

LIST OF DRAWINGS

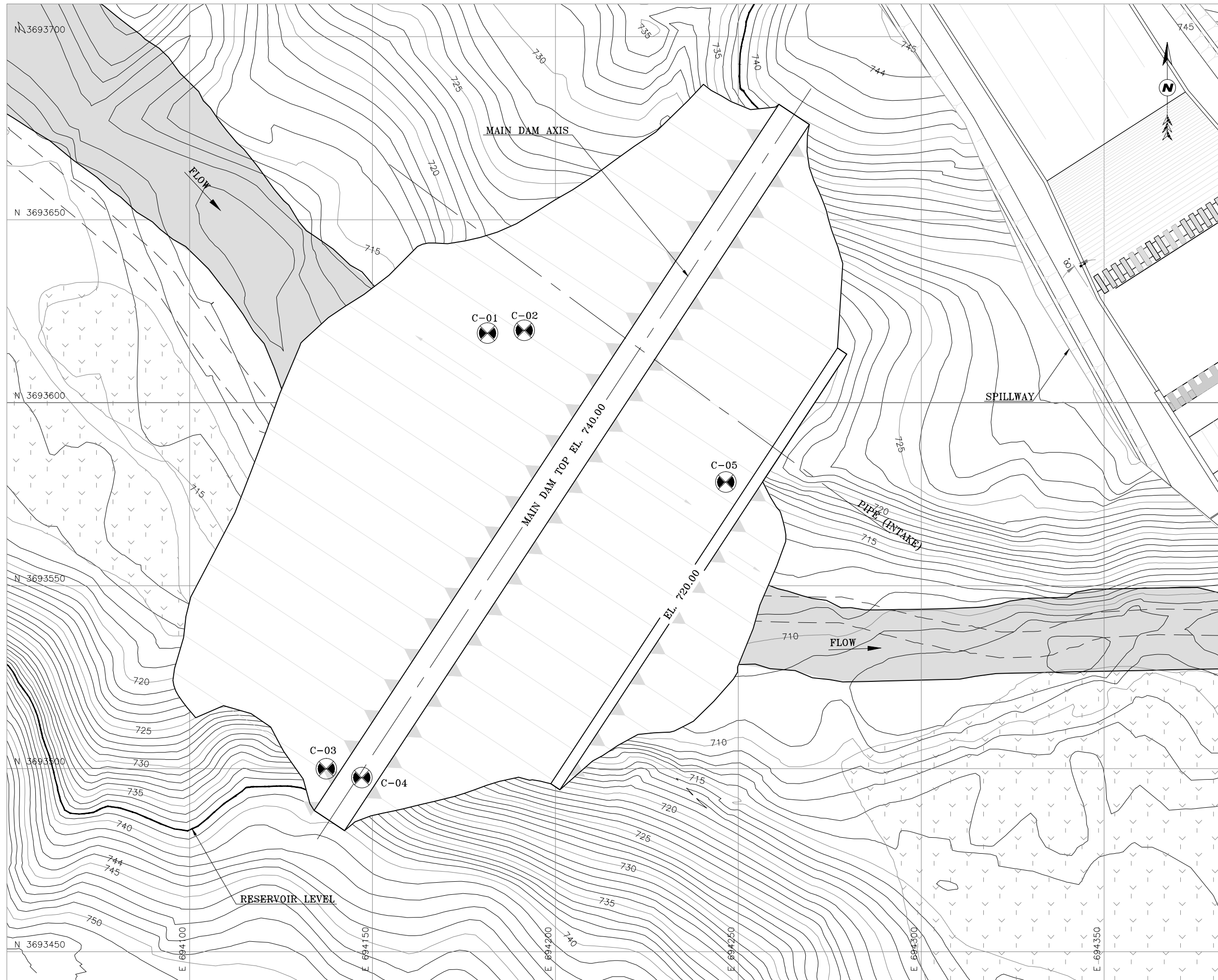
CHASHMA AKHORA KHEL DAM DISTRICT KARAK,KPK

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Client :	 GOVERNMENT OF KHYBERPAKHTUNKHWA IRRIGATION DEPARTMENT SMALL DAMS ORGANIZATION
Project :	CHASHMA AKHORA KHEL DAM DISTRICT KARAK, KPK
Consultants :	 Techno-Consult International In association with AGES & ASR Consultants
Drawing Title :	LIST OF DRAWINGS



Client :	GOVERNMENT OF KHYBERPAKHTUNKHWA IRRIGATION DEPARTMENT SMALL DAMS ORGANIZATION
Project :	CHASHMA AKHORA KHEL DAM DISTRICT KARAK, KPK
Consultants :	Techno-Consult International In Association with AGES & ASR Consultants
Drawing Title :	PROJECT LOCATION MAP



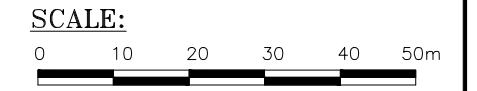
NOTES:
 1. ALL DIMENSION ELEVATION STATIONING AND GRID CO-ORDINATES ARE IN METERS.

LEGEND:

	Main Dam Axis
	Cultivated land
	River
	Road
	Settlement
	Bench Mark

BENCHMARKS

No.	Easting (m)	Northing(m)	EL.(m)
C-01	694181.415	3693618.979	720.346
C-02	694191.469	3693619.748	721.282
C-03	694137.342	3693499.971	734.736
C-04	694147.022	3693497.559	733.632
C-05	694246.520	3693578.297	719.44

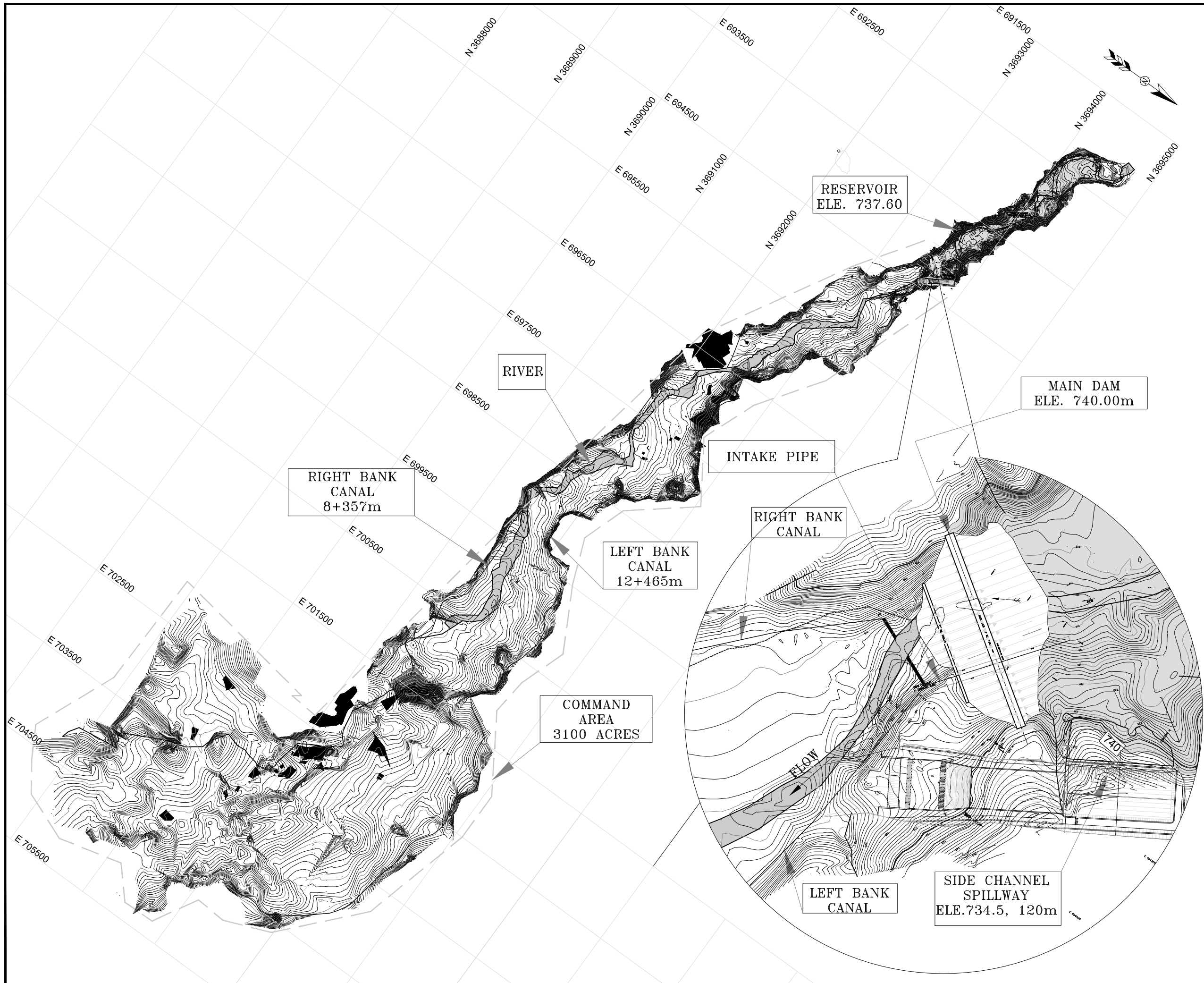


Client : **GOVERNMENT OF KHYBERPAKHTUNKHWA**
 IRRIGATION DEPARTMENT
 SMALL DAMS ORGANIZATION

Project : **CHASHMA AKHORA KHEL DAM**
 DIST. KARAK, KPK

Consultants : **Techno-Consult International**
 In Association With
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Drawing Title : **BENCHMARKS LOCATION MAP**



LEGEND :

	SETTLEMENT
	RESERVOIR AREA
	IRRIGATION CANAL
	RIVER
	ACCESS ROAD
	COMMAND AREA

NOTE:

1. ALL ELEVATIONS, CONTOUR & GRID CO-ORDINATES ARE IN METER.

SCALE



Client : **GOVERNMENT OF KHYBERPAKHTUNKHWA**
IRRIGATION DEPARTMENT
SMALL DAMS ORGANIZATION

Project : **CHASHMA AKHORA KHEL DAM**

Consultants : **Techno-Consult International**
In Association with
AGES & ASR Consultants

Drawing Title : **GENERAL LAYOUT PLAN**



FLOOD SURCHARGE
 AREA 589352.607 Sq. m
 AT EL. 737.60m


MAIN DAM

NOTE:


