECT Provision of Assessment and Studies for Rehabilitation of Wadaah Earthfill Dam in North Darfur State



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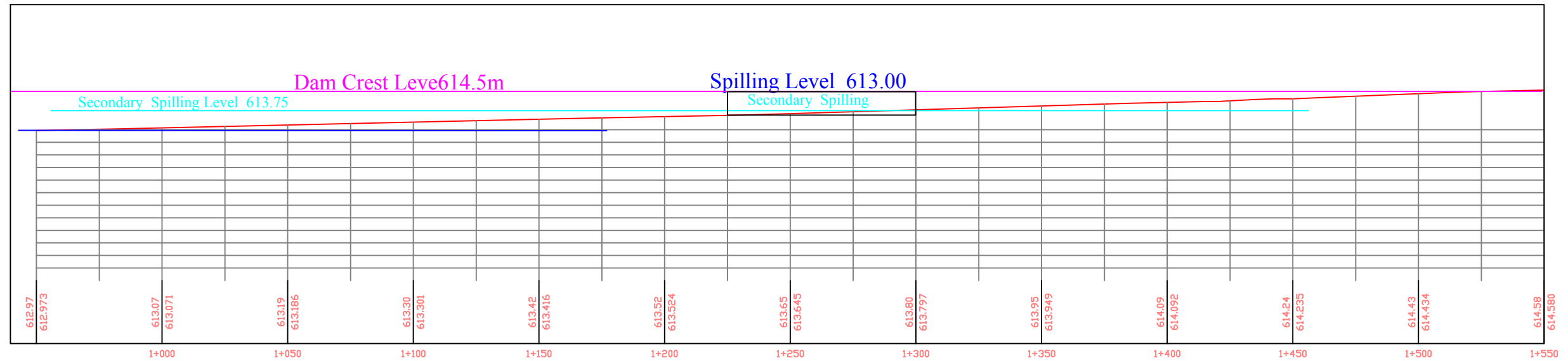
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DESIGNED: Dr.Eng. HASHIM M. HAMID	DRAWN: Eng. Ahmed M. Dayer	Wadaah Earthfill Dam (Rehabilitation Work Client Option III)	SCALE:
CHECKED:	SURVEYED Eng. Ishag Abdalla Bakhit	CONTRACT No	DATE: November 2022
			DRAWING NO:

4

Dam Axis Designed Profile Ch 1+000 - 1+500.



1+500 1+550 1+600 1+650 1+700 1+750 1+800 1+850 1+900 1+950 2+000 2+050

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PROJECT Provision of Assessment and Studies for Rehabilitation of Wadaah Earthfill Dam in North Darfur State



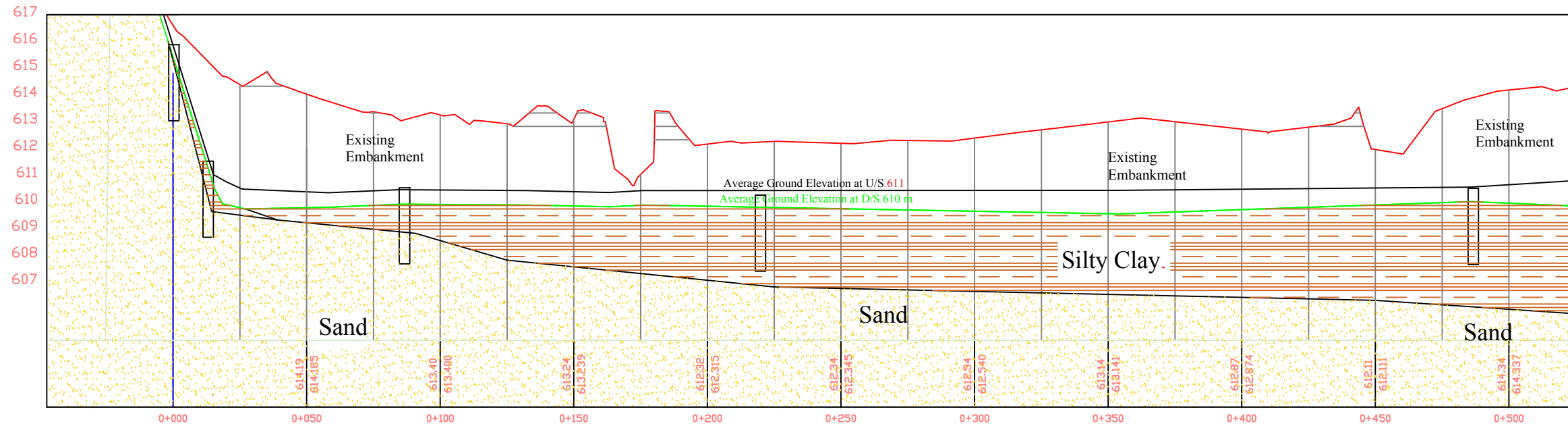
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Email : pceco2013@gmail.com, Web : www.pceco-sudan.com

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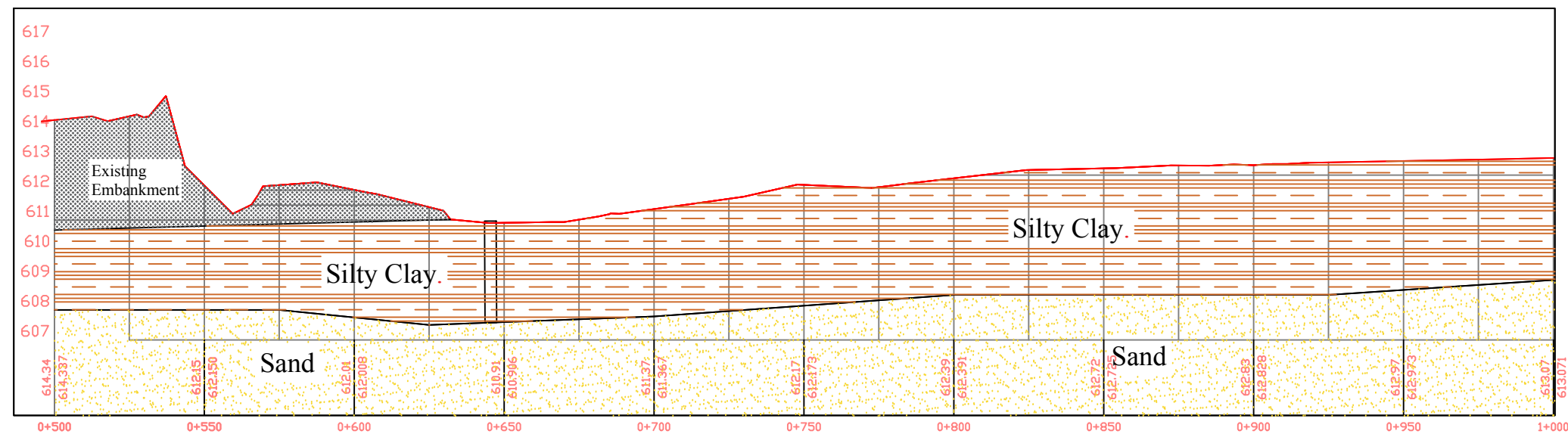
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DESIGNED: Dr.Eng. HASHIM M. HAMID	DRAWN: Eng .Ahmed M .Dayer	Wadaah Earthfill Dam (Rehabilitation Work Client Option III)	SCALE:
CHECKED:	SURVEYED Eng .Ishag Abdalla Bakhit	CONTRACT No	DATE: November 2022
			DRAWING NO: 5

Dam Axis Geological Profile

Ch 0+00 - 0+500.



Ch 0+500 - 1+000.



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PROJECT Provision of Assessment and Studies for Rehabilitation of
Wadaah Earthfill Dam in North Darfur State



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REV.	DESCRIPTION	DATE	SIGN.	DRAWING NAME:
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DESIGNED:
Dr.Eng. HASHIM M. HAMID

DRAWN:
Eng. Ahmed M. Dayer

Wadaah Earthfill Dam
(Rehabilitation Work Client Option III)

SCALE:

CHECKED:
Eng. Ishag Abdalla Bakhit

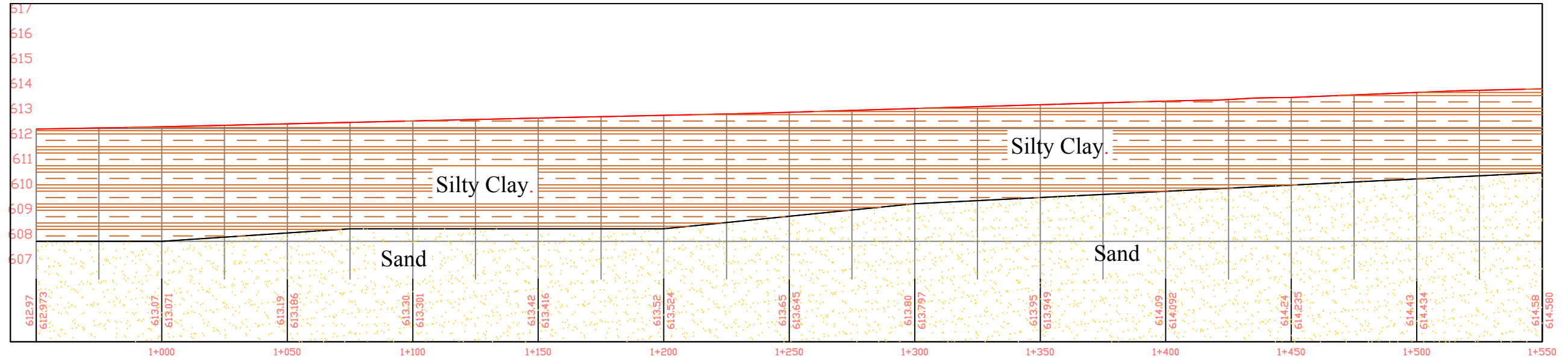
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CONTRACT No DATE:
November 2022

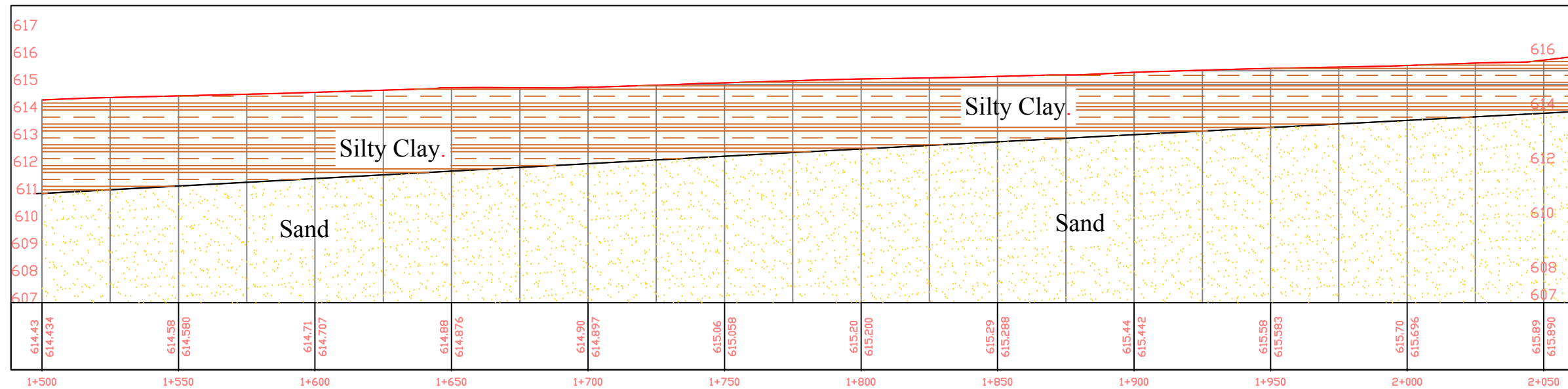
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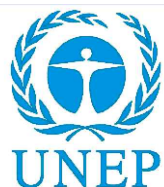
Dam Axis Geological Profile Ch 1+000 - 1+500.



Ch 1+500 - 2+060.



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PROJECT Provision of Assessment and Studies for Rehabilitation of Wadaah Earthfill Dam in North Darfur State



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Dam Axis Geological Profile Ch 1+000 - 2+060.