1. ALL ELEVATIONS, CONTOUR & GRID CO-ORDINATES ARE IN METER.

SCALE

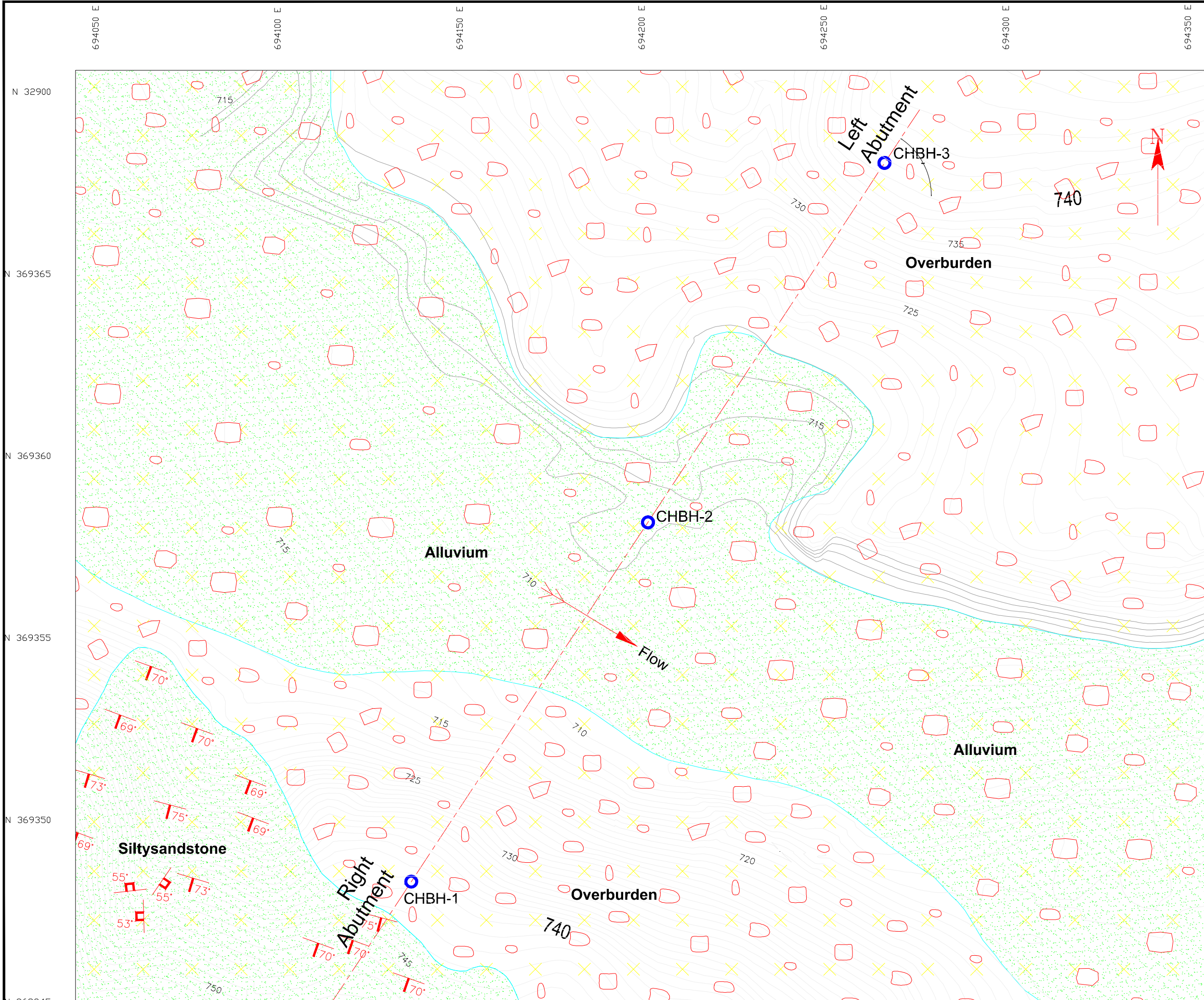
0 50 100 150 200 250m

Client :  **GOVERNMENT OF KHYBERPAKHTUNKHWA**
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Consultants :  **Techno-Consult International**
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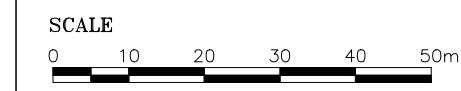
Drawing Title : **RESERVOIR AREA**



NOTE:
1. ALL DIMENSIONS AND ELEVATIONS ARE IN METER.

LEGEND:

- Overburden
- Alluvium
- Silty sandstone
- Borehole CH-BH-1
- Dip Strike of Bed
- Joint



Client :
 GOVERNMENT OF KHYBERPAKHTUNKHWA
IRRIGATION DEPARTMENT
SMALL DAMS ORGANIZATION

Project :
CHASHMA AKHORA KHEL DAM
DISTRICT KARAK, KPK

Consultants :
 Techno-Consult International
In Association with
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Drawing Title :
GEOLOGICAL LAYOUT MAP

In situ Test

0m	1.82x10 ⁻³
3m	2.10x10 ⁻³
6m	2.90x10 ⁻³
9m	4.60x10 ⁻³
12m	4.70x10 ⁻³
15m	5.30x10 ⁻³
18m	6.73x10 ⁻³
21m	7.23x10 ⁻³
24m	7.23x10 ⁻³
27m	7.90x10 ⁻³
30m	7.98x10 ⁻³
33m	7.80x10 ⁻³
36m	7.60x10 ⁻³
39m	7.70x10 ⁻³
42m	7.50x10 ⁻³
45m	7.40x10 ⁻³
47m	

BOREHOLE NO. CH BH-3

In situ Test

0m	1.60x10 ⁻³	K value (cms/sec)	
3m	1.87x10 ⁻³		
6m	2.90x10 ⁻³		
9m	3.60x10 ⁻³		
12m	4.90x10 ⁻³		
15m	1.0x10 ⁻³		
18m			
20m			
23m	3.064		Lugeon Value (Lu)
26m	3.582		
29m	4.67		
32m	6.132		
35m	8.472		
38m	8.812		
41m	9.272		
44m	10.10		
47m	10.21		

BOREHOLE NO. CH BH-2

In situ Test

0m	1.0x10 ⁻³
3m	1.30x10 ⁻³
6m	1.45x10 ⁻³
9m	1.07x10 ⁻³
12m	3.34x10 ⁻³
15m	4.50x10 ⁻³
18m	5.40x10 ⁻³
21m	7.75x10 ⁻³
24m	8.61x10 ⁻³
27m	8.50x10 ⁻³
30m	9.78x10 ⁻³
33m	1.03x10 ⁻²
36m	1.07x10 ⁻²
39m	1.10x10 ⁻²
42m	1.10x10 ⁻²
45m	1.08x10 ⁻³
47m	

BOREHOLE NO. CH BH-1

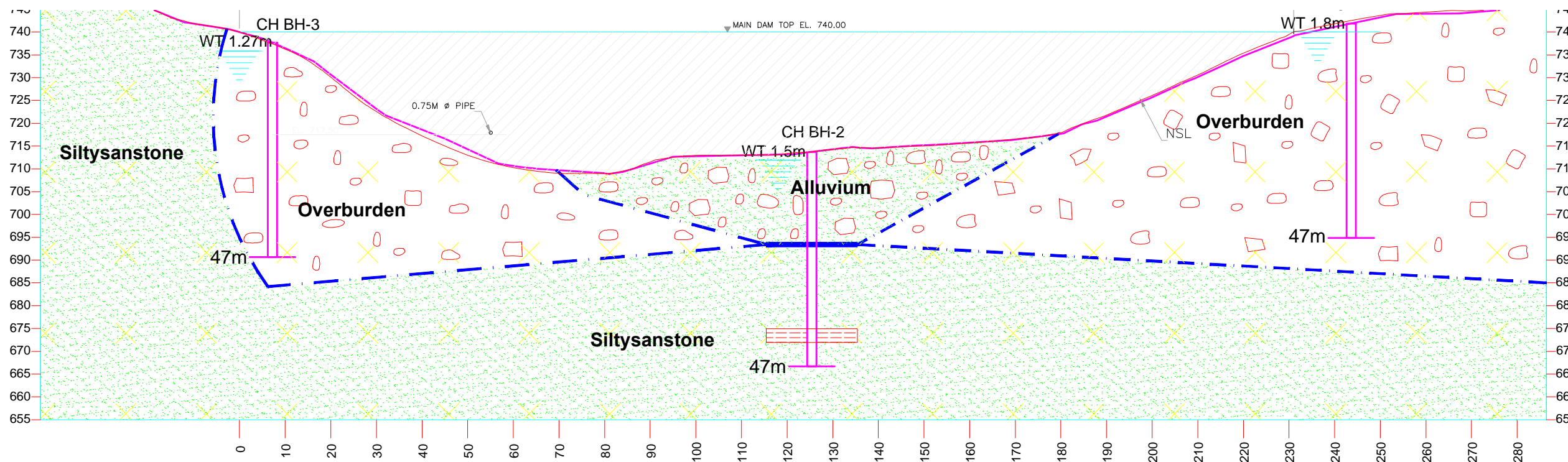
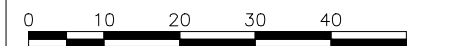
NOTE:

1. ALL DIMENSIONS AND ELEVATIONS ARE IN METER.

LEGEND:

Overburden	
Alluvium	
Siltysandstone	
Clay	
Ground Water Table	
Borehole CH-BH-1	

SCALE



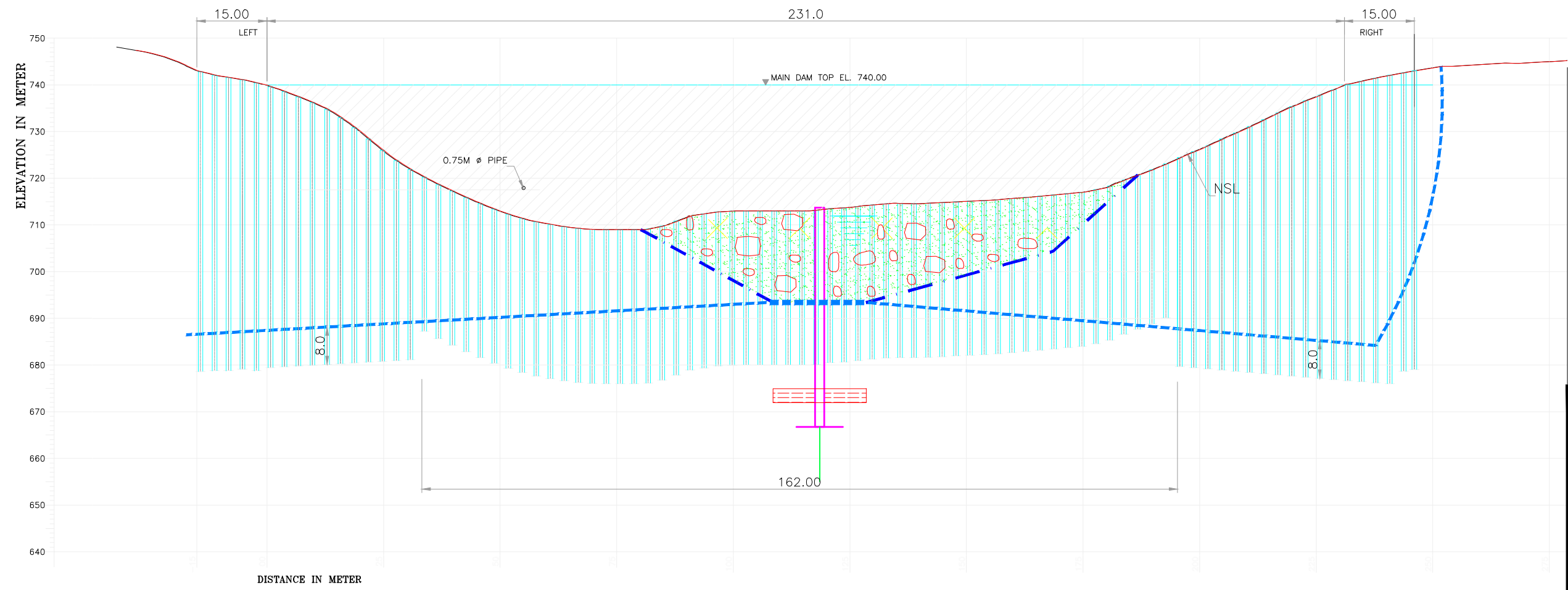
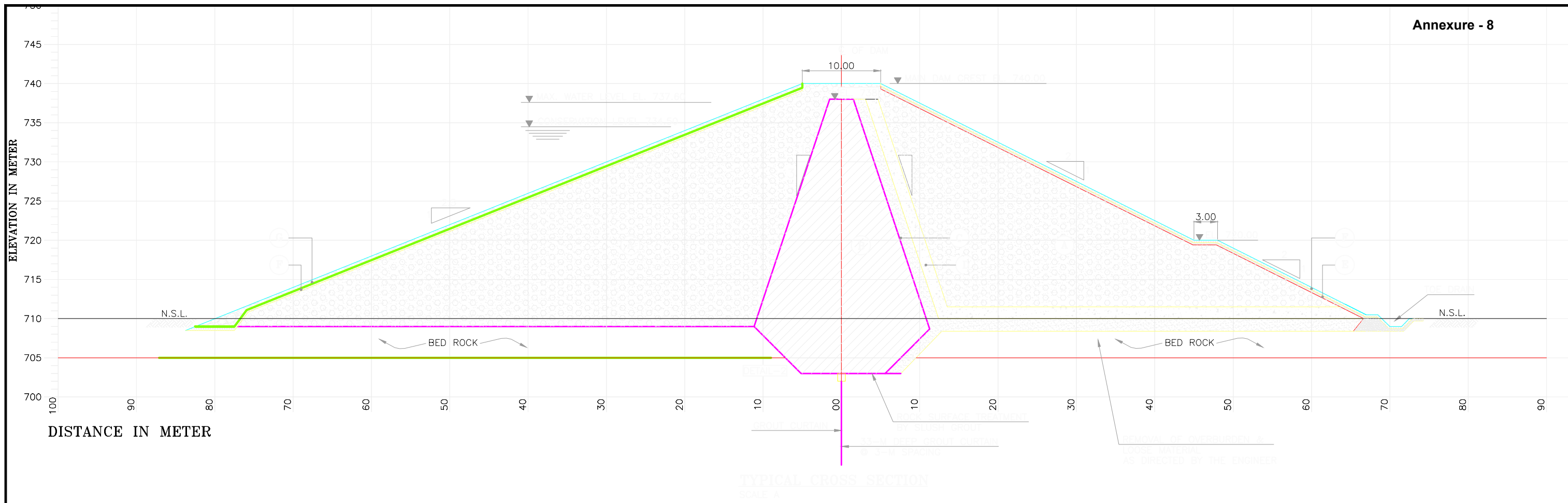
Geological Section A - B

Client : GOVERNMENT OF KHYBERPAKHTUNKHWA
IRRIGATION DEPARTMENT
SMALL DAMS ORGANIZATION

Project : CHASHMA AKHORA KHEL DAM
DISTRICT KARAK, KPK

Consultants : **Techno-Consult International**
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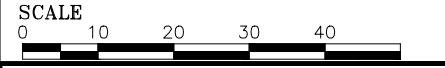
Drawing Title : GEOLOGICAL L-SECTION



NOTE:
1. ALL DIMENSIONS AND ELEVATIONS ARE IN METER.

LEGEND:

Overburden	
Alluvium	
Siltysandstone	
Clay	
Ground Water Table	
Borehole CH-BH-1	

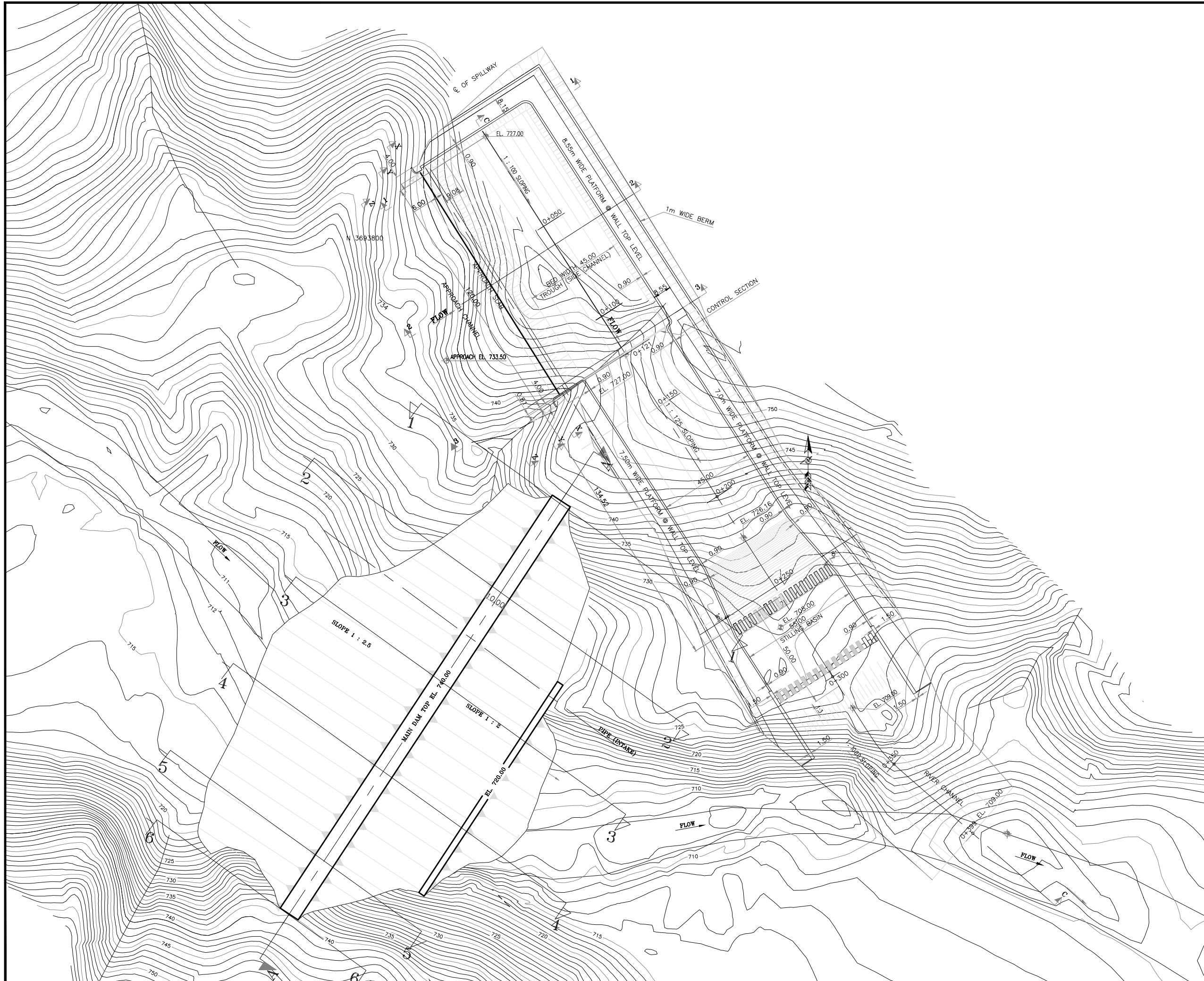


Client :
GOVERNMENT OF KHYBERPAKHTUNKHWA
IRRIGATION DEPARTMENT
SMALL DAMS ORGANIZATION

Project :
CHASHMA AKHORA KHEL DAM
DISTRICT KARAK, KPK

Consultants :
Techno-Consult International
 In Association with
AGES & ASR Consultants

Drawing Title :
TYP. X-SEC. & L-SEC
FOR GROUT CURTAIN POSITION



NOTE:

1. ALL ELEVATIONS, CONTOUR & GRID CO-ORDINATES ARE IN METER.
2. FOR DETAILS OF CROSS SECTIONS REFER TO Dwg # 102,103,104,105,106 AND 107.

SCALE

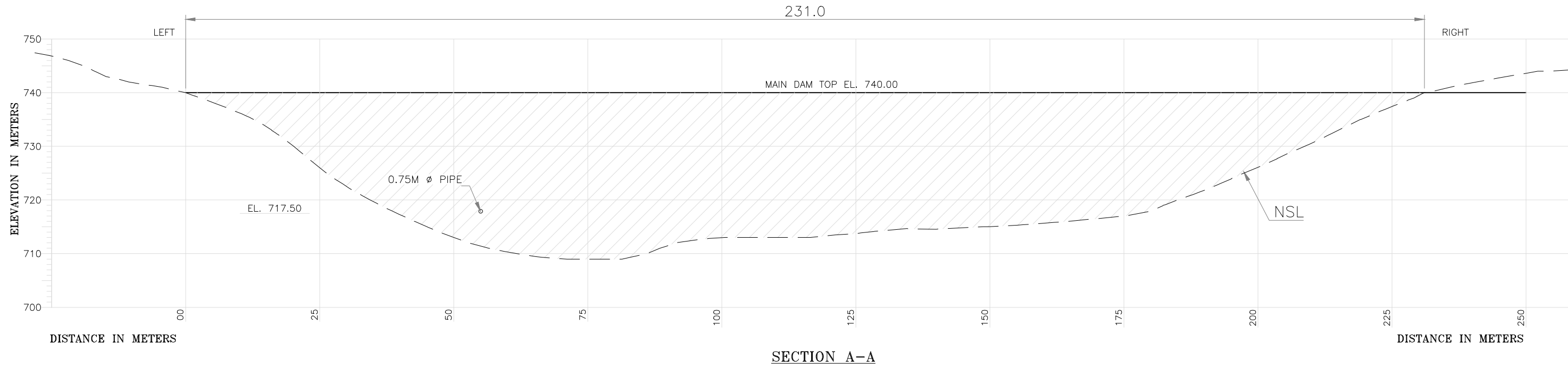


Client : **GOVERNMENT OF KHYBERPAKHTUNKHWA
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SMALL DAMS ORGANIZATION**

Project : **CHASHMA AKHORA KHEL DAM
DISTRICT KARAK, KPK**

Consultants : **Techno-Consult International
In Association with
AGES & ASR Consultants**

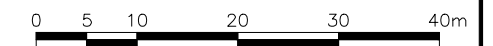
Drawing Title : **MAIN DAM PLAN**





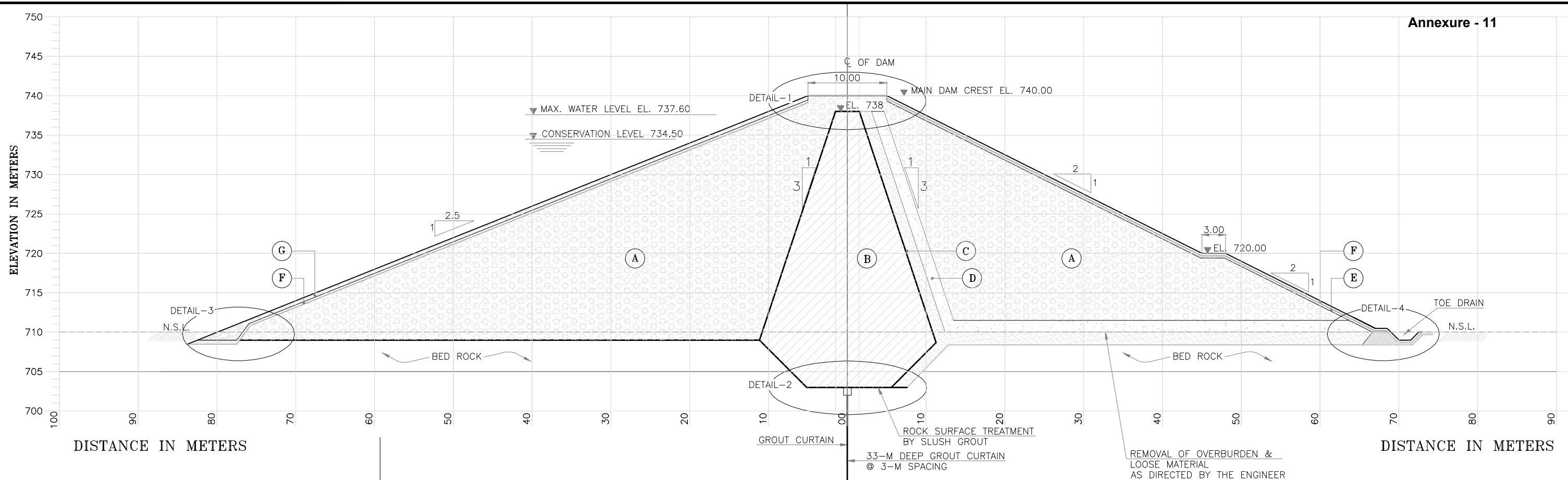
NOTE:

- 1. ALL DIMENSIONS & LEVELS ARE IN METERS.