DESIGNED:

Dr.Eng. HASHIM M. HAMID

DRAWN:

Eng. Ahmed M. Dayer

Wadaah Earthfill Dam
(Rehabilitation Work Client Option III)

SCALE:

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CHECKED:

SURVEYED
Eng. Ishag Abdalla Bakhit

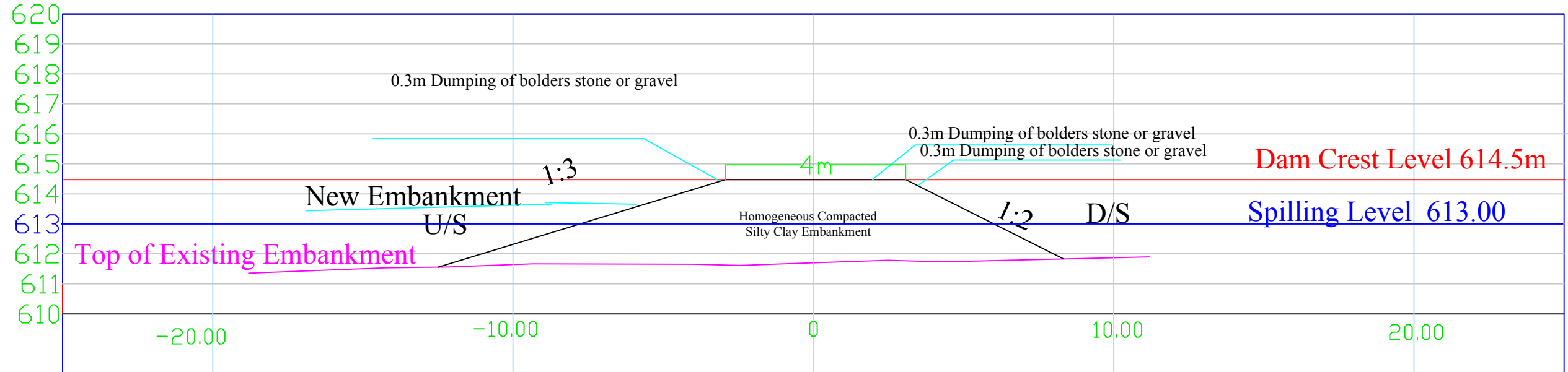
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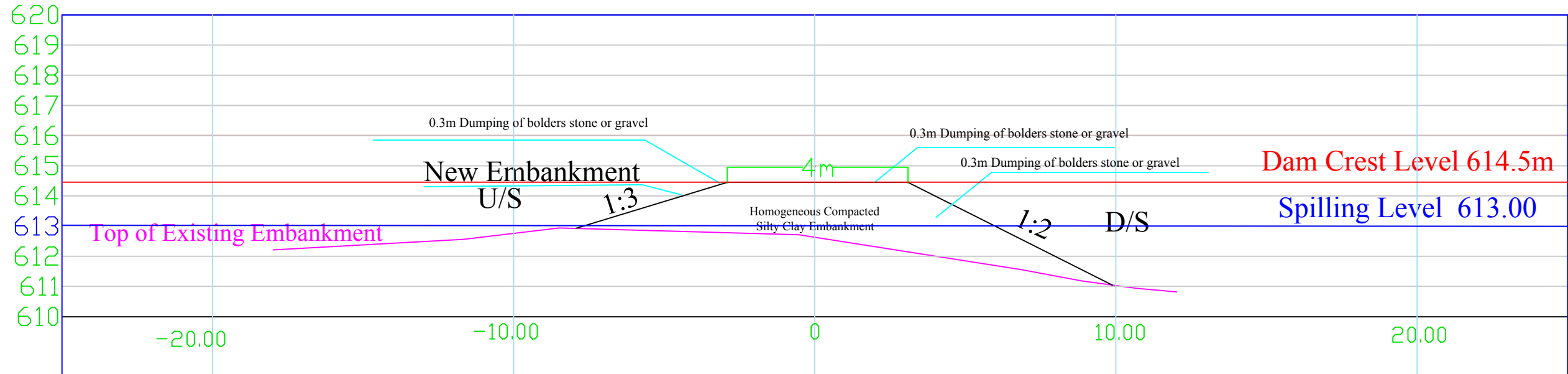
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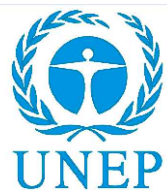
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PROJECT Provision of Assessment and Studies for Rehabilitation of Wadaah Earthfill Dam in North Darfur State

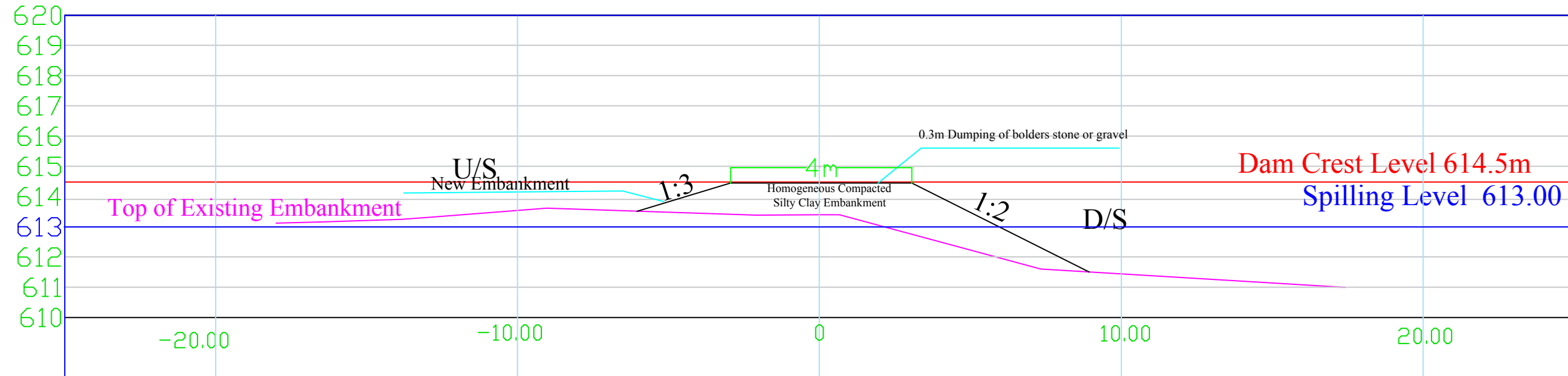


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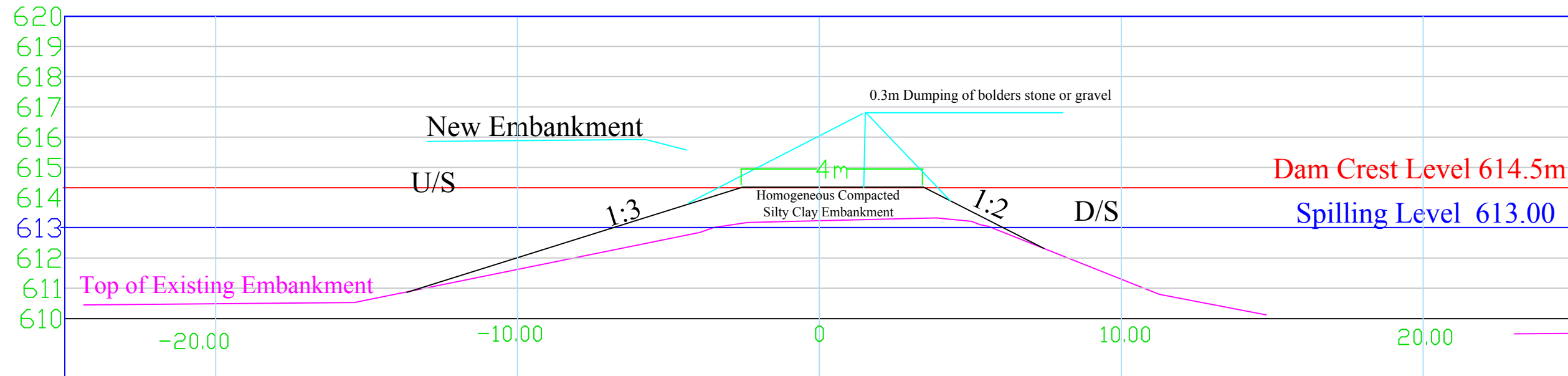
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DESIGNED: Dr.Eng. HASHIM M. HAMID	DRAWN: Eng. Ahmed M. Dayer	Wadaah Earthfill Dam (Rehabilitation Work Client Option III)	SCALE:
CHECKED:	SURVEYED Eng. Ishag Abdalla Bakhit	CONTRACT No	DATE: November 2022
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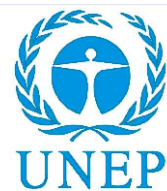
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PROJECT Provision of Assessment and Studies for Rehabilitation of Wadaah Earthfill Dam in North Darfur State



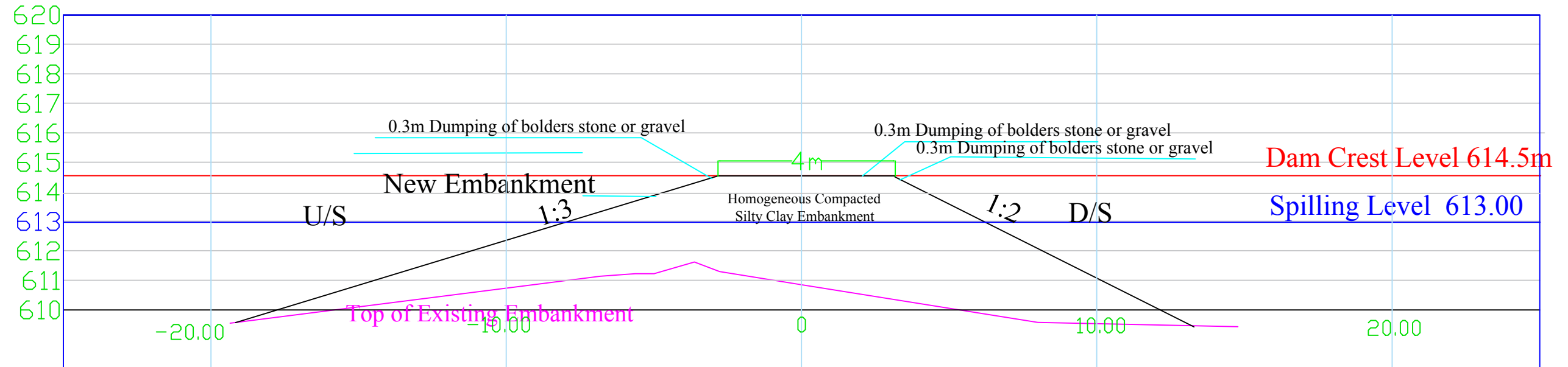
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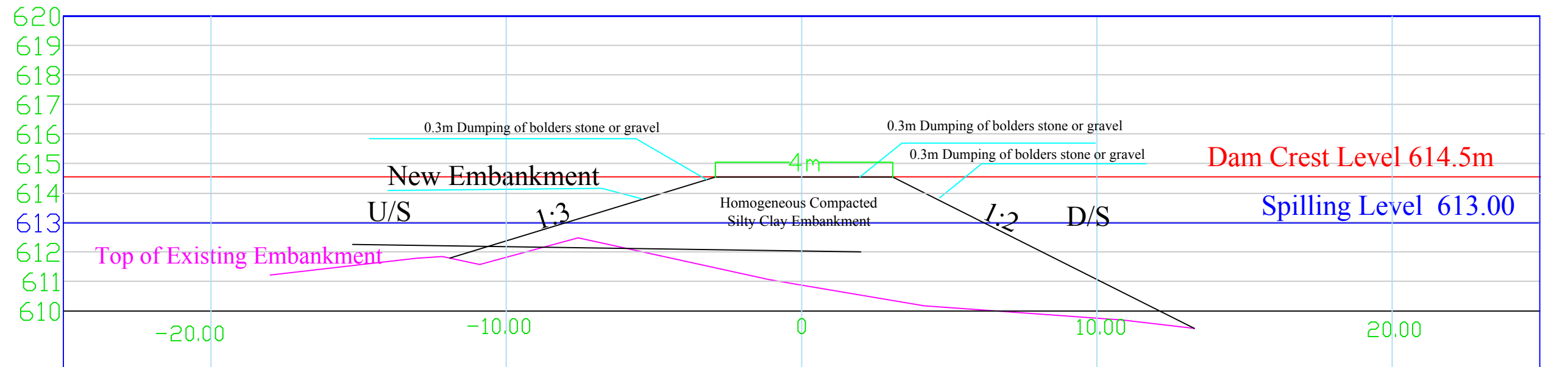
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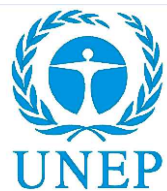
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DRAWING NAME:

CROSS SECTION OF REHABILITATION OF EXISTING EMBANKMENT

DESIGNED:
Dr.Eng. HASHIM M. HAMID

DRAWN:
Eng. Ahmed M. Dayer

Wadaah Earthfill Dam
(Rehabilitation Work Client Option III)

SCALE:

CHECKED:

SURVEYED
Eng. Ishag Abdalla Bakhit

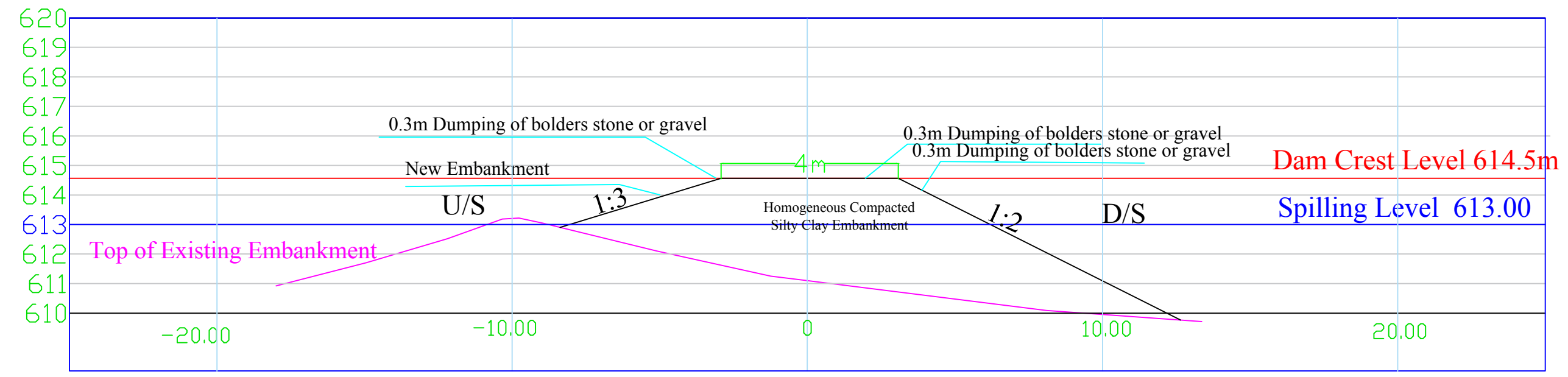
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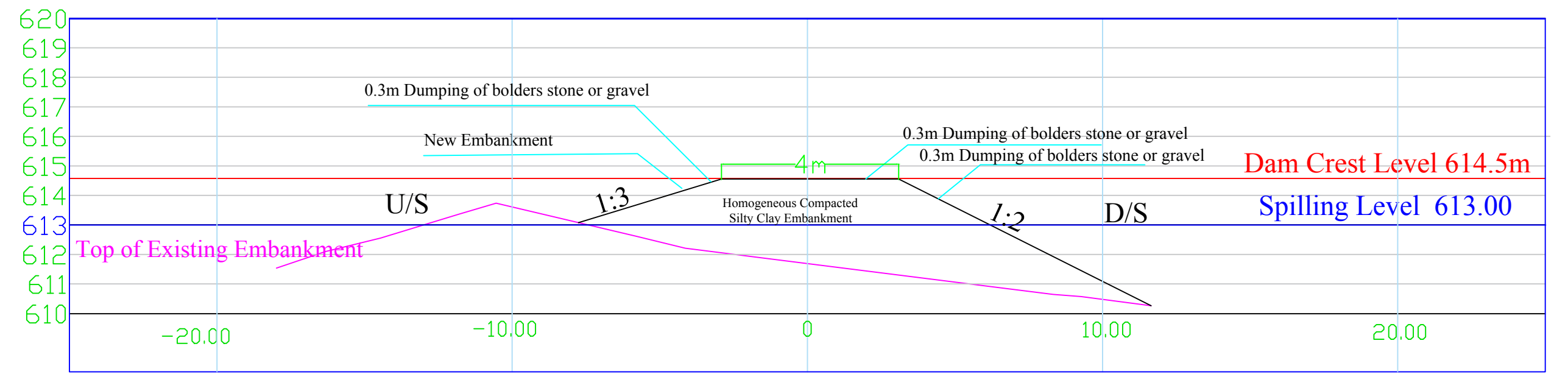
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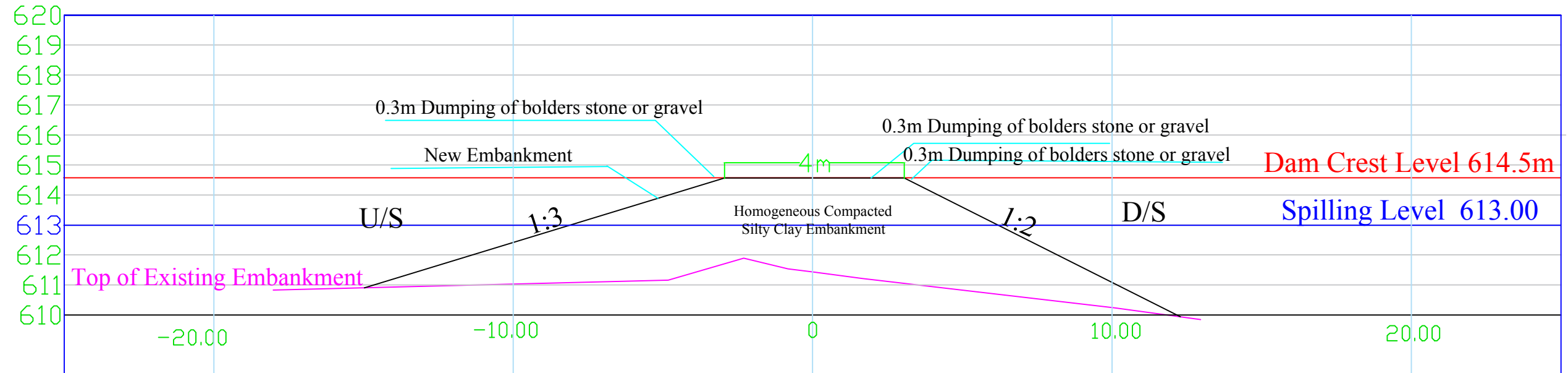


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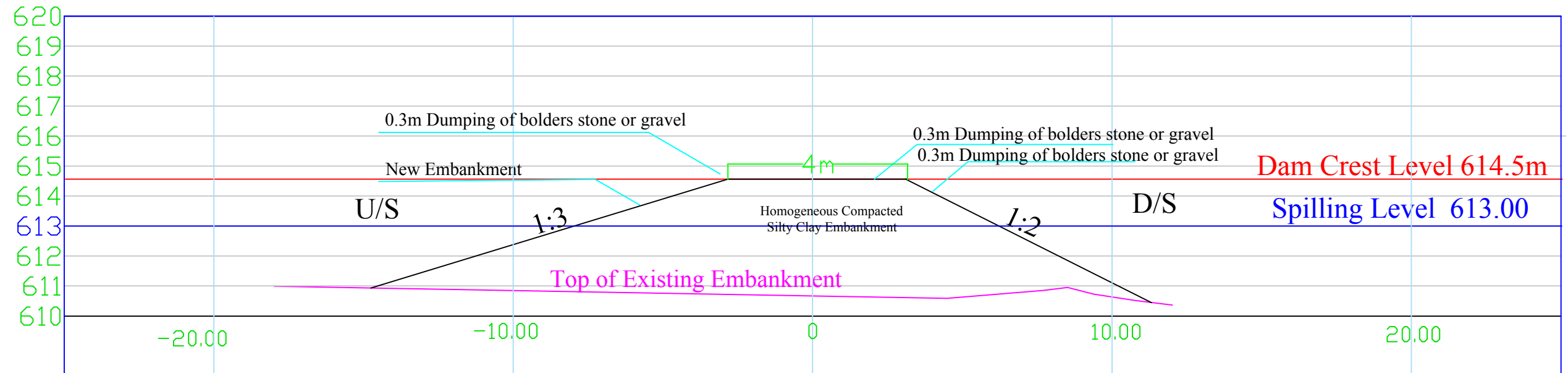


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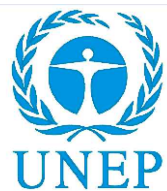
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DRAWN:
Eng. Ahmed M. Dayer

Wadaah Earthfill Dam
(Rehabilitation Work Client Option III)

SCALE:

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SURVEYED
Eng. Ishag Abdalla Bakhit

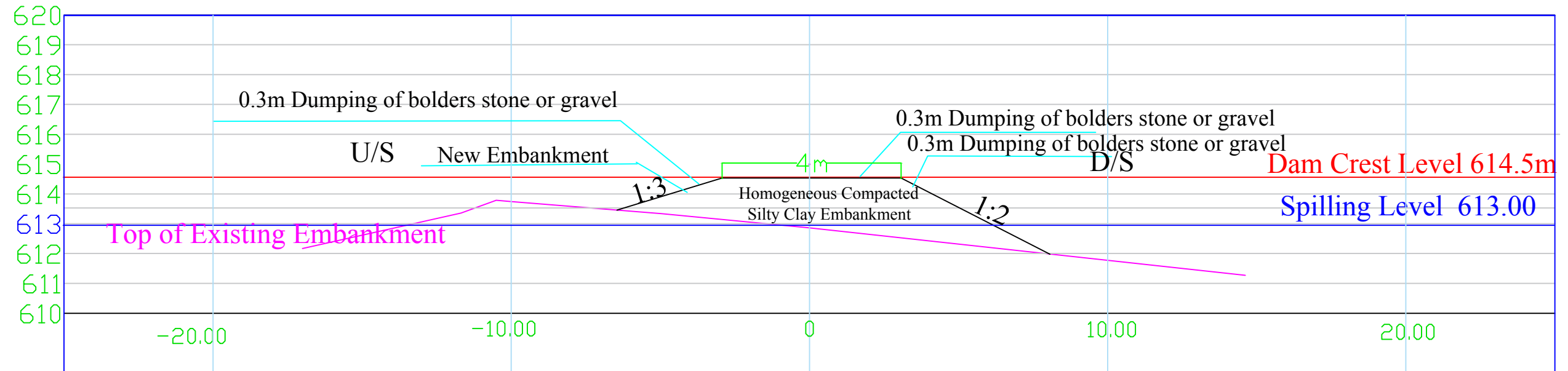
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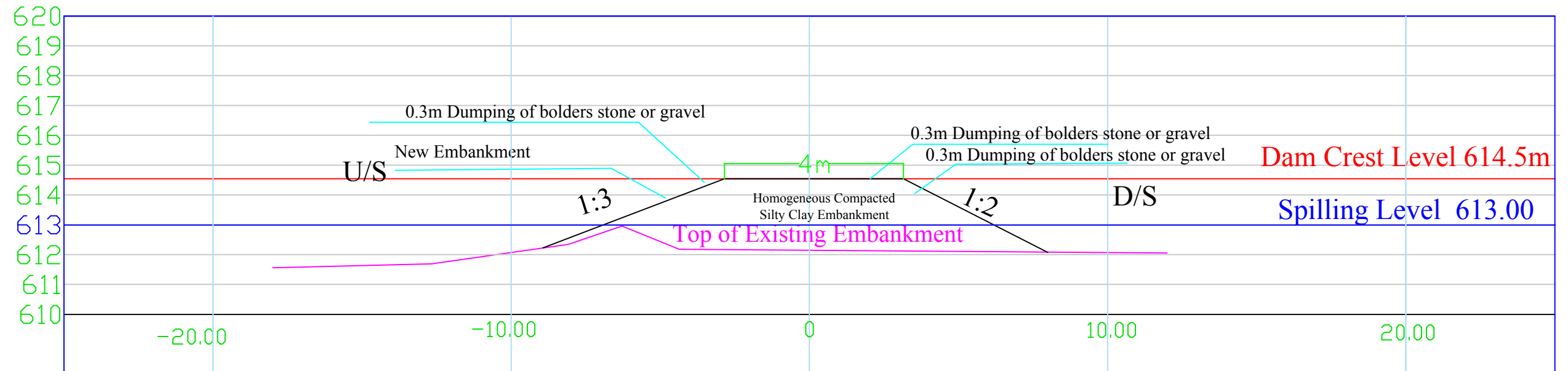
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CH 0+550.00