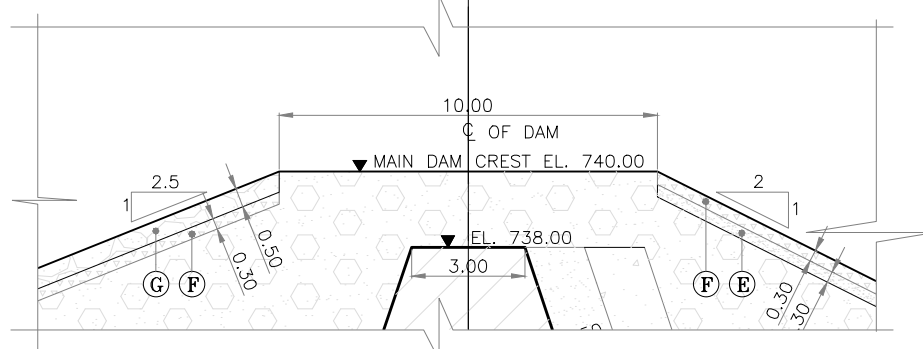
SCALE



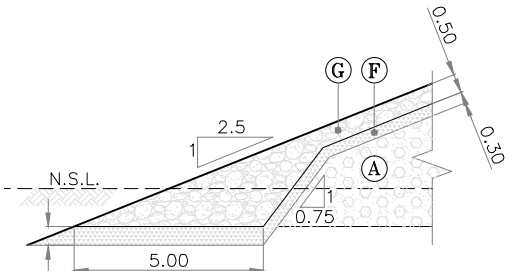
Client :	 GOVERNMENT OF KHYBERPAKHTUNKHWA IRRIGATION DEPARTMENT SMALL DAMS ORGANIZATION
Project :	CHASHMA AKHORA KHEL DAM DISTRICT KARAK, KPK
Consultants :	 Techno-Consult International In Association with AGES & ASR Consultants
Drawing Title :	MAIN DAM SECTION



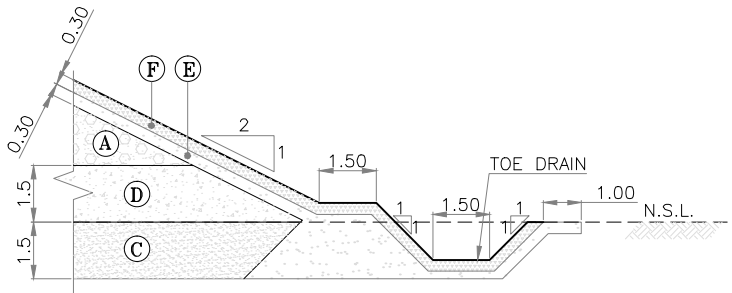
TYPICAL CROSS SECTION
SCALE A



DETAIL: 1
SCALE B

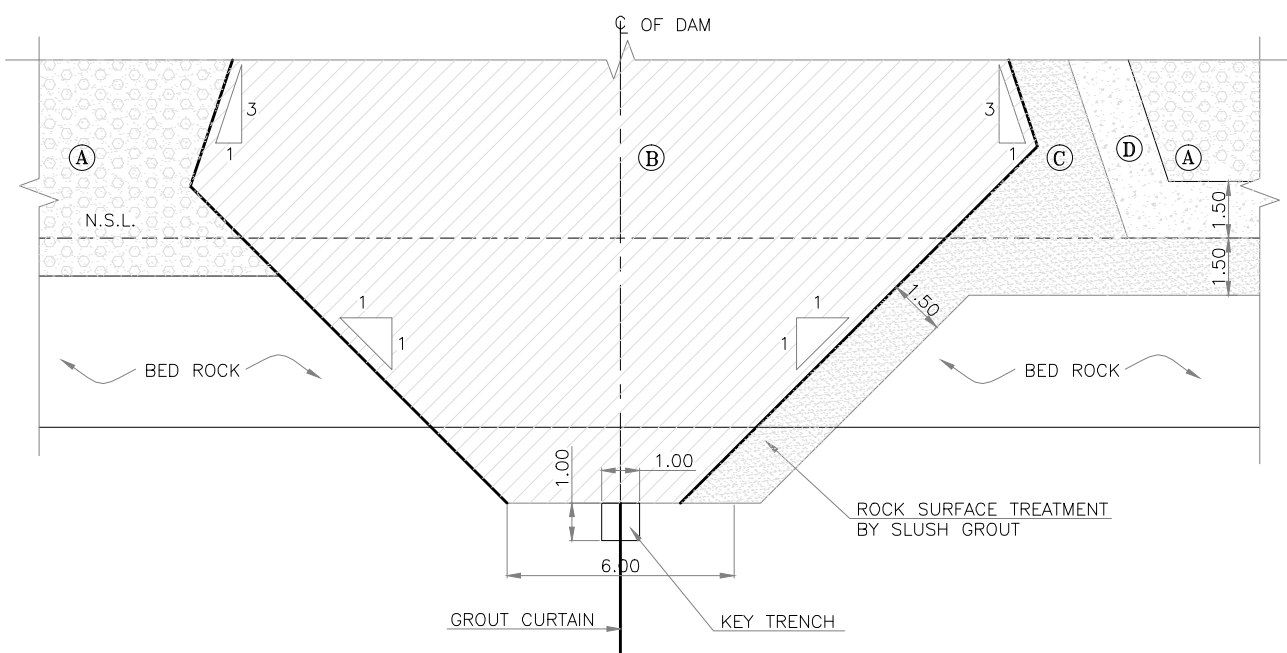
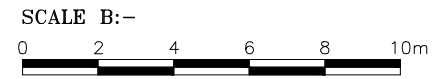
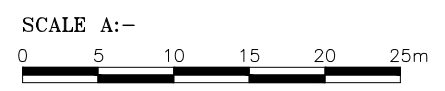


DETAIL: 3
SCALE B



DETAIL: 4
SCALE B

NOTE:
1. ALL DISTANCES & LEVELS ARE IN METER.



DETAIL: 2
SCALE B

ZONE	DESCRIPTION	MATERIAL	THICKNESS (m)
A	UPSTREAM AND DOWNSTREAM SHELL	SANDY / SILTY GRAVEL	-
B	IMPERVIOUS ZONE	CLAYEY SILT / SILTY CLAY	-
C	FINE FILTER	COARSE SAND (4.75mm -2.0mm)	1.50
D	COARSE FILTER / DRAIN	GRAVEL (75mm -4.75mm)	1.50
E	FILTER UNDER SLOPE PROTECTION	SANDY GRAVEL	0.30
F	U/S GRAVEL BEDDING UNDER RIPRAP & D/S SLOPE PROTECTION	COBBLE & GRAVEL (75mm-300mm)	0.30
G	UPSTREAM RIPRAP	LIMESTONE / SANDSTONE	0.50

Client :

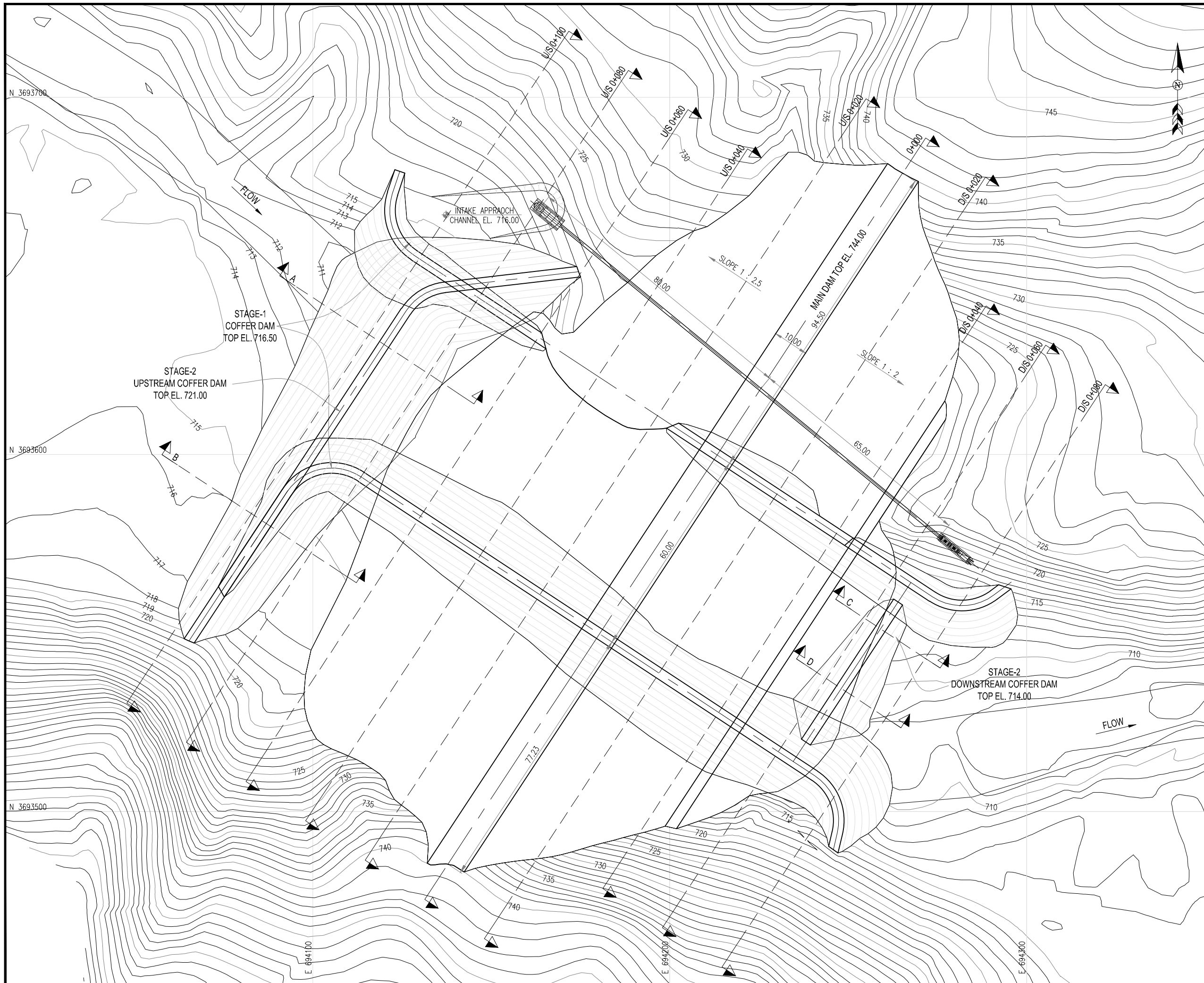
GOVERNMENT OF KHYBERPAKHTUNKHWA
 IRRIGATION DEPARTMENT
 SMALL DAMS ORGANIZATION

Project :
CHASHMA AKHORA KHEL DAM
 DISTRICT KARAK, KPK

Consultants :

Techno-Consult International
 In Association with
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Drawing Title :
MAIN DAM
TYPICAL CROSS SECTION




NOTE:

1. ALL ELEVATIONS, CONTOUR & GRID CO-ORDINATES ARE IN METER.
2. A PART OF STAGE-1 COFFER DAM WILL BE USED AS STAGE-2 AS WELL.