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Wadaah Earthfill Dam
(Rehabilitation Work Client Option III)

SCALE:

CHECKED:

SURVEYED
Eng. Ishag Abdalla Bakhit

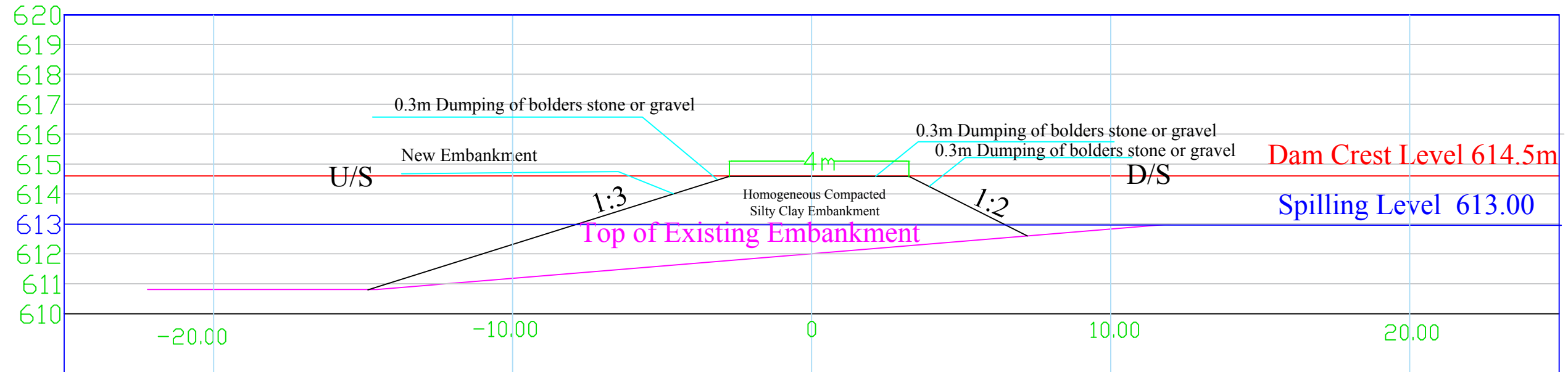
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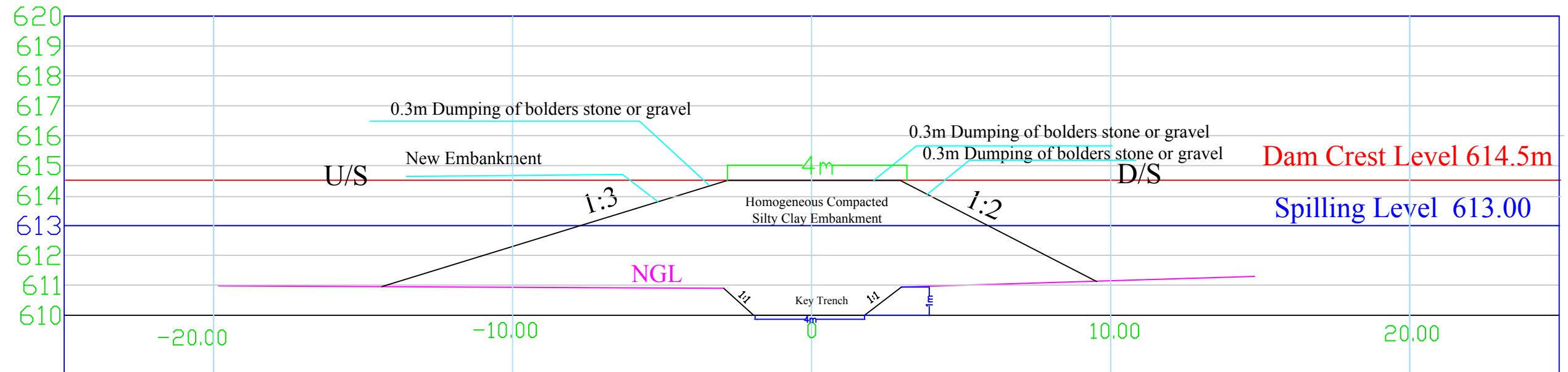
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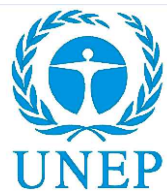
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CH 0+650.00



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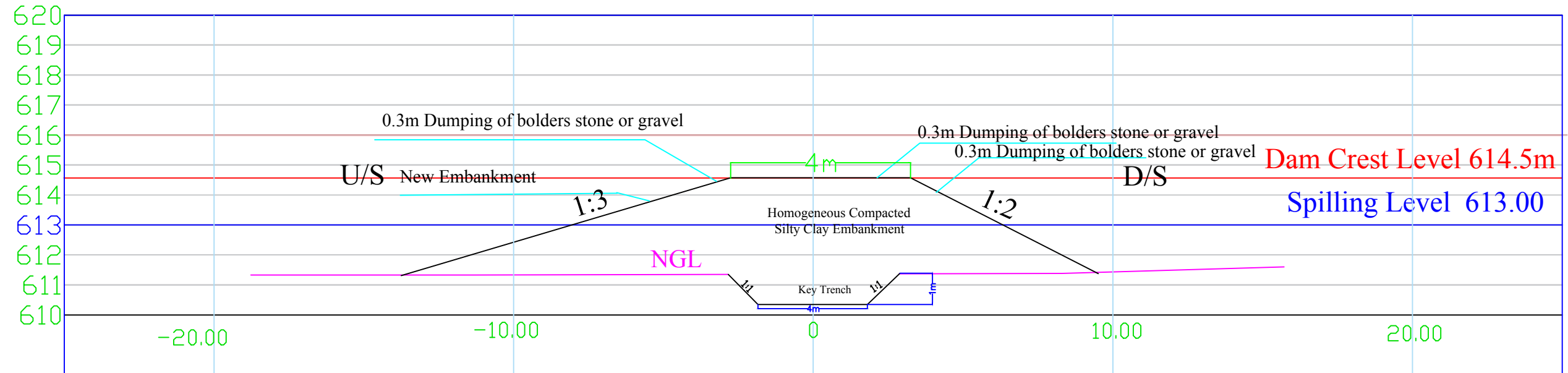
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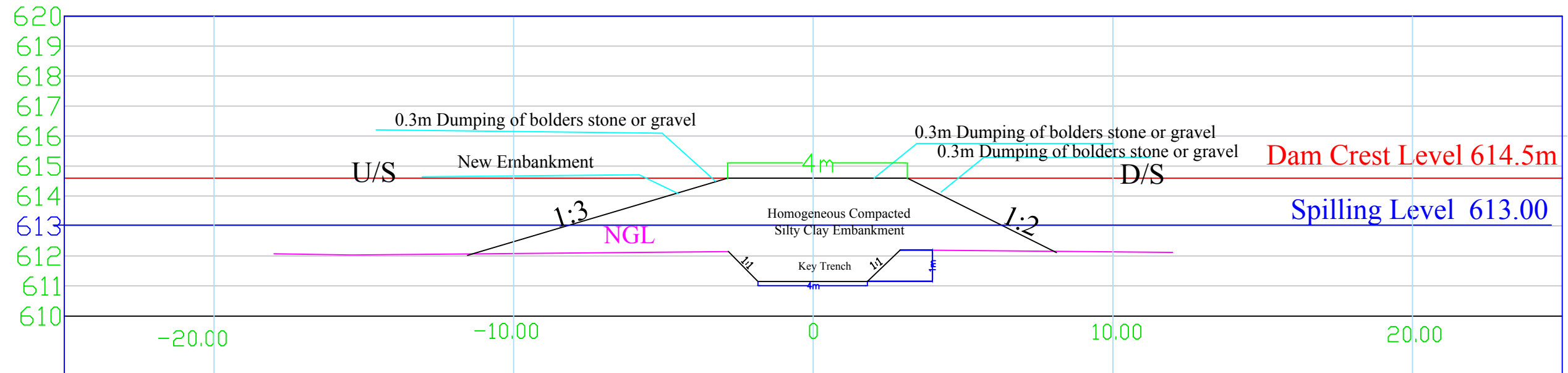
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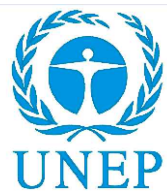
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By
PRACTICAL CONSULTANCY ENGINEERING CO. LTD
Mobiles : 00249912319503,00249912953773
Email : pcco2013@gmail.com, Web : www.pcco-sudan.com

REV.	DESCRIPTION	DATE	SIGN.
Four	Redesign as Directed and Approved by the Client	Nov. 2022	

DRAWING NAME:

CROSS SECTIONS OF NEW EMBANKMENT EXTENSION

DESIGNED:
Dr.Eng. HASHIM M. HAMID

DRAWN:
Eng. Ahmed M. Dayer

Wadaah Earthfill Dam
(Rehabilitation Work Client Option III)

SCALE:

CHECKED:

SURVEYED
Eng. Ishag Abdalla Bakhit

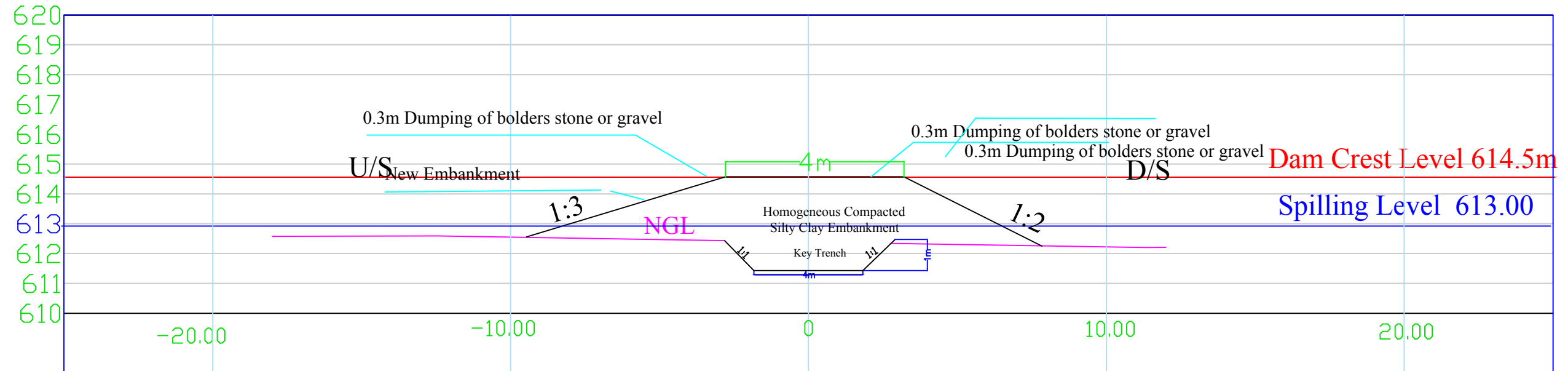
CONTRACT No

DATE:
November 2022

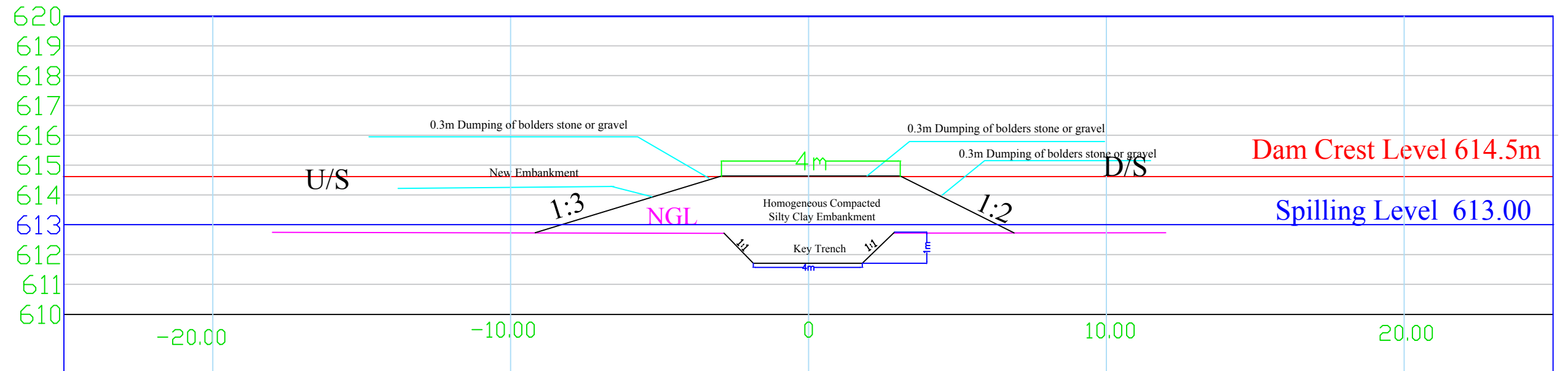
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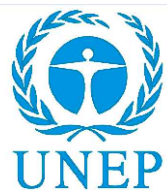
CH 0+800.00



CH 0+850.00



CLIENT



Practical ACTION

PROJECT Provision of Assessment and Studies for Rehabilitation of Wadaah Earthfill Dam in North Darfur State



By **PRACTICAL CONSULTANCY ENGINEERING CO. LTD**
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REV.	DESCRIPTION	DATE	SIGN.
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DRAWN:
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Wadaah Earthfill Dam
(Rehabilitation Work Client Option III)

SCALE:

CHECKED:

SURVEYED
Eng. Ishag Abdalla Bakhit

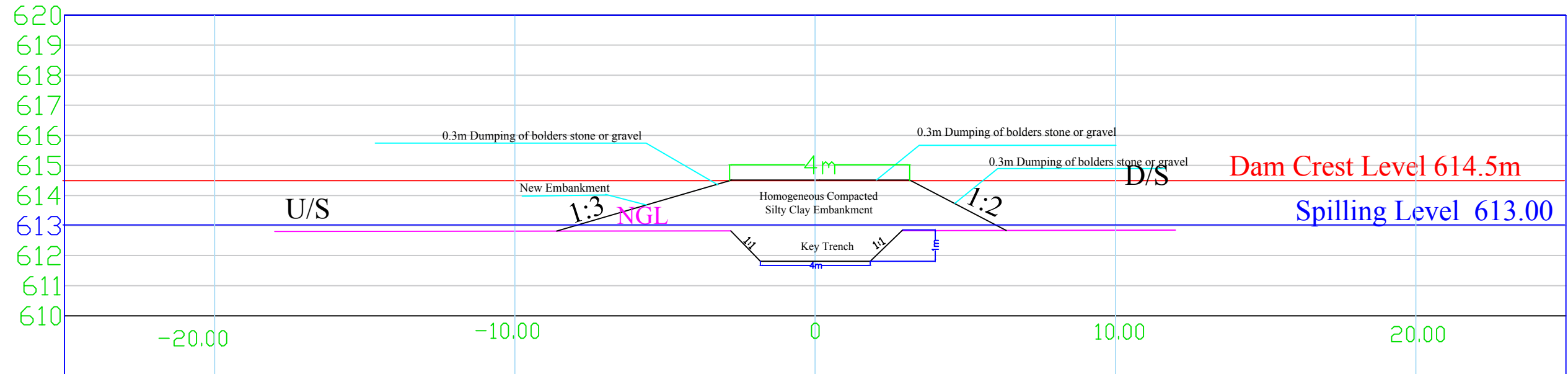
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DATE:
November 2022

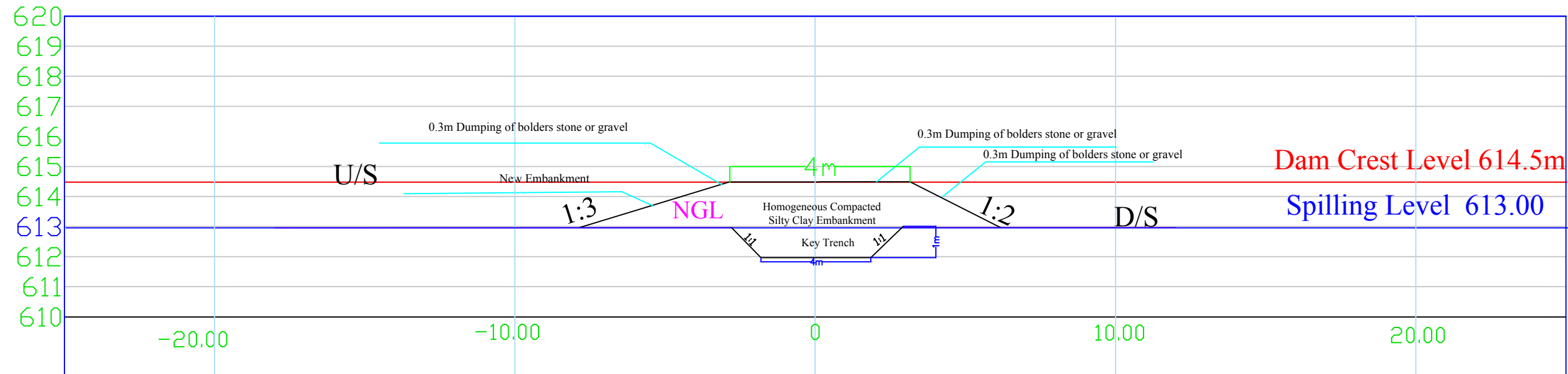
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16

CH 0+900.00



CH 0+950.00



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Practical ACTION

PROJECT Provision of Assessment and Studies for Rehabilitation of Wadaah Earthfill Dam in North Darfur State



By
PRACTICAL CONSULTANCY ENGINEERING CO. LTD
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Email : pcco2013@gmail.com, Web : www.pcco-sudan.com

REV.	DESCRIPTION	DATE	SIGN.
Four	Redesign as Directed and Approved by the Client	Nov. 2022	

DRAWING NAME:

CROSS SECTIONS OF NEW EMBANKMENT EXTENSION

DESIGNED:
Dr.Eng. HASHIM M. HAMID

DRAWN:
Eng. Ahmed M. Dayer

Wadaah Earthfill Dam
(Rehabilitation Work Client Option III)

SCALE:

CHECKED:

SURVEYED
Eng. Ishag Abdalla Bakhit

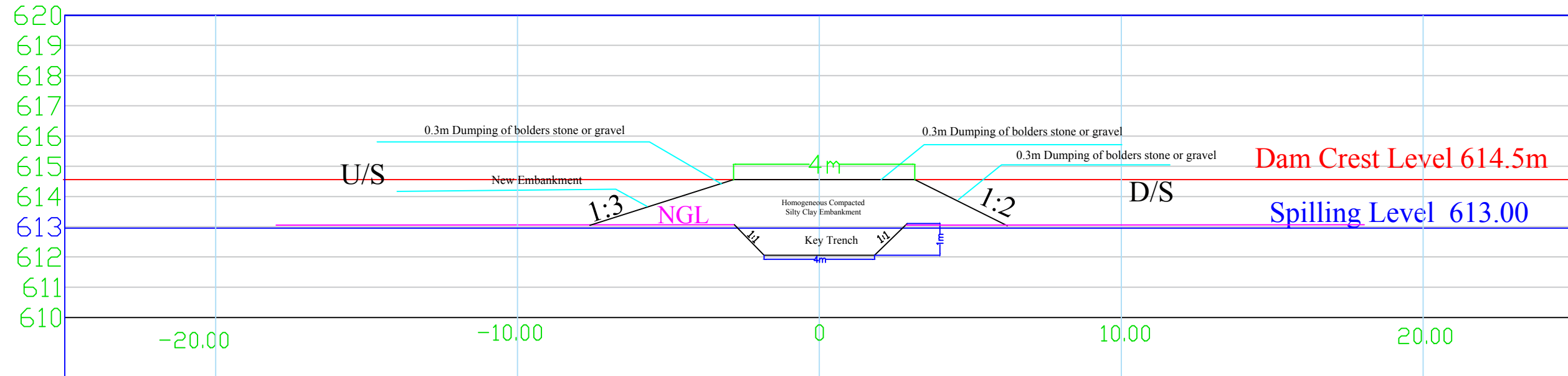
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DATE:
November 2022

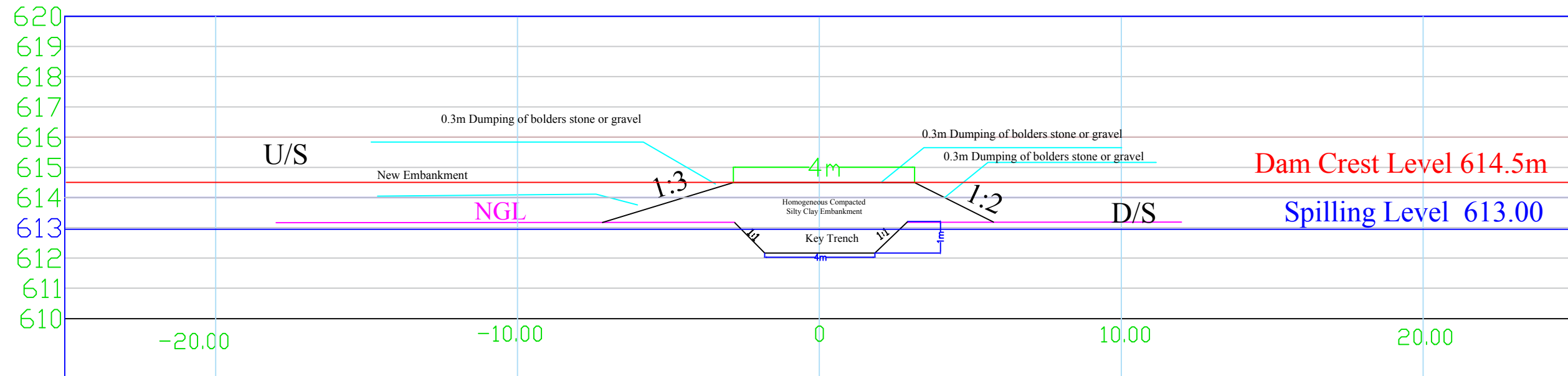
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CH 1+000.00



CH 1+050.00



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Practical ACTION

PROJECT Provision of Assessment and Studies for Rehabilitation of Wadaah Earthfill Dam in North Darfur State



By
PRACTICAL CONSULTANCY ENGINEERING CO. LTD
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Wadaah Earthfill Dam
(Rehabilitation Work Client Option III)

SCALE:

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SURVEYED
Eng. Ishag Abdalla Bakhit

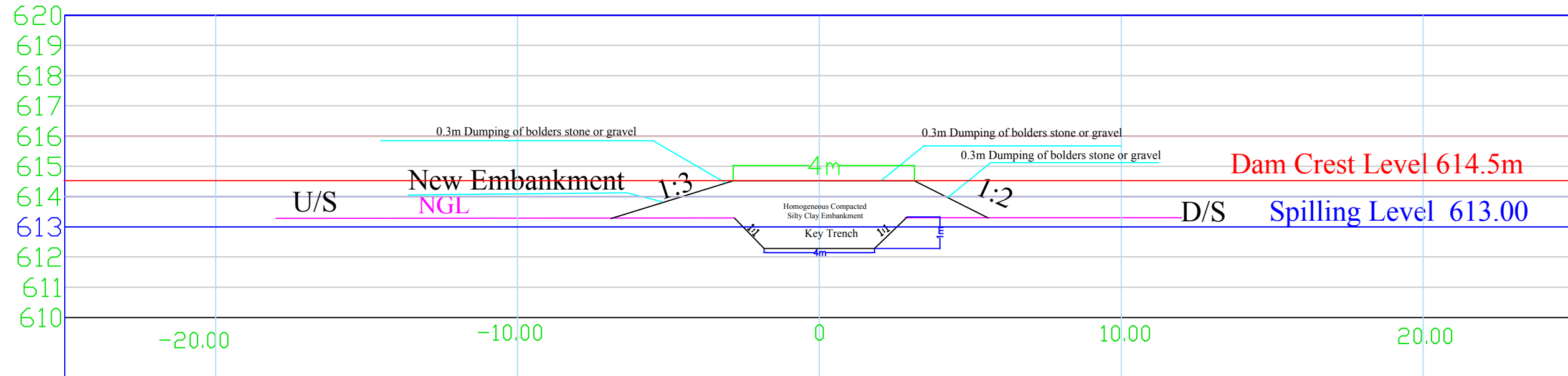
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DATE:
November 2022