SCALE

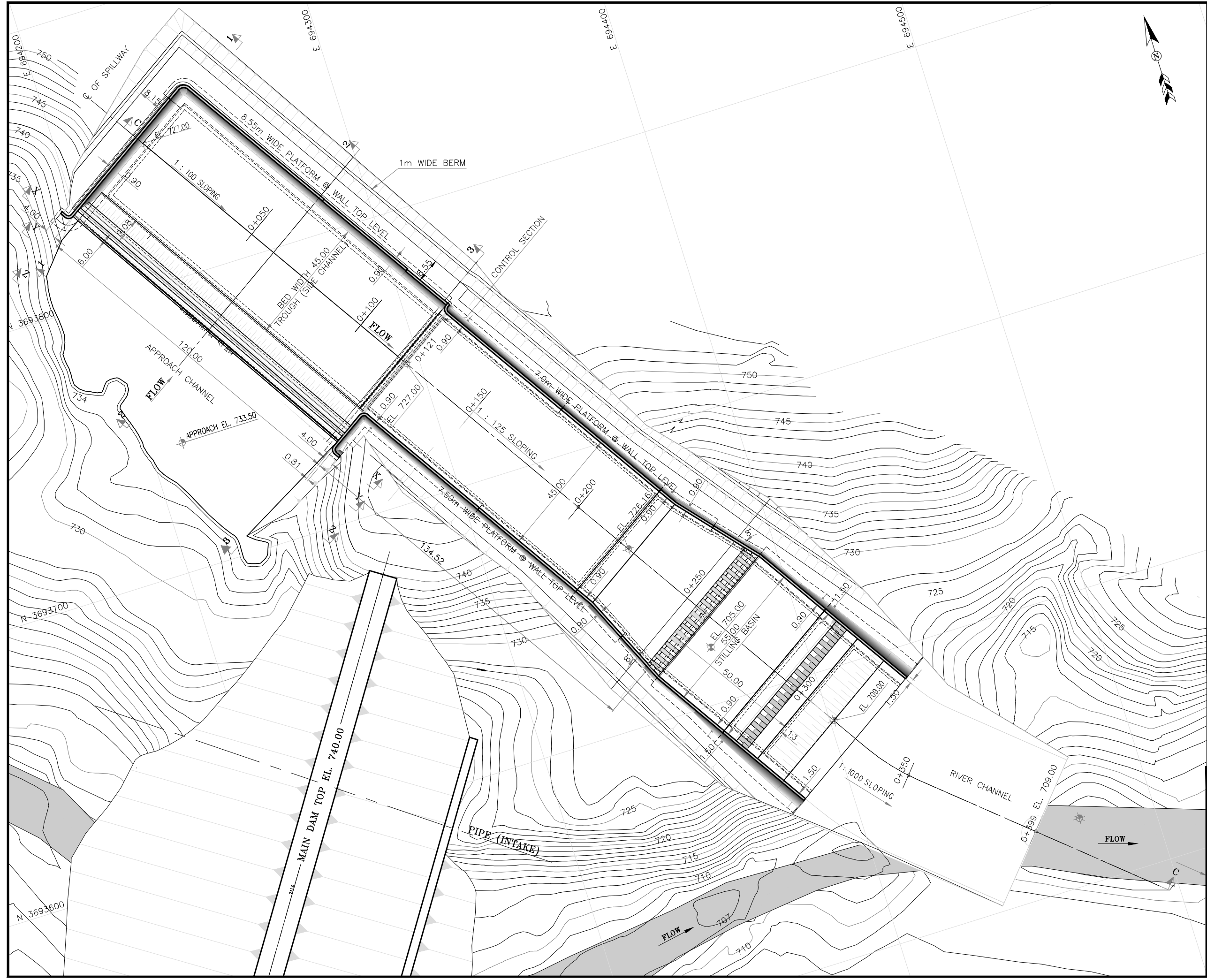


Client :  **GOVERNMENT OF KHYBERPAKHTUNKHWA**
IRRIGATION DEPARTMENT
SMALL DAMS ORGANIZATION

Project : **CHASHMA AKHORA KHEL DAM**
DISTRICT KARAK, KPK

Consultants :  **Techno-Consult International**
 In Association with
AGES & ASR Consultants

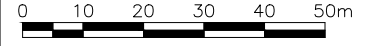
Drawing Title : **MAN DAM LAYOUT PLAN**



NOTE:

1. ALL ELEVATIONS, CONTOUR & GRID CO-ORDINATES ARE IN METERS.
2. FOR DETAILS OF CROSS SECTIONS REFER TO Dwg # 202,203,204,205,206 AND 207.

SCALE

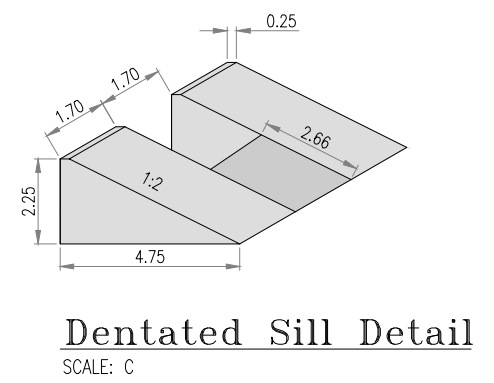
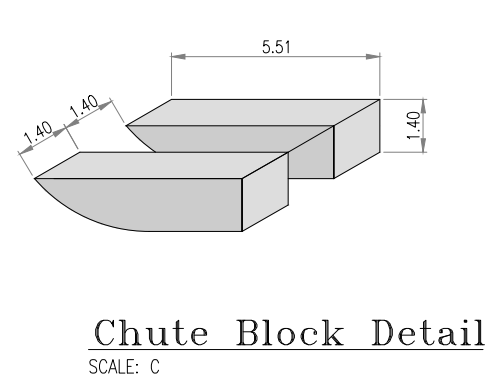
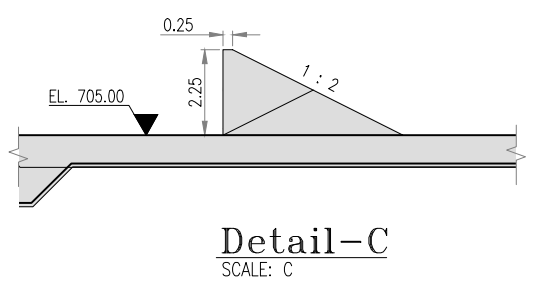
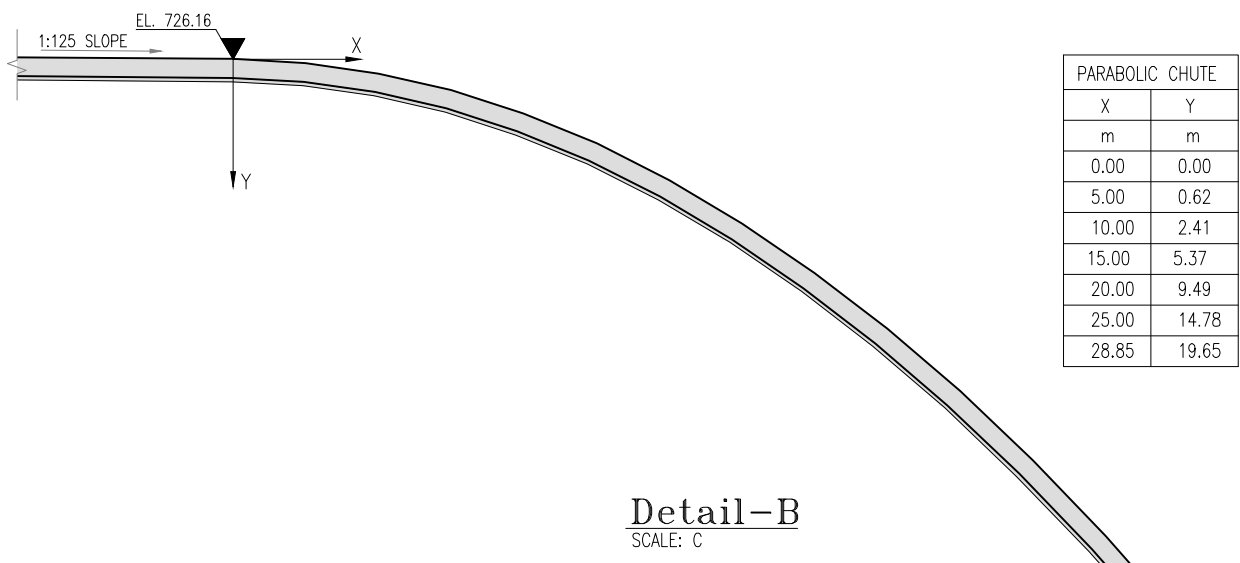
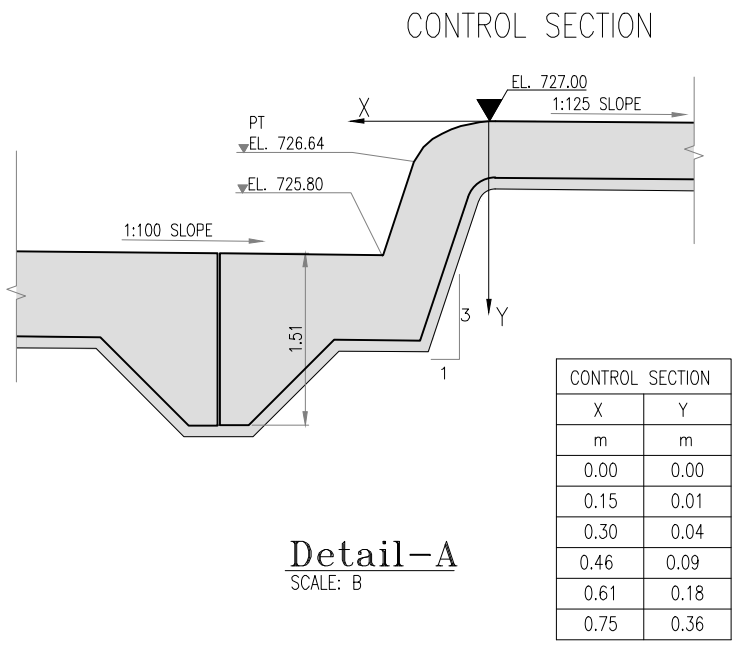
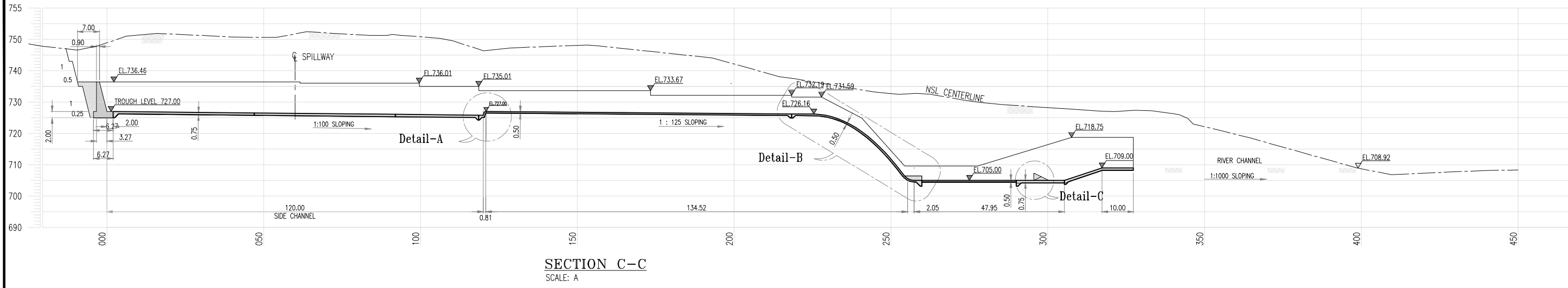


Client : **GOVERNMENT OF KHYBERPAKHTUNKHWA**
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SMALL DAMS ORGANIZATION

Project : **CHASHMA AKHORA KHEL DAM**
DISTRICT KARAK, KPK

Consultants : **Techno-Consult International**
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Drawing Title : **SPILLWAY PLAN**




NOTE:
 1. ALL DISTANCES & LEVELS ARE IN METERS.


SCALE A
 0 10 20 30 40 50 m

SCALE B
 0 1 2 3 m

SCALE C
 0 2 4 6 8 10 m

Client :
 **GOVERNMENT OF KHYBERPAKHTUNKHWA**
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 SMALL DAMS ORGANIZATION

Project :
CHASHMA AKHORA KHEL DAM
 DISTRICT KARAK, KPK

Consultants :
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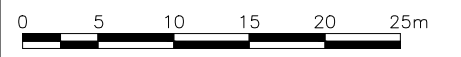
Drawing Title :
SPILLWAY SECTION & DETAILS




NOTE:

- 1. ALL DIMENSIONS, ELEVATIONS, CONTOUR & GRID CO-ORDINATES ARE IN METER.

SCALE

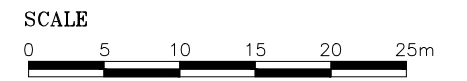
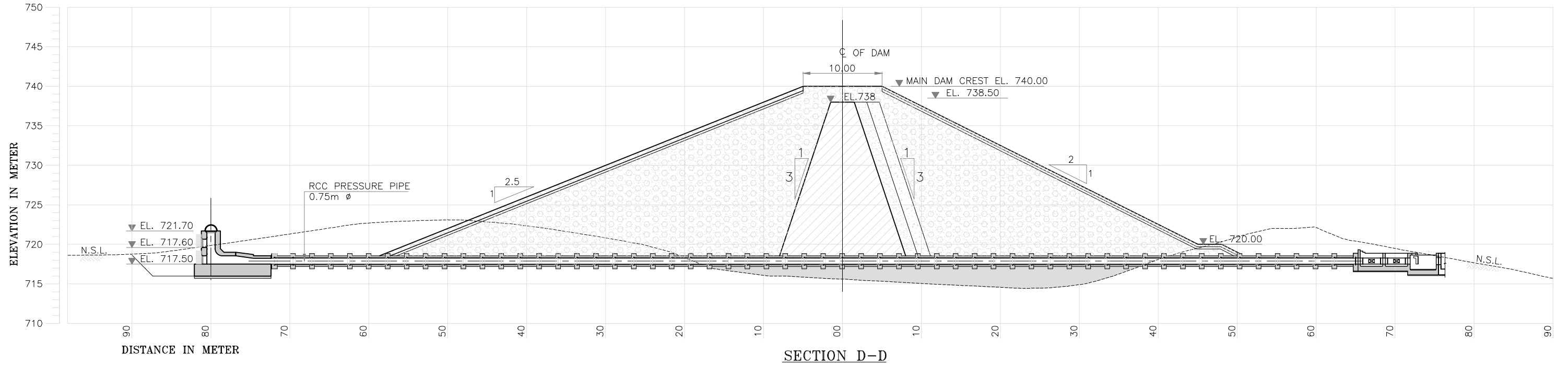



Client :  **GOVERNMENT OF KHYBERPAKHTUNKHWA**
IRRIGATION DEPARTMENT
SMALL DAMS ORGANIZATION

Project : **CHASHMA AKHORA KHEL DAM**
DISTRICT KARAK, KPK

Consultants :  **Techno-Consult International**
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Drawing Title : **INTAKE STRUCTURE PLAN**



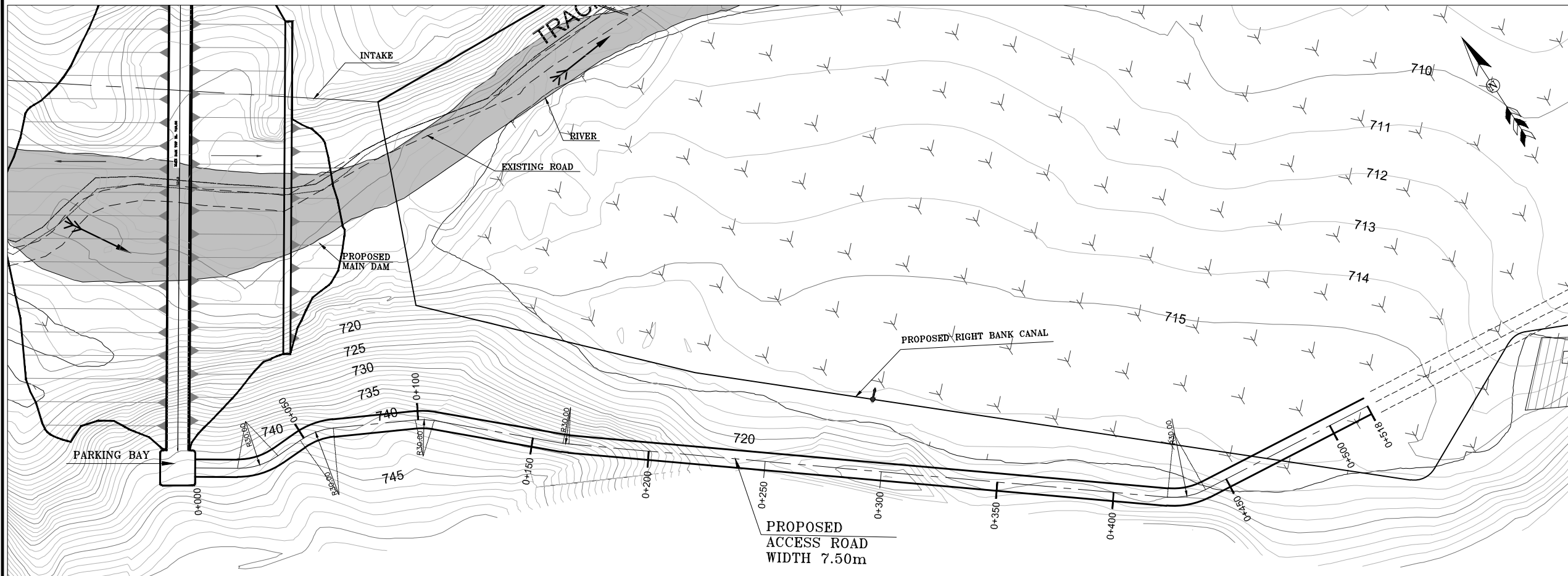
Client :

GOVERNMENT OF KHYBERPAKHTUNKHWA
 IRRIGATION DEPARTMENT
 SMALL DAMS ORGANIZATION

Project :
CHASHMA AKHORA KHEL DAM
 DISTRICT KARAK, KPK

Consultants :

Techno-Consult International
 In Association with
AGES & ASR Consultants

Drawing Title :
INTAKE STRUCTURE SECTION

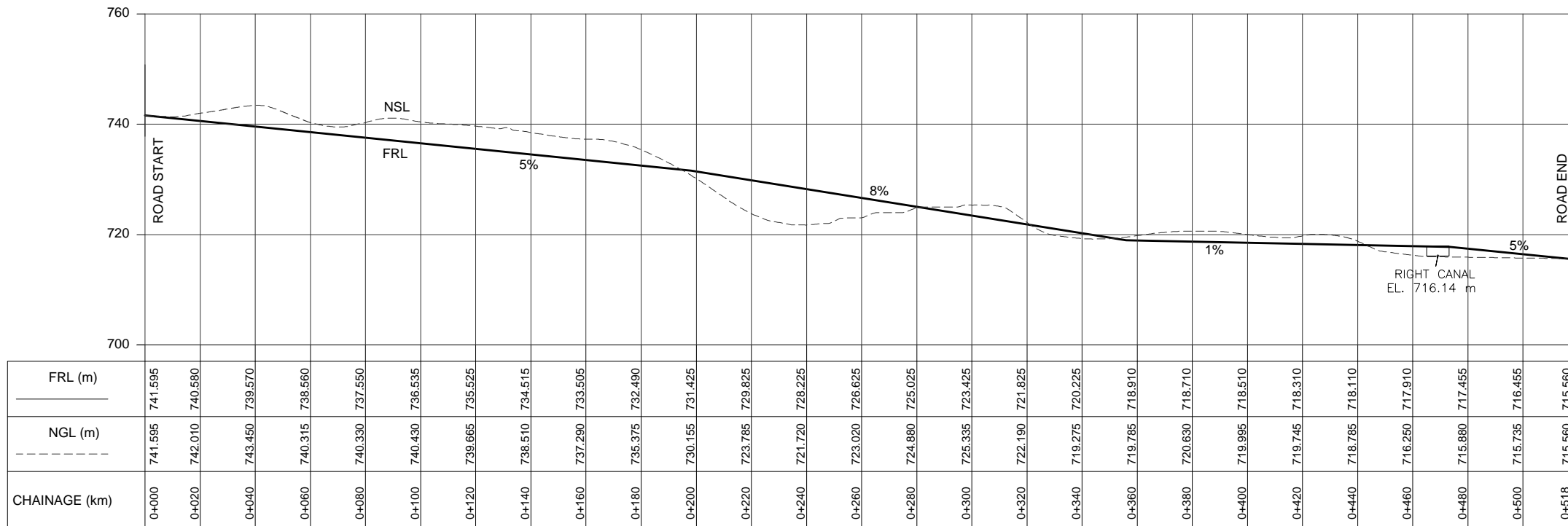
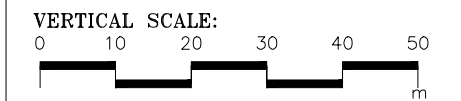
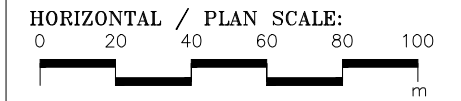


NOTE:

1. ALL DISTANCES & LEVELS ARE IN METERS.
2. FOR CROSS SECTION OF ACCESS ROAD, SEE DWG. NO. WD-153-CAK-AR-402

LEGEND:

- ACCESS ROAD
- EXISTING ROAD
- CONTOUR
- RIVER
- CULTIVATION
- SETTLEMENTS
- Re-Aligned Portion of Road

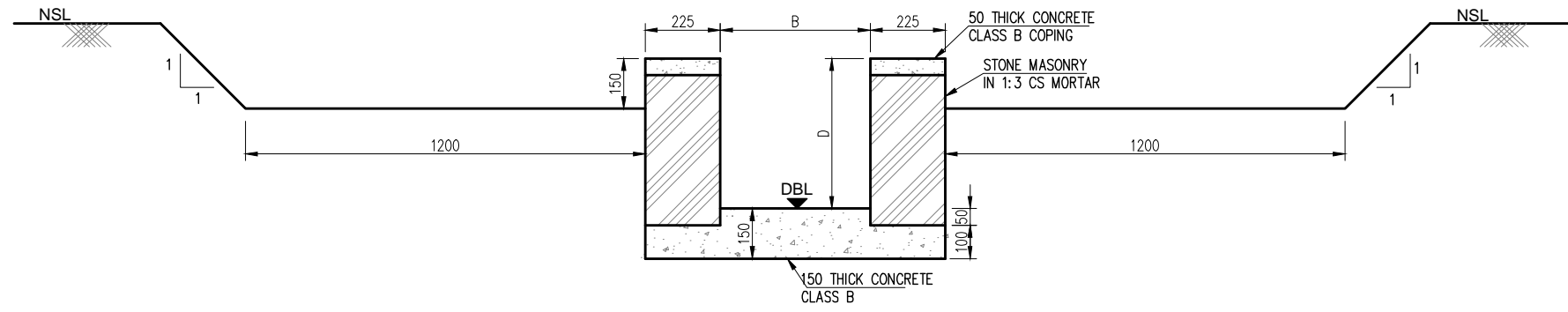


Client :
GOVERNMENT OF KHYBERPAKHTUNKHWA
 IRRIGATION DEPARTMENT
 SMALL DAMS ORGANIZATION

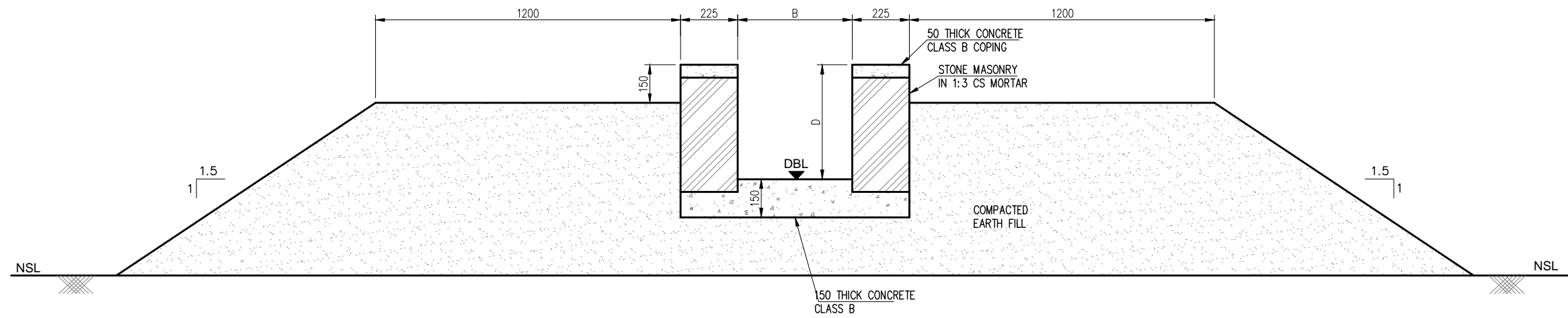
Project :
CHASHMA AKHORA KHEL DAM
 DISTRICT KARAK, KPK

Consultants :
Techno-Consult International
 In Association with
AGES & ASR Consultants

Drawing Title :
ACCESS ROAD PLAN AND PROFILE



OPEN CHANNEL IN CUT

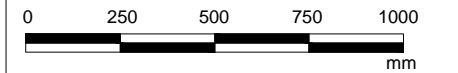



OPEN CHANNEL IN FILL

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS.
2. FOR GENERAL NOTES REFER DWG. # WD-153-CAK-GD-002.

SCALE :-



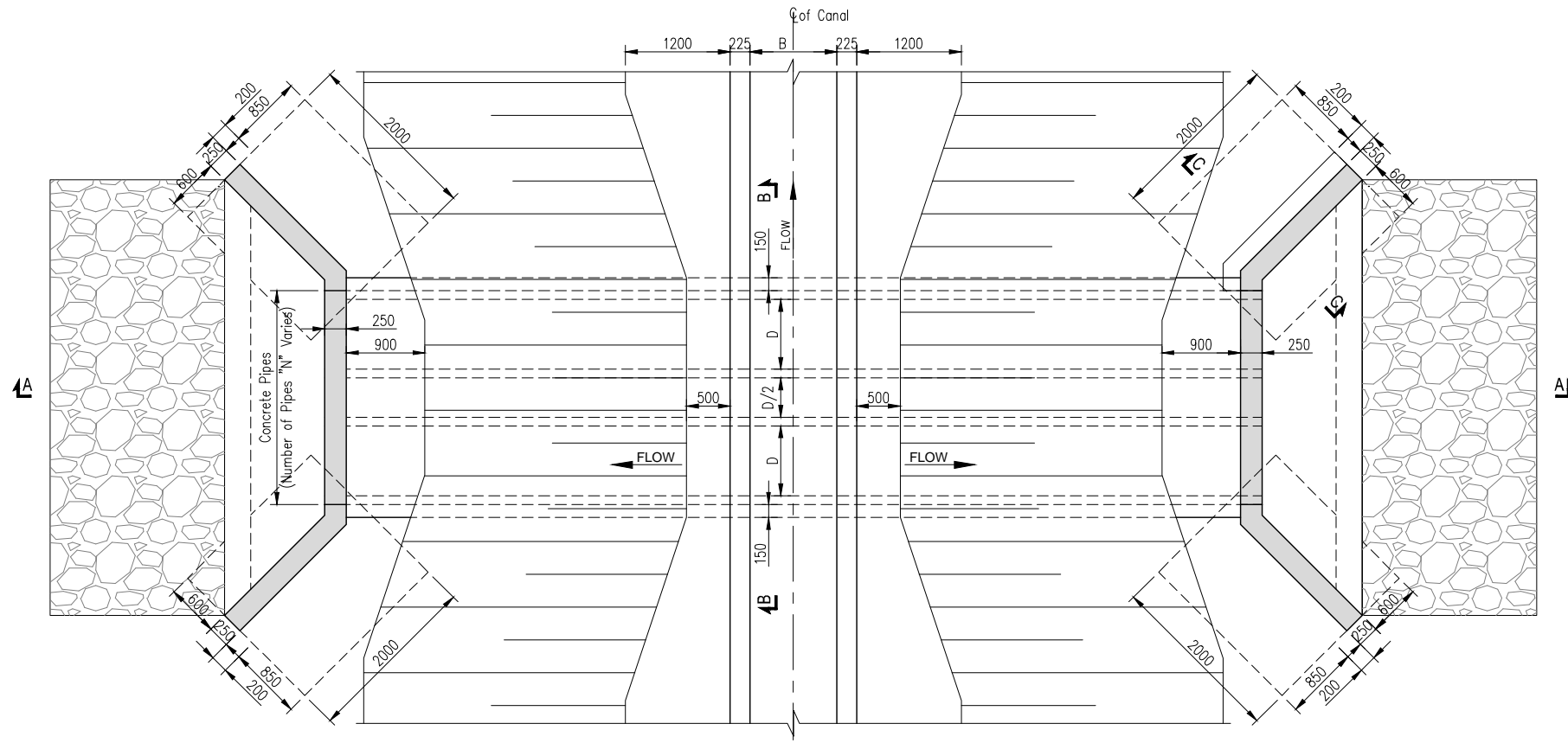
Client :

GOVERNMENT OF KHYBERPAKHTUNKHWA
 IRRIGATION DEPARTMENT
 SMALL DAMS ORGANIZATION

Project :
CHASHMA AKHORA KHEL DAM
 DISTRICT KARAK, KPK

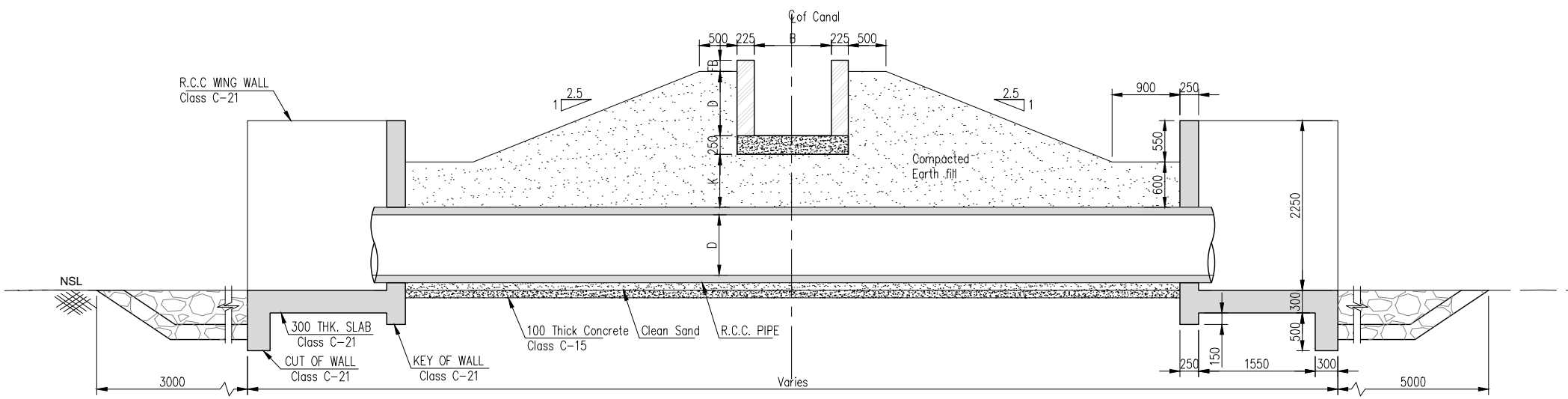
Consultants :

Techno-Consult International
 In association with
 AGES & ASR Consultants

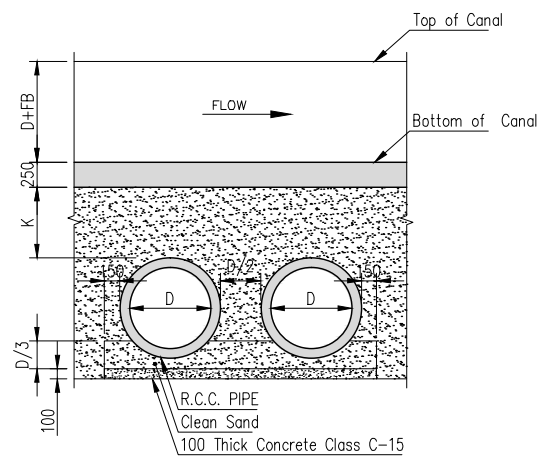
Drawing Title :
TYPICAL CROSS SECTION
(FOR RECTANGULAR CHANNEL)



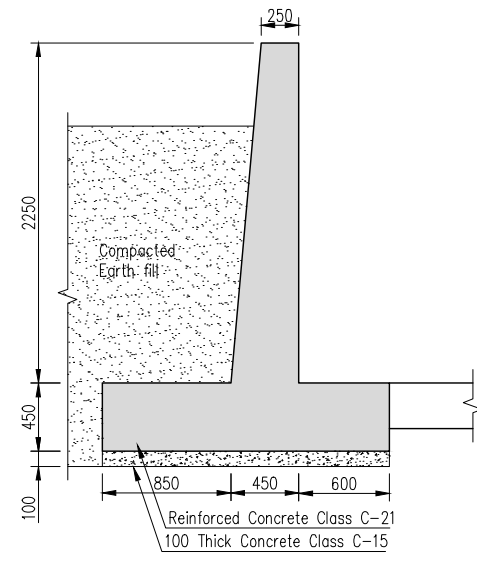
PLAN



Section A-A



Section B-B

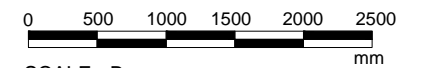


Section C-C

NOTES:

1. All dimensions are in millimeters unless otherwise noted.
2. For general notes refer dwg. # WD-153-CAK-GD-002.
3. If clearance "K" between canal bed and culvert top is less than (300 mm), it will be filled with concrete class C-15.
4. The length of culvert will vary from 13-15m) as per site condition.
5. Exact location and invert level of culvert will be decided on site.

SCALE:- A



SCALE:- B

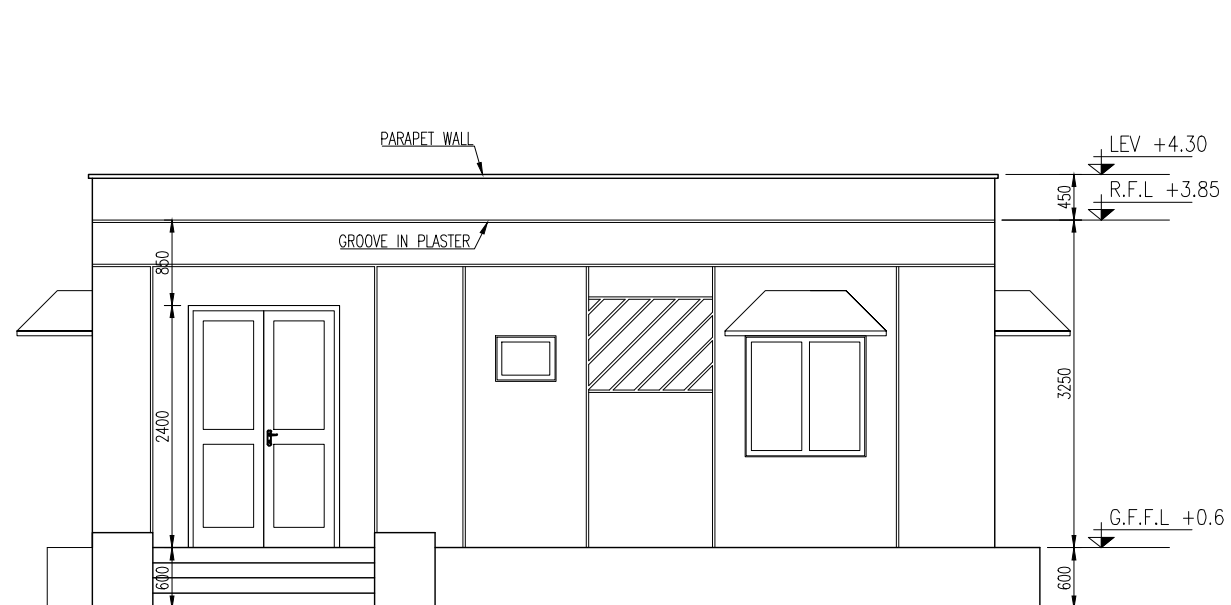


Client : GOVERNMENT OF KHYBERPAKHTUNKHWA
IRRIGATION DEPARTMENT
SMALL DAMS ORGANIZATION

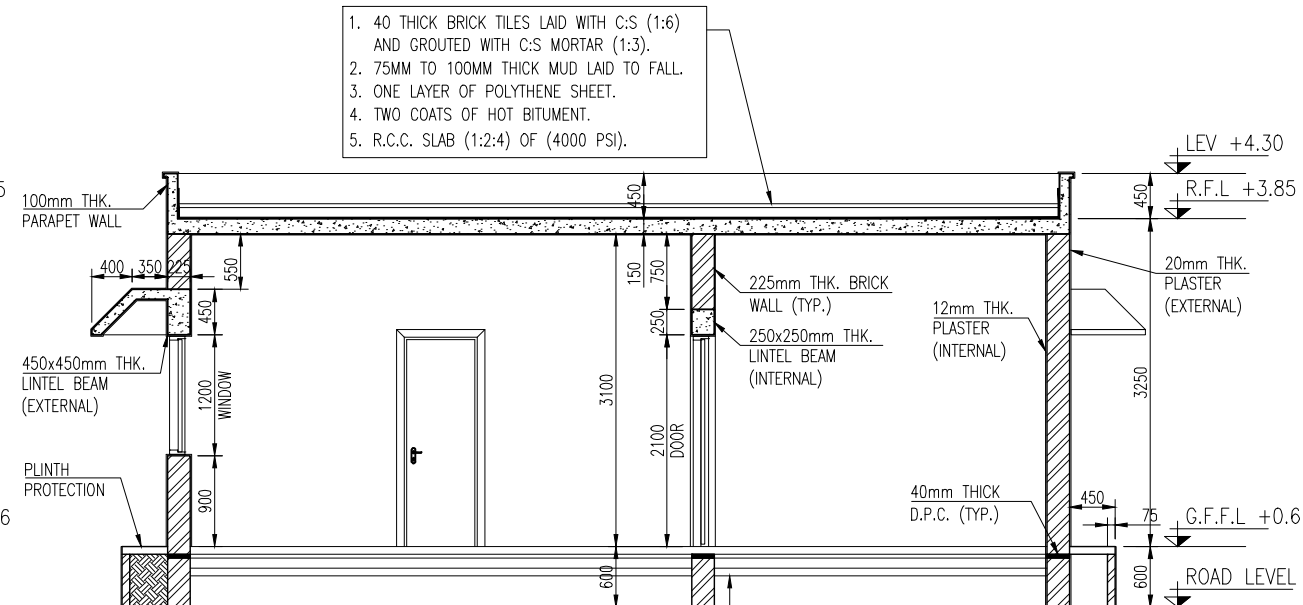
Project : CHASHMA AKHORA KHEL DAM
DISTRICT KARAK, KPK

Consultants : **Techno-Consult International**
In association with
AGES & ASR Consultants

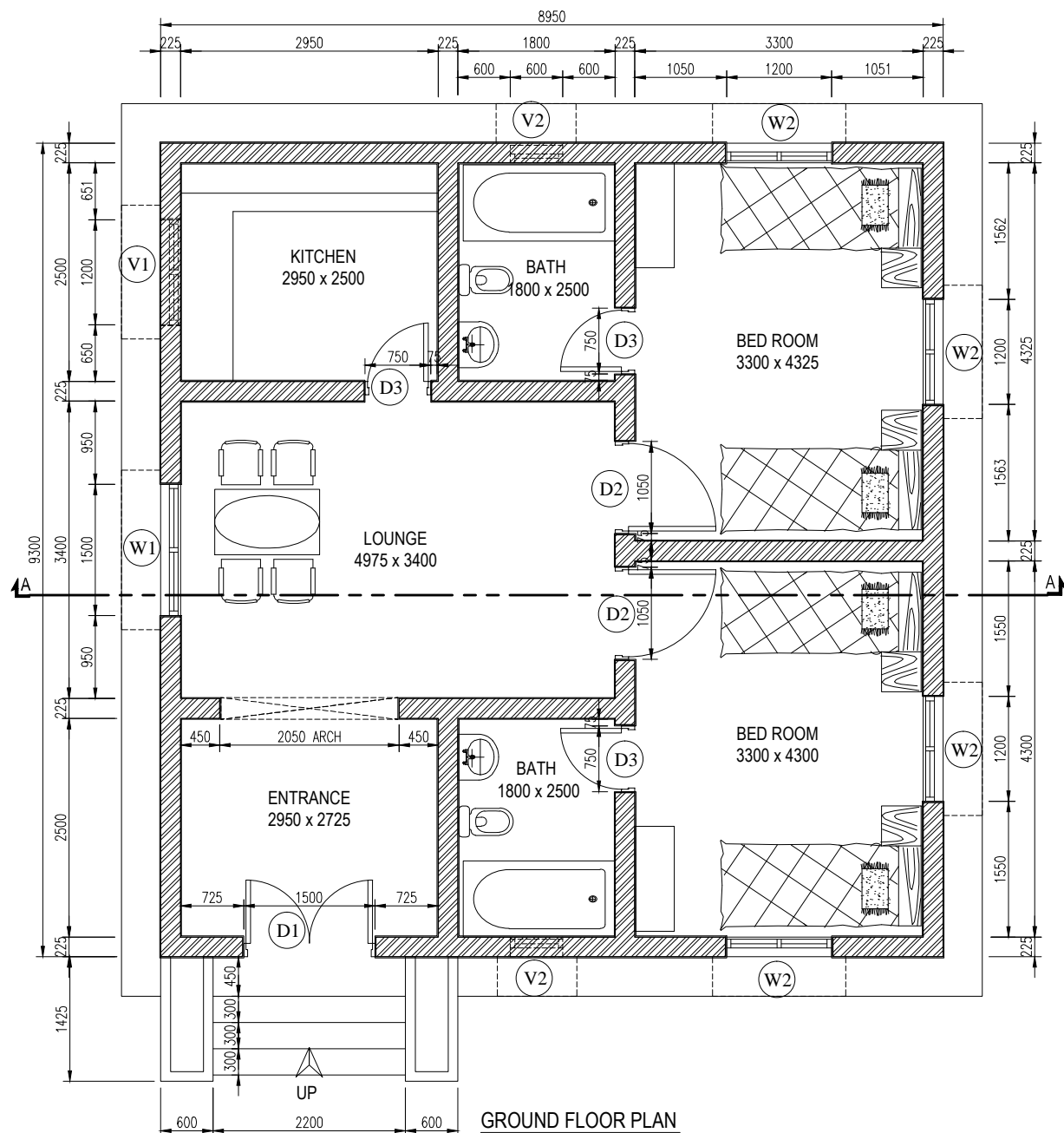
Drawing Title : DRAINAGE CULVERT



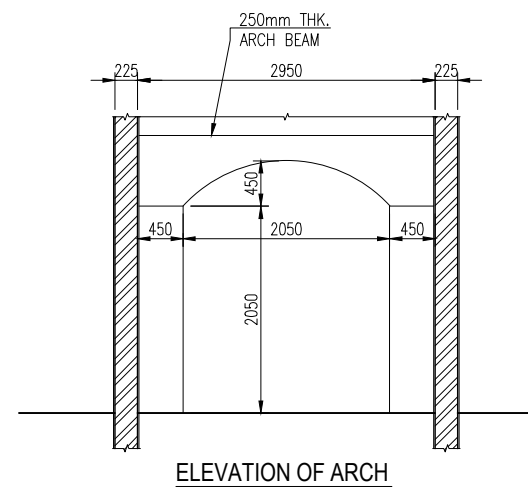
FRONT ELEVATION



SECTION A-A



GROUND FLOOR PLAN



ELEVATION OF ARCH

SCHEDULE			
NAME	WITDTH	HIGHT	TYPE
D1	1500	2400	WOODEN
D2	1050	2100	WOODEN
D3	750	2100	WOODEN
W1	1200	1200	ALUMINIUM
V1	600	450	ALUMINIUM

NOTE:

1. ALL DIMENSIONS AND ELEVATIONS ARE IN MILLIMETER.
2. FOR GENERAL NOTES REFER DWG. # WD-153-CAK-GD-002
3. A SEPTIC TANK HAS TO BE PROVIDED FOR THIS DWELLING UNIT.
4. ALL ELECTRICAL FITTINGS AND CONNECTION TO MAIN LINE SHALL BE PROVIDE AS PER INSTRUCTION OF ENGINEER.
5. ALL TOILET FITTINGS TO BE PROVIDED AS PER INSTRUCTION OF ENGINEER.
6. ALL FURNITURE TO BE PROVIDED AS PER INSTRUCTION OF ENGINEER.

Client : **GOVERNMENT OF KHYBERPAKHTUNKHWA**
IRRIGATION DEPARTMENT
SMALL DAMS ORGANIZATION

Project : **CHASHMA AKHORA KHEL DAM**
DISTRICT KARAK, KPK

Consultants : **Techno-Consult International**
In association with
AGES & ASR Consultants

Drawing Title : **REST HOUSE**