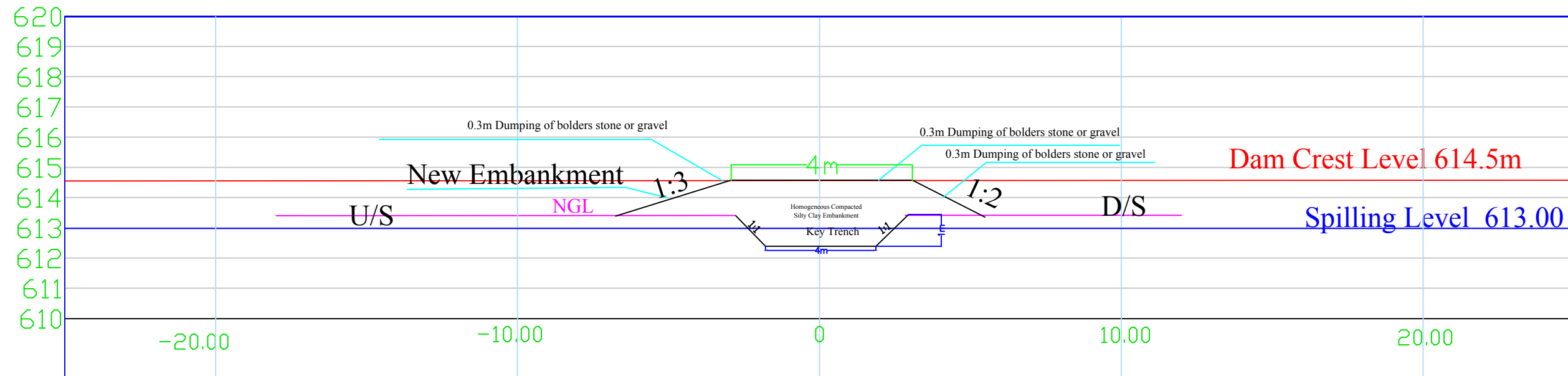
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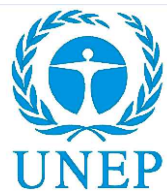
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CH 1+150.00



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Practical ACTION

PROJECT Provision of Assessment and Studies for Rehabilitation of Wadaah Earthfill Dam in North Darfur State



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Wadaah Earthfill Dam
(Rehabilitation Work Client Option III)

SCALE:

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Eng. Ishag Abdalla Bakhit

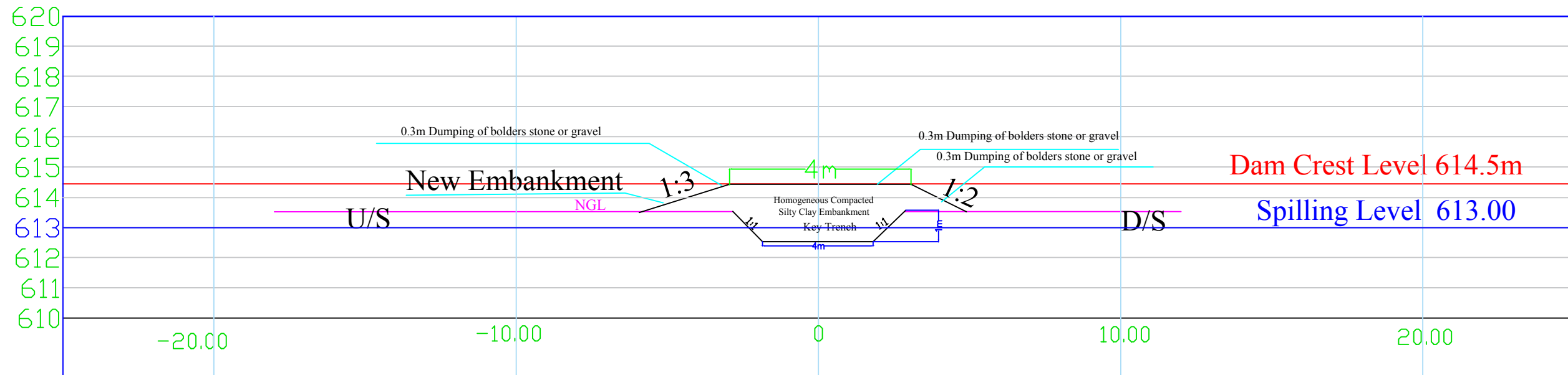
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DATE:
November 2022

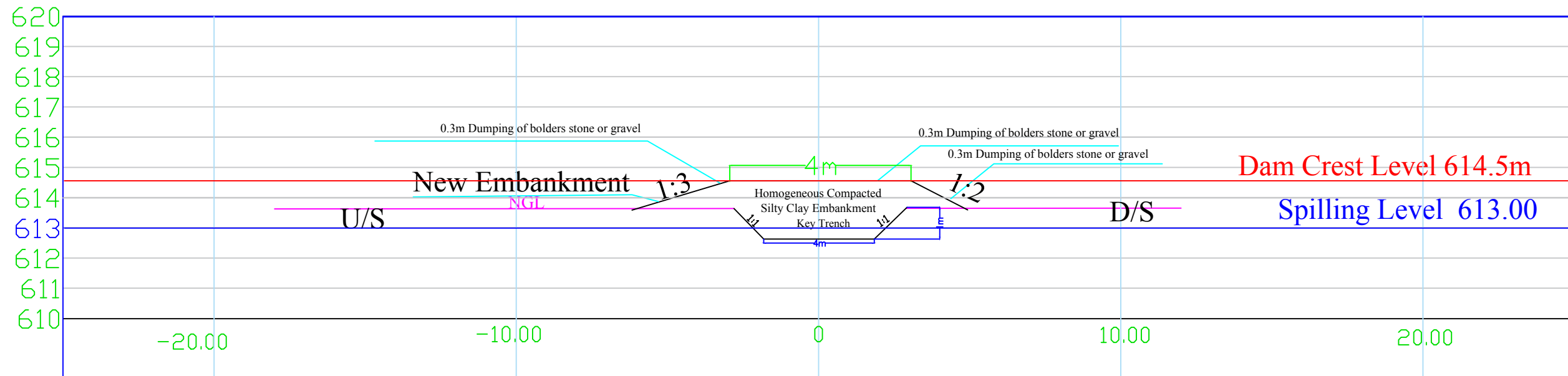
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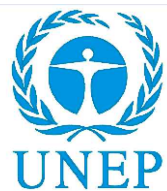
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CH 1+250.00



CLIENT



Practical ACTION

PROJECT Provision of Assessment and Studies for Rehabilitation of Wadaah Earthfill Dam in North Darfur State



By
PRACTICAL CONSULTANCY ENGINEERING CO. LTD
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REV.	DESCRIPTION	DATE	SIGN.
Four	Redesign as Directed and Approved by the Client	Nov. 2022	

DRAWING NAME:

CROSS SECTIONS OF NEW EMBANKMENT EXTENSION

DESIGNED:
Dr.Eng. HASHIM M. HAMID

DRAWN:
Eng. Ahmed M. Dayer

Wadaah Earthfill Dam
(Rehabilitation Work Client Option III)

SCALE:

CHECKED:

SURVEYED
Eng. Ishag Abdalla Bakhit

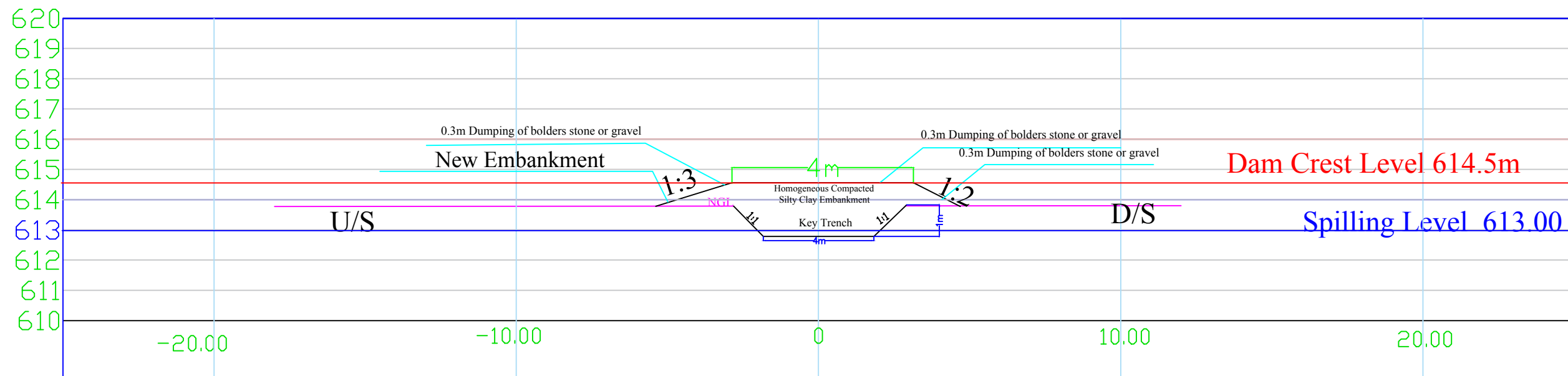
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DATE:
November 2022

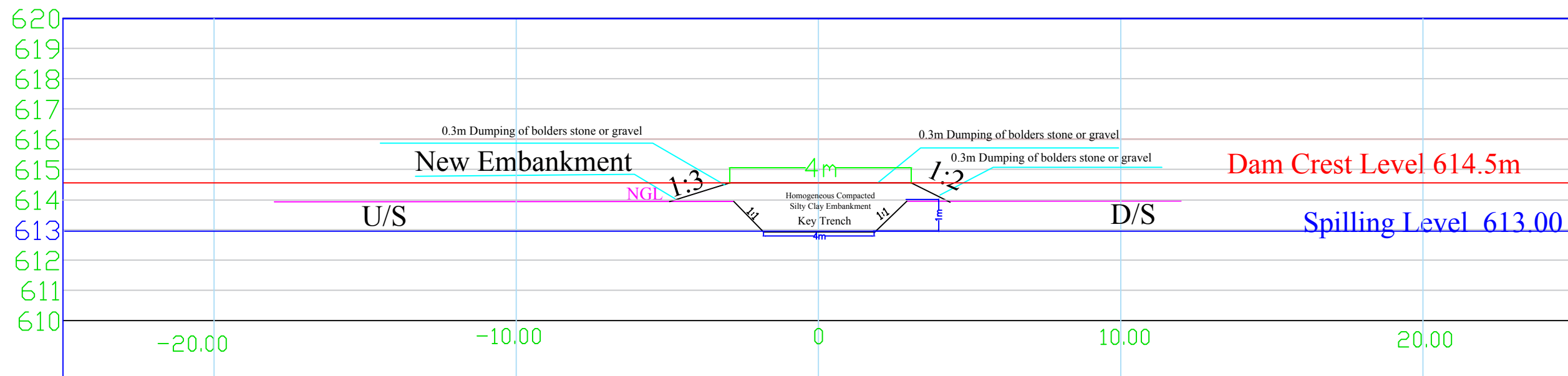
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CH 1+300.00



CH 1+350.00



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Practical ACTION

PROJECT Provision of Assessment and Studies for Rehabilitation of Wadaah Earthfill Dam in North Darfur State



By
PRACTICAL CONSULTANCY ENGINEERING CO. LTD
Mobiles :- 00249912319503,00249912953773
Email : pcco2013@gmail.com , Web : www.pcco-sudan.com

REV.	DESCRIPTION	DATE	SIGN.
Four	Redesign as Directed and Approved by the Client	Nov. 2022	

DRAWING NAME:

CROSS SECTIONS OF NEW EMBANKMENT EXTENSION

DESIGNED:
Dr.Eng. HASHIM M. HAMID

DRAWN:
Eng. Ahmed M. Dayer

Wadaah Earthfill Dam
(Rehabilitation Work Client Option III)

SCALE:

CHECKED:

SURVEYED
Eng. Ishag Abdalla Bakhit

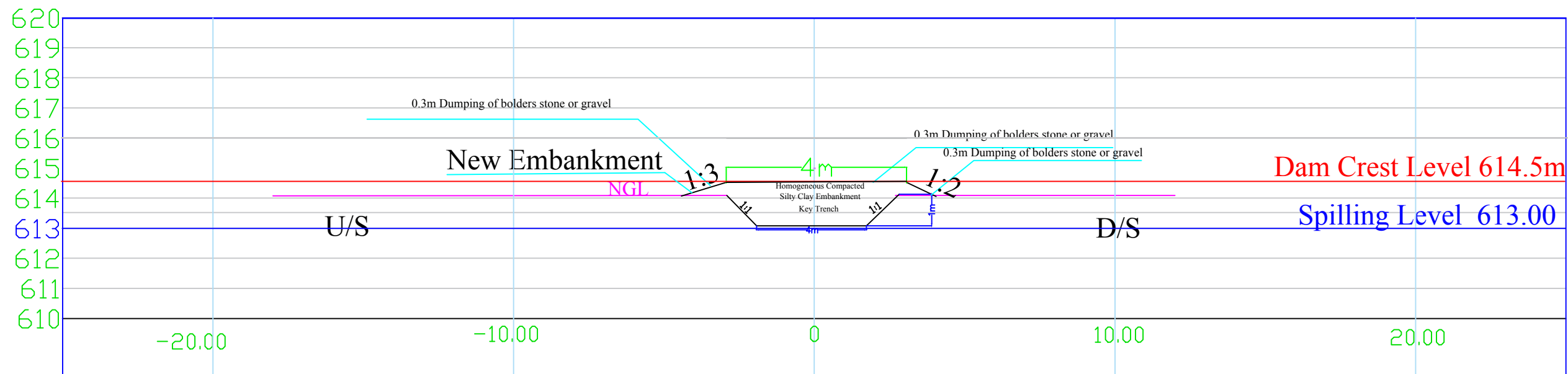
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DATE:
November 2022

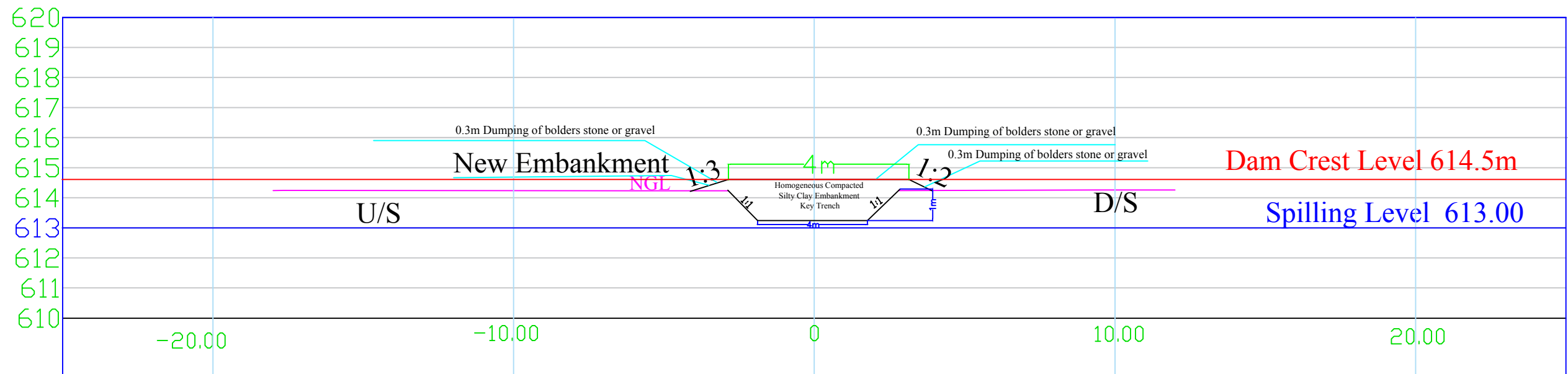
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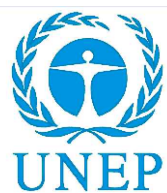
CH 1+400.00



CH 1+450.00



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Practical ACTION

PROJECT Provision of Assessment and Studies for Rehabilitation of Wadaah Earthfill Dam in North Darfur State



By
PRACTICAL CONSULTANCY ENGINEERING CO. LTD
Mobiles : 00249912319503,00249912953773
Email : pcco2013@gmail.com, Web : www.pcco-sudan.com

REV.	DESCRIPTION	DATE	SIGN.
Four	Redesign as Directed and Approved by the Client	Nov. 2022	

DRAWING NAME:

CROSS SECTIONS OF NEW EMBANKMENT EXTENSION

DESIGNED:
Dr.Eng. HASHIM M. HAMID

DRAWN:
Eng. Ahmed M. Dayer

Wadaah Earthfill Dam
(Rehabilitation Work Client Option III)

SCALE:

22

CHECKED:

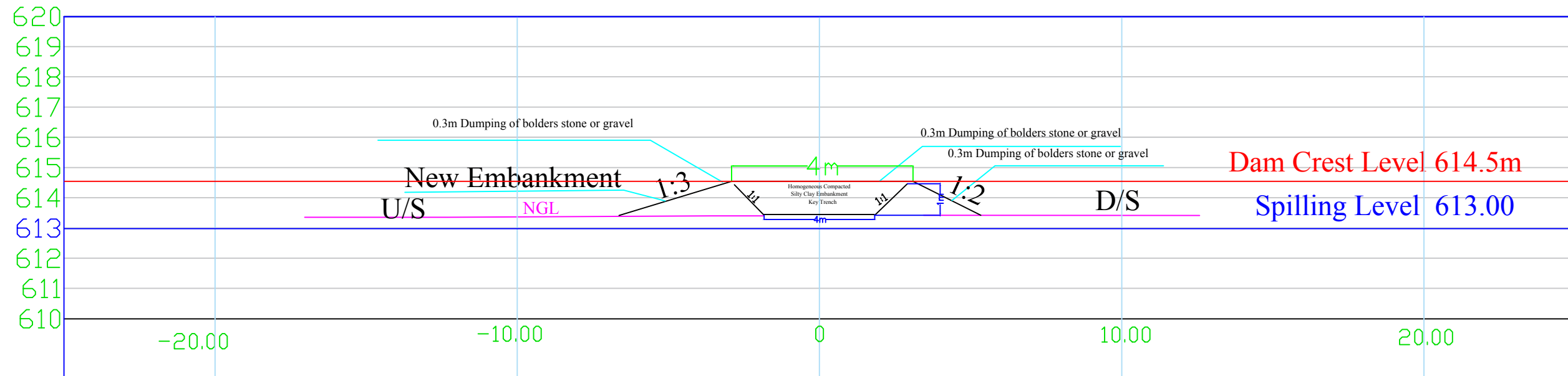
SURVEYED
Eng. Ishag Abdalla Bakhit

CONTRACT No

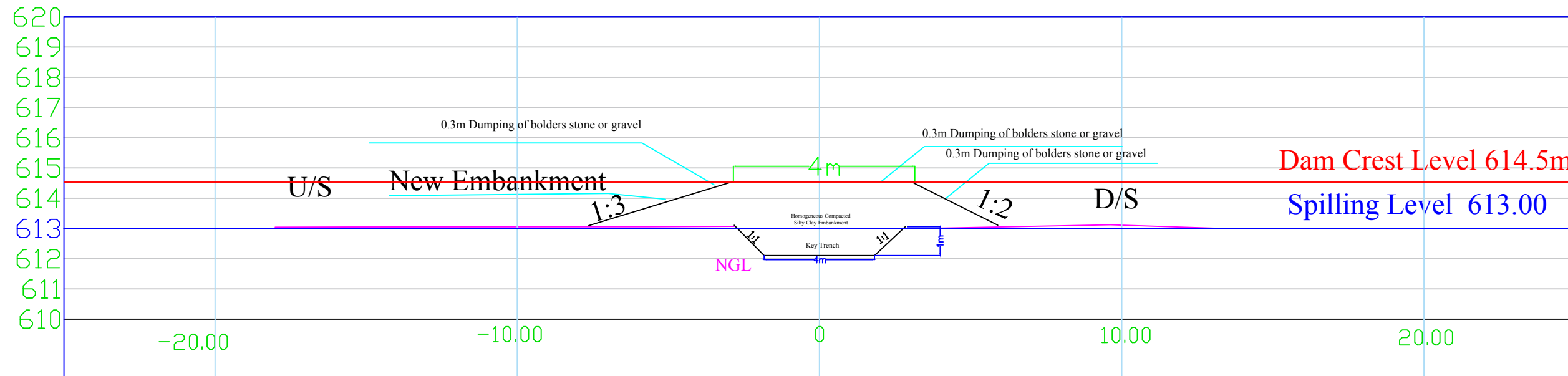
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November 2022

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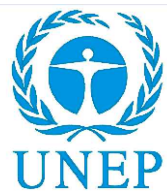
CH 1+500.00



CH 1+525.00



CLIENT



Practical ACTION

PROJECT Provision of Assessment and Studies for Rehabilitation of Wadaah Earthfill Dam in North Darfur State



By
PRACTICAL CONSULTANCY ENGINEERING CO. LTD
Mobiles - 00249912319503, 00249912953773
Email : pcco2013@gmail.com, Web : www.pcco-sudan.com

REV.	DESCRIPTION	DATE	SIGN.
Four	Redesign as Directed and Approved by the Client	Nov. 2022	

DRAWING NAME:

CROSS SECTIONS OF NEW EMBANKMENT EXTENSION

DESIGNED:
Dr.Eng. HASHIM M. HAMID

DRAWN:
Eng. Ahmed M. Dayer

Wadaah Earthfill Dam
(Rehabilitation Work Client Option III)

SCALE:

CHECKED:

SURVEYED
Eng. Ishag Abdalla Bakhit

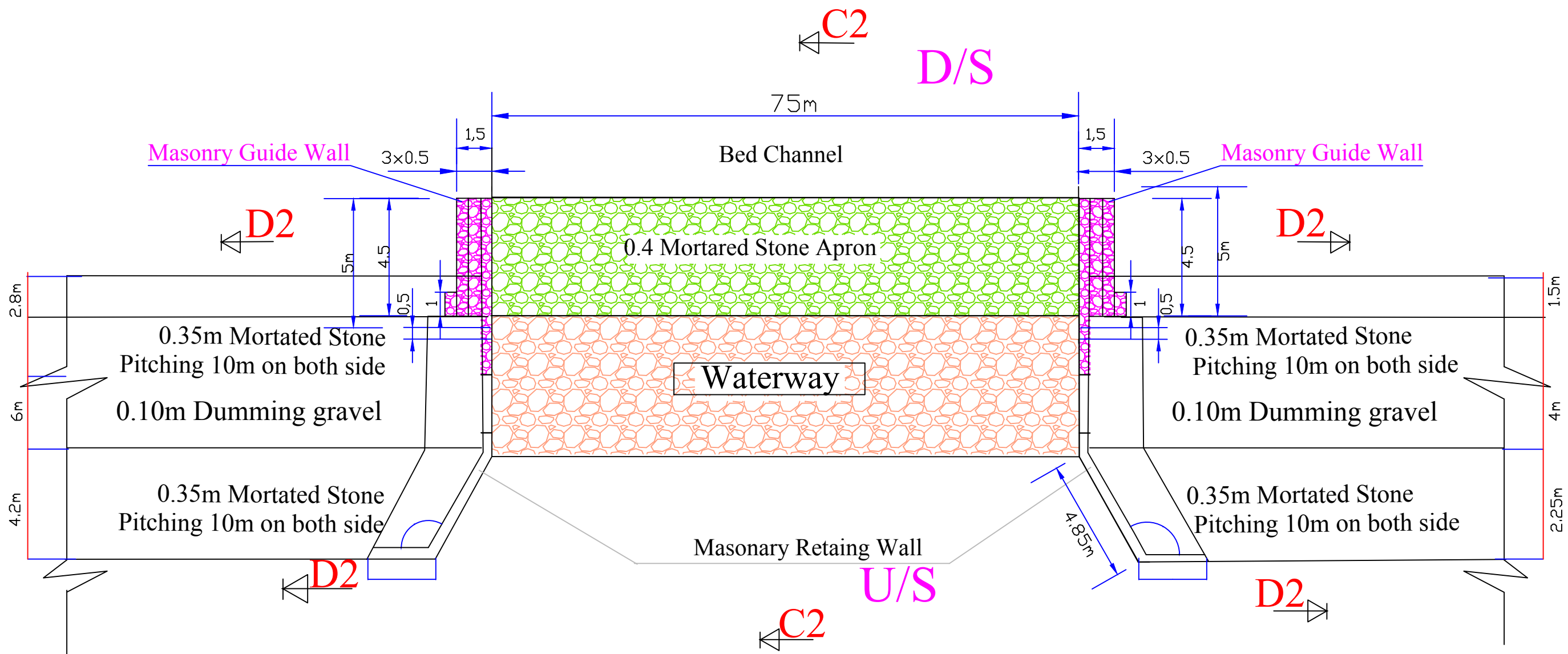
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DATE:
November 2022

DRAWING NO:

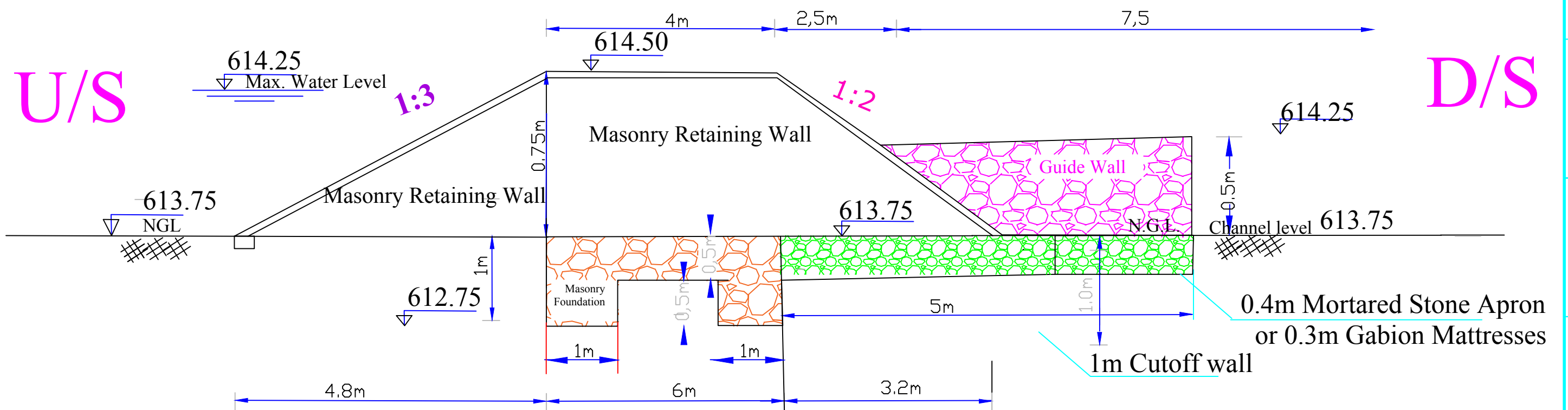
23

Plan of Secondary (Emergency) Spillway (Waterway)
at Ch. 1+200 - 1+275 Spilling Elevation 613.75

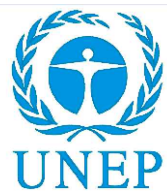


CLIENT 	PROJECT Provision of Assessment and Studies for Rehabilitation of Wadaah Earthfill Dam in North Darfur State By PRACTICAL CONSULTANCY ENGINEERING CO. LTD Mobbles - 00249912319503,00249912353773 Email : pceco2013@gmail.com, Web : www.pceco-sudan.com	REV. Four Redesign as Directed and Approved by the Client Nov. 2022	DESCRIPTION Redesign as Directed and Approved by the Client Nov. 2022	DATE Nov. 2022	SIGN. 	DRAWING NAME: Plan of the Secondary Spillway at Elevation 614.70			
		DESIGNED: Dr.Eng. HASHIM M. HAMID	DRAWN: Eng. Ahmed M. Dayer	Wadaah Earthfill Dam (Rehabilitation Work Client Option III)	SCALE:	24			
CHECKED:	SURVEYED: Eng. Ishag Abdalla Bakhit	CONTRACT No	DATE: November 2022	DRAWING NO:					

Cross Section C2-C2 of Secondary (Emergency) Spillway
(Waterway)
at Ch. 1+200 - 1+275 Spilling Elevation 613.75



CLIENT



**Practical
ACTION**

PROJECT Provision of Assessment and Studies for Rehabilitation of
Wadaah Earthfill Dam in North Darfur State



By
**PRACTICAL
CONSULTANCY ENGINEERING CO. LTD**
Mobiles - 00249912319503, 00249912953773
Email : pcco2013@gmail.com, Web : www.pcco-sudan.com

REV.	DESCRIPTION	DATE	SIGN.
Four	Redesign as Directed and Approved by the Client	Nov. 2022	

DRAWING NAME:

Cross Section C 2-C 2 of the Secondary Spillway (Waterway) at Elevation 614.70

DESIGNED:
Dr.Eng. HASHIM M. HAMID

DRAWN:
Eng. Ahmed M. Dayer

Wadaah Earthfill Dam
(Rehabilitation Work Client Option III)

SCALE:

CHECKED:

SURVEYED
Eng. Ishag Abdalla Bakhit

CONTRACT No

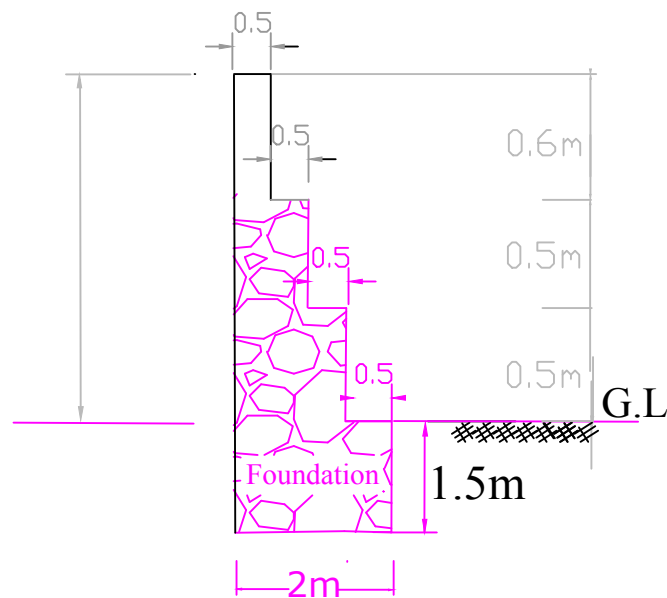
DATE:
November 2022

DRAWING NO:

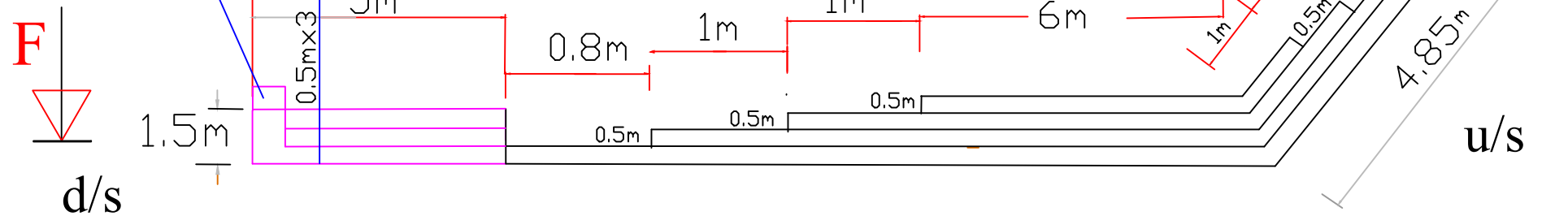
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Cross Section G-G

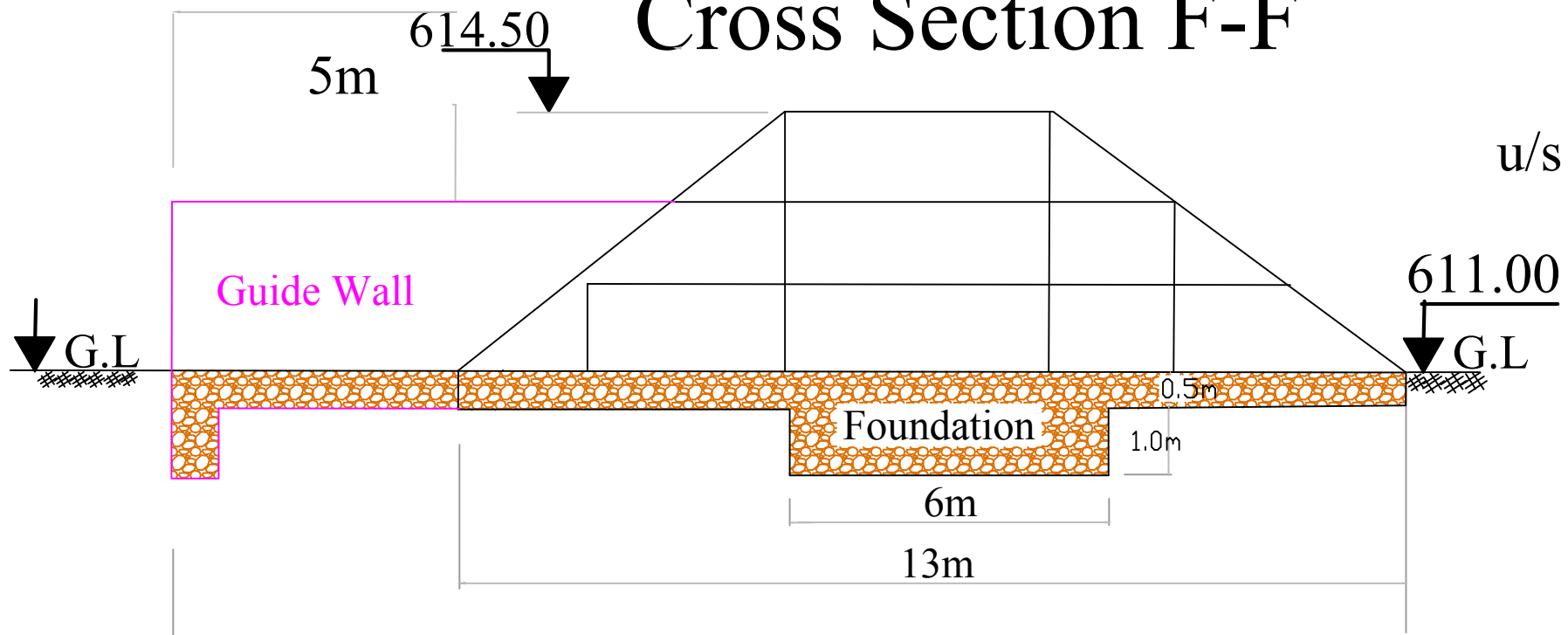
Masonry Retaining Wall



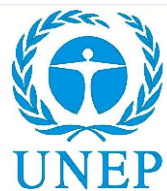
Guide Wall



Cross Section F-F



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Practical ACTION

PROJECT Provision of Assessment and Studies for Rehabilitation of Wadaah Earthfill Dam in North Darfur State



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Möbiles - 00249912319503,00249912953773
Email : pcco2013@gmail.com, Web : www.pcco-sudan.com

REV.	DESCRIPTION	DATE	SIGN.
Four	Redesign as Directed and Approved by the Client	Nov. 2022	

DRAWING NAME: Foundation and Retaining Walls Details of the Secondary Spillway (Waterway) at Elevation 614.70

DESIGNED:
Dr.Eng. HASHIM M. HAMID

DRAWN:
Eng. Ahmed M. Dayer

Wadaah Earthfill Dam
(Rehabilitation Work Client Option III)

SCALE:

26

CHECKED:

SURVEYED
Eng. Ishag Abdalla Bakhit

CONTRACT No

DATE:
November 2022

DRAWING NO: