

# GOVERNMENT OF THE PUNJAB



## IRRIGATION DEPARTMENT

### FLOOD FIGHTING PLAN FOR THE YEAR 2023



### QADIRABAD BARRAGE DIVISION QADIRABAD Q.B. LINK CIRCLE FAROOQABAD - IRRIGATION ZONE FAISALABAD

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# I N D E X

Chapter No.	Description	Page No.
<b>PART-A</b>		
<b>1</b>	<b>Salient Features of Qadirabad Barrage.</b>	
1.1	Location.	1
1.2	General Description.	1
1.3	Administration Setup.	2
<b>2</b>	<b>Flood Protection and River Training Works.</b>	
2.1	Design parameter of river training works.	3 - 7
2.2	Location Map.	8
<b>3</b>	<b>Brief History of Past Flood event.</b>	9-12
<b>4</b>	<b>Design data, Historic peak flood data and previous five year flood data of Qadirabad Barrage and other control points.</b>	13
4.1	Flood limits.	13
4.2	Time Lags of Flood.	13
4.3	Highest Floods.	14
4.4	Peak Discharges.	14
<b>5</b>	<b>Flood Fighting Strategy.</b>	15 - 17
<b>6</b>	<b>Flood Damages Restoration works.</b>	18
<b>7</b>	<b>Flood Fighting Watching Arrangement.</b>	
7.1	Pre-flood Arrangement.	19
7.2	Watching Establishment.	19-21
7.3	Arrangement at Sensitive sites.	22
7.4	Watching Material.	22-23
7.5	Arrangement for Sounding & Probing.	24
7.6	Lighting Arrangement.	24
7.7	Ration Arrangement.	24
7.8	P.O.L Arrangement for Vehicles.	24
7.9	Transportation.	24
7.10	Law and Order.	24
7.11	Medical Arrangement for Labour.	24
7.12	Liaison with other Department.	24
7.13	Role of Army.	25
7.14	Duties of Telephone Attendant.	25
7.15	Wireless Arrangements.	25
<b>8</b>	<b>Detail of Encroachment.</b>	26
<b>9</b>	<b>Duty Roster / Flood Fighting Program.</b>	27
<b>10</b>	<b>Emergency Telephone No.</b>	28-30



<b>11</b>	<b>Standard Operating Procedure (SOP) for Breaching section.</b>	<b>31</b>
11.1	History of Breaching section.	31
11.2	Location, Design, Quantity and Variety for the Explosive required for detonation.	31-32
11.3	Arrangement of Explosives and Security of explosive stores.	33
11.4	List of the security staff with detail of their training etc.	33
11.5	Detail of mechanical means as a standby arrangement in case of detonation failure.	33
11.6	Duty Roster in case of critical situation.	33
11.7	Breaching Committee with their action plan.	33
11.8	List of the villages likely to be inundated in case of breaching.	34
11.9	Announcement and detail of evacuation arrangements.	34
11.10	Detail of coordination with Civil / Army authorities.	34
11.11	Parallel Communication arrangements.	34
11.12	Index plan	34-36
<b>PART-B</b>		
<b>12</b>	<b>Vulnerable site on Flood Bund / Structure.</b>	
12.1	Apprehended Breaches in Flood Bunds / structures.	37
12.2	Operation of Breaching Section.	37
12.3	Breaches due to rising of flood water , Deterioration of Flood Bunds etc.	37
<b>13</b>	<b>Emergency Contingency Plan for vulnerable site No. 1.</b>	<b>38</b>
13.1	Plan showing route of Flood water coming out of the breach supported with levels.	39
13.2	Detail of villages abadies likely to be affected and this should also be shown on the plan.	40
13.3	Strategy and action taken by explained in detail. This may include:-	40
	(13.3.1) Arrangements.	40
	(13.3.2) Establishment of Flood fighting Camps.	40
	(13.3.3) Duties of officers / officials and their camp sites.	40
	(13.3.4) Departmental Machinery available.	40
	(13.3.5) Machinery available from Private Sources.	40
	Plan showing Flood water route through expected Breach at RD. 27-31 RMB of Qadirabad Barrage Site No.1	41
	(13.3.6) Flood Fighting Material required.	42
	(13.3.7) Flood Fighting Material available.	43
	<b>Emergency Contingency Plan for vulnerable site No. 2.</b>	<b>44</b>
13.1	Plan showing route of Flood water coming out of the breach supported with levels.	44
13.2	Detail of villages abadies likely to be affected and this should also be shown on the plan.	45
13.3	Strategy and action taken by explained in detail. This may include:-	45
	(13.3.1) Arrangements.	45
	(13.3.2) Establishment of Flood fighting Camps.	45
	(13.3.3) Duties of officers / officials and their camp sites.	45
	(13.3.4) Departmental Machinery available.	45
	(13.3.5) Machinery available from Private Sources.	45



	Plan showing Flood water route through expected Breach at RD. 13-25 LMB of Qadirabad Barrage Site No.2	46
	(13.3.6) Flood Fighting Material required.	47
	(13.3.7) Flood Fighting Material available.	48
	<b>Emergency Contingency Plan for vulnerable site No. 3.</b>	49
13.1	Plan showing route of Flood water coming out of the breach supported with levels.	49
13.2	Detail of villages abadies likely to be affected and this should also be shown on the plan.	50
13.3	Strategy and action taken by explained in detail. This may include:-	50
	(13.3.1) Arrangements.	50
	(13.3.2) Establishment of Flood fighting Camps.	50
	(13.3.3) Duties of officers / officials and their camp sites.	50
	Plan showing Flood water route through expected Breach at RD. 30+000 to 50+000 of Qadirabad Barrage Site No.3	51
	(13.3.4) Departmental Machinery available.	52
	(13.3.5) Machinery available from Private Sources.	52
	(13.3.6) Flood Fighting Material required.	52
	(13.3.7) Flood Fighting Material available.	53
13.4	Detail of other infrastructure like Electric, Sui Gas, Telephone installation, Road network, Other Building, Canals and Drainage network.	53
14	<b>ACTION PLAN</b>	
14.1	Re-shuffling/recouping plan of reserve stone departmentally.	54
14.2	Detail of inlet/outlet crossing along with closing methodology.	55-57
14.3	Deployment Machinery (medium to high flood).	58
14.4	Deployment of Machinery (High to very high flood).	59
14.5	Deployment of Machinery (high to exceptionally high flood).	60
14.6	Police deployment plan.	61
14.7	Details of synthetic bags with capacity of 500kg and 1000kg.	62
14.8	Details of polythene sheets of black color to protect upstream slope against wave action and to control seepage through embankments.	63
15	Back Up Division (In case of breach)	64



## CHAPTER NO. 1

### SILENT FEATURES OF QADIRABAD BARRAGE.

#### 1.1 Location:

Qadirabad Barrage derives its name from a village named "Qadirabad 21 K.M. downstream on the Right Bank of River Chenab in Tehsil Phalia District Mandi Baha-ud-Din. The Barrage itself is located in Gujranwala District at 16 K.M. from Alipur Chattha Town and 32 K.M. Downstream of Khanki Weir".

#### 1.2 General Description:

Qadirabad Barrage is one of the Major Engineering Components of Indus Basin Project. It was constructed as a part of Rasul – Qadirabad – Balloki – Sulemanki Link Canal System.

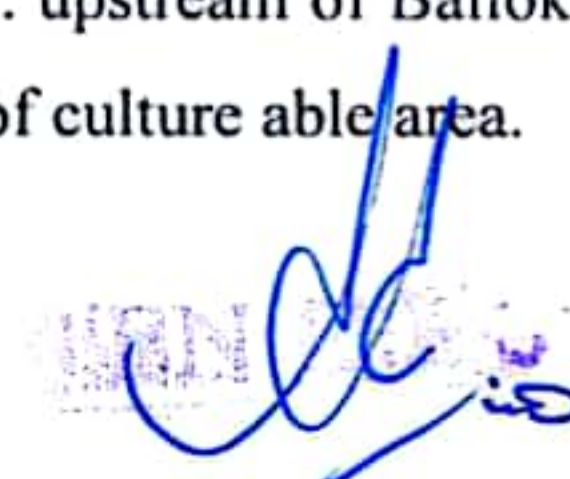
The Barrage length between the abutments is 3376 and consists of 50 No. spans, each of 60 feet length, between the piers. The Barrage has a designed capacity of 9.00 lac cusecs. The Head Regulator of the Q.B. Link has a capacity of passing 25000 cusecs discharge located on the Left Flank of the Barrage, where Under Sluice Pocket and Divide Wall has been provided to facilitate the regulation. The last two Bays adjacent to the Canal Head Regulator have been provided with silt Excluder Tunnels. A Fish Ladder has also been added in the divide Wall.

The Barrage was designed by M/S COODE and PARTNERS of Victoria Street, London who were engaged by the WAPDA as Consulting Engineers.

The Contract for the construction of this Barrage was awarded on 04-05-1964 to M/S Mails phone, a consortium consisting of 3 Firms viz Christiani Nielse (Denmark), Companies Francoise Enterprise (France) and Gammons (Pakistan). The stipulated date of completion of the project was 31-03-1968, but the project was completed almost one year before and Qadirabad Balloki Link Canal was opened for the first time on 17-07-1967. Qadirabad Barrage along Q.B. Link was handed over to the Irrigation Department on 16-12-1968 for further operation and maintenance.

The River Chenab is bounded by Marginal Bunds between Khanki Headworks and Qadirabad Barrage. The river while flowing in the alluvial khaddar meanders widely between the Marginal Bunds. To cope with the Situation River Training Works had been provided.

Qadirabad Balloki Link Canal off takes from its left flank and is the central part of the Rasul Balloki Link Canal System. The object of which is to transfer Mangla releases to River Ravi for its utilization in the areas which were previously irrigated by the River Ravi and Sutlej. The Q.B. Link falls into Ravi at about 16 K.M. upstream of Balloki Headworks. It supplies irrigation water to approximately 6 million acres of culture able area.





**1.3. ADMINISTRATIVE SETUP.**

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## Chapter No. 2

### FLOOD PROTECTION AND RIVER TRAINING WORKS.

#### 2.1 Design Parameters of Training works.

#### Qadirabad Barrage.

No. of Bays	Clear water way of Bay.	Crest Level.	No. of Gates	Height of Gates.	Top Level of Gates.
Normal Gates	60'	684.50	45	18.50'	703.00
Under Sluice Gates.	60'	680.00	5	23.00'	703.00
Head Regulator Gates.	40'	690.00	6	13.00'	703.00

#### LEFT MARGINAL BUND

Length.	64938 Feet (20.42 K.M)
Top Width.	25 Feet
Slopes:-	
River Side	3:1
Country Side	2:1
Free Board.	6.00 Feet above (H.F.L. 1973).

#### SPURS

S. No.	R.D.	Type of Spurs	Top width	Length	Sides slopes
1	13+300	L-Type	25.00 Feet	7155 Feet	3:1
2	28+600	M-Type	25.00 Feet	1450 Feet	3:1
3	35+200	J-Head	25.00 Feet	3000 Feet	3:1
4	37+500	J-Head	25.00 Feet	1912 Feet	3:1
5	45+500	J-Head	25.00 Feet	1300 Feet	3:1
			Total	14817 Feet = 4.65 K.M.	

#### RIGHT MARGINAL BUND

Length.	106300 Feet (33.42 K.M)
Top Width.	25 Feet
Slopes. RD. 0-40 =	3:1 (both sides)
RD 40-106+300	2:1 Country side      3:1 River side
Free Board.	6.00 Feet above H.F. Level 1973.

#### SPURS

S. No.	R.D.	Type of Spurs	Top width	Length	Sides slopes both sides
1	2+500	J-Head	25.00 Feet	5200 Feet	3:1
2	14+700	J-Head	25.00 Feet	4500 Feet	3:1
3	20+814	Mole Head	25.00 Feet	1000 Feet	3:1
4	23+000	J-Head	25.00 Feet	3410 Feet	3:1
5	25+966	J-Head	25.00 Feet	1000 Feet	3:1
6	28+850	Mole Head	25.00 Feet	3500 Feet	3:1
7	42+635	Mole Head	25.00 Feet	3500 Feet	3:1
8	48+000	Mole Head	25.00 Feet	1700 Feet	3:1
9	51+000	J-Head	25.00 Feet	2500 Feet	3:1
10	69+000	J-Head	25.00 Feet	4166 Feet	2:1
11	76+600	J-Head	25.00 Feet	4605 Feet	2:1
12	85+500	Mole Head	25.00 Feet	2500 Feet	2:1
			Total	37581 Feet = 11.81 K.M.	





## GUIDE BUNDS.

S. No.	R.D.	Type of Spurs	Top width	Length	Sides slopes both sides
1	U/S Left Guide	Mole Head.	40.00 feet	5200 feet	2:1
2	D/S Left Guide	Mole Head.	40.00 feet	500 feet	2:1
3	U/S Right Guide Bund.	Mole Head	40.00 "	5200 "	2:1
4	D/S Right Guide Bund.	Mole Head	40.00 "	500 "	2:1
5	Chocking Bund		25.00 "	1000 "	3:1 & 2:1
6	Ring Bund.		25.00 "	2000 "	3:1 & 2:1

### PINDI BHATTIAN FLOOD PROTECTION BUND

#### 1. REACH PINDI BHATTIAN TO JALAL PUR RD. 0+000 to 74+650.

##### Top Width

RD. 0+000 - 18+000	Abandoned
RD. 18+000 - 40+000	25 Ft
RD. 40+000 - 74+650	25 Ft.

##### SIDE SLOPES

River Side	3:1
Country Side	2:1
Free Board	6.00 Ft Above H.L.F 1973

#### 2. REACH JALAL PUR BHATTIAN TO RD. 85 VAGH DRAIN (METALLED ROAD ON TOP BUND)

##### RD. 74+650 to RD. 137+000

Top Width 32.00 Ft.

##### SIDE SLOPES

River Side	3:1
Country Side	2:1
Free Board	5.00 Ft above H.L.F 1973

Width of mettaled road. 24.00 Ft

  
S.S.B.N.





## GENERAL DATA.

The Bays are numbered from Right Hand side. Bays 1 - 45 are Normal weir while Bays 46 to 50 are under sluices. Width of each Bay is 60.00 feet.

### UPSTREAM IMPERVIOUS FLOOR.

R.L. of Weir Crest.                      684.50 feet

R.L. of Under Sluice Crest.        680.00 feet

R.L. of Upstream Floor.            674.00 feet

### LENGTH OF IMPERVIOUS FLOOR.

Bays. 1-45                      76.00 feet        with minimum thickness 2.0'

Bays. 46-48                    313.00 feet        which extended 72.00 feet  
ahead of upstream end of  
Divide Wall.

Bays. 49-50                    353.30 feet        which extended up to 70.00'  
upstream of the regulator.

### DOWNSTREAM IMPERVIOUS FLOOR.

Bays 1-50                      92.00 feet        Long with a thickness of  
9 - 10.00 feet.

R.L. of Floor

Weir Portion                    671.00'

Under Sluices  
portion                          666.00'

### CENTRAL RAFT PORTION.

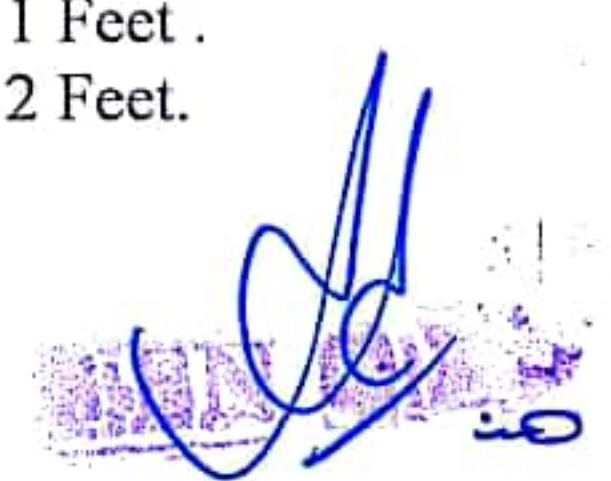
Length of R.C.C. Raft measured  
Horizontally.                    97.00'                      With thickness varies from  
06.75' to 10.00'

### BLOCK AND STONE APRONS.

Length of Block Apron Upstream    20.00 feet                      Plus 2.00 feet  
Curtain Wall. .  
Downstream. 75.00 feet                      plus 2.00 feet  
Curtain Wall.

Size of Blocks                      5' x 5' x 4'  
Width of Joint between  
Blocks.                                2 Inch.

Thickness of inverted  
Filter.                                      Upstream.    1 Feet .  
Downstream. 2 Feet.





Length of Stone Apron.	Upstream.	57.00 feet.
	Downstream	126.00 feet.
Thickness of Stone Apron.		4.00 feet.

**PIERS.**

Length of Piers.	95.00 feet.
Width of Pier.	7.00 "

**ABUTMENTS.**

These are R.C.C. Retaining Walls.

**DIVIDE WALL.**

Upstream Length.	365.00 feet.
Downstream Length.	137.00 feet.
Width of Divide Wall beyond U/S end of Fish Ladder.	9.60 feet.
Designed Head Across.	6.00 feet.

**FISH LADDER.**

The Structure is designed to operate satisfactorily over the following range of water levels.

- |    |                         |         |
|----|-------------------------|---------|
| 1. | Upstream water level.   | 698-703 |
| 2. | Downstream water level. | 678-694 |

It comprised of two portions, a Ladder and a Supply Channel. Total width of Fish Ladder is 40 Feet inclusive of divide Wall.

**BARRAGE AND REGULATOR ROAD BRIDGE.**

Clear Width of Bridge.	24.00 feet with 4.00 feet Foot Way on U/S side and 2 Feet Kerb.
Width of Service Bridge.	5.00 feet.
Bottom R.L. of Bridge.	705.75 "
Top of Road Bridge.	710.65 "
Top R.L. of Service Bridge.	710.50 "
Bottom R.L. of Service Bridge.	706.75 "

**LOADING.**

Carriage Way.	Class AA 70 Tons.
Foot Way.	85 Lbs/Sft.



CANAL HEAD REGULATOR.

Full Supply Discharge.	25,000 Cs. (remodeled).
Existing Capacity.	22,000 Cs.
Full Supply Level.	698.50 feet.
No. of Bays.	6
Width of each Bays.	40.00 feet.
Top of Upstream Floor. (Silt Excluder).	686.50 feet.
Crest level of Regulator.	690.00 feet.
Downstream Floor Level.	681.00 feet.
Top Level of Lip Wall.	682.00 feet.
Length of Downstream Impervious Floor.	45.00 feet.
Downstream Block Apron.	35.00 feet Horizontal with 3:1 slop To Joins existing pit.
Downstream Stone Apron.	50.00 feet.
Crest R.L. of Tail Regulator of R.Q. Link.	692.55 feet.

DESIGNED HEAD ACROSS.

Regulator.	22.30 feet.
Barrage.	32.00 "
Divide Wall	6.00 "

SILT EXCLUDERS.

(in front of bays 49 and 50).

Top Level of Tunnels.	686.50 feet.
No. of Tunnels in Front of one gate.	4 Nos.
Total No. of Tunnels.	8 Nos.
Size of Tunnel.	6 feet x 10 feet.

GATES AND GEARINGS.

Manufactured and fitted by. M./S Hitachi Zosen of Japan.  
Type of Gates. Tainter Type, Radial Gates.

<u>Description</u>	<u>Barrage.</u>		<u>Canal Regulator.</u>
	<u>Normal</u>	<u>Under Sluice.</u>	
No of Gates.	45 No.	5 No.	6 No.
Width between Piers.	60 Feet	60 Feet	40 Feet
Height of Gates.	18.50 "	23 "	13 "
Radius.	25.00 "	27 "	20 "
Top R.L. of Gates.	703 "	703 "	703 "

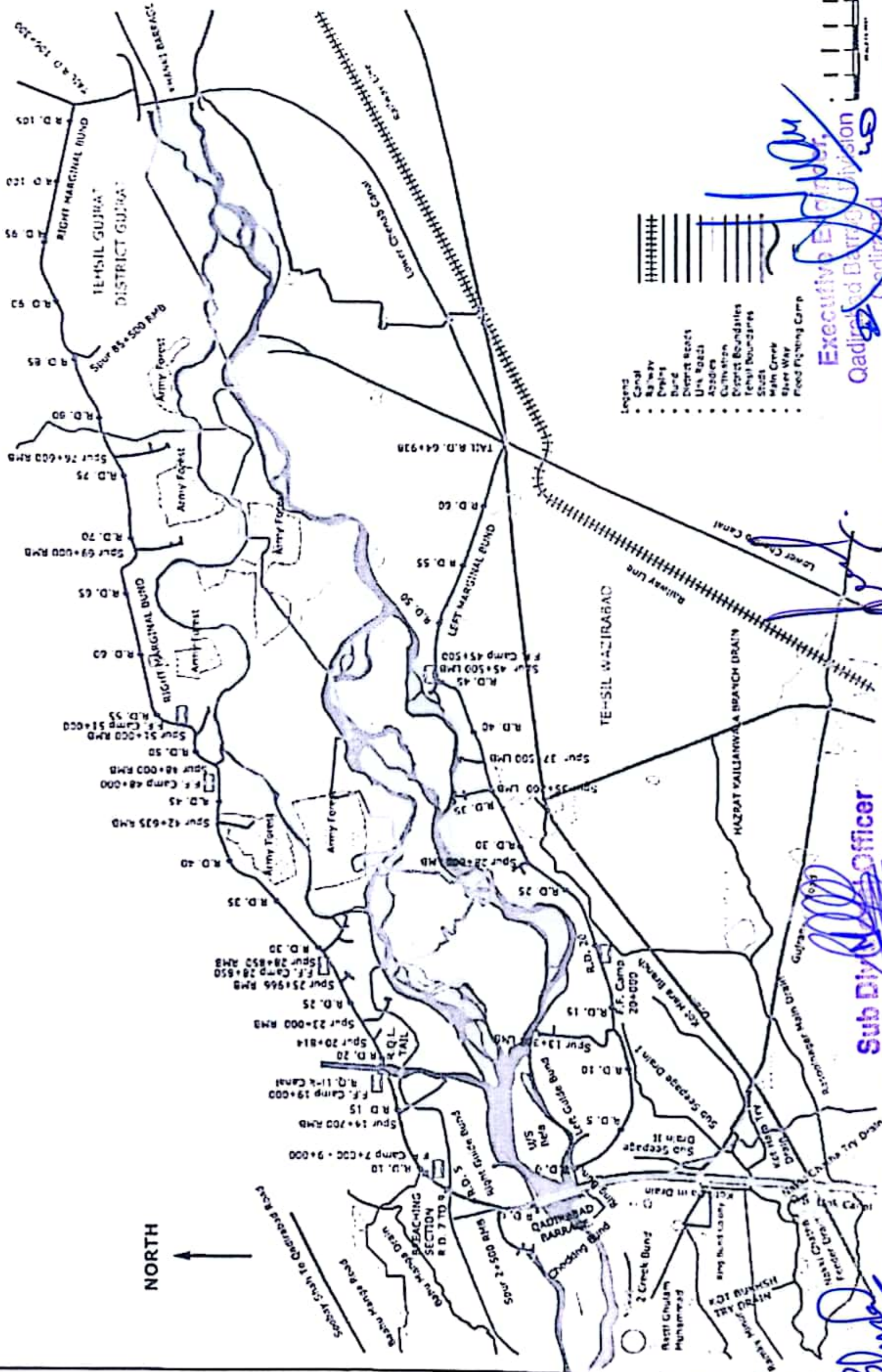
Diesel generator have been provided as a substitute for shut down of electricity.

Designed Pond Level. 701.00 Feet.





INDEX PLAN OF QADIRABAD BARRAGE DIVISION.



Executive Engineer  
Qadirabad Barrage Division  
Qadirabad

Sub Division Officer  
Qadirabad Barrage Division  
Qadirabad Colony

Sub Division Officer



**BRIEF HISTORY OF PAST FLOOD EVENTS.**

River Chenab is completely bounded by Marginal Bunds between Khanki Head and Qadirabad Barrage. The river while flowing in alluvial khadir, meanders widely in order to stabilize itself by completing its length in accordance with load etc. The construction of Marginal Bunds and Barrage itself prevents this opportunity and destabilize the river and endanger their safety. Thus in order to hold the river at the designed location, construction of Training works was essential requirement. Therefore to cope with the situation arising after different flood eventualities, river training works as explained below were constructed.

In first instance 3 Nos. spurs at RD. 13+300, 28+600 and 45+500 along Left Marginal Bund and 4 Nos. spurs at RD. 14+700, 20+814, 25+966 and 42+635 along Right Marginal Bund were constructed to cater for the river action at that time. The river regime was quite unstable and it was decided to train the river as and when need arises.

After the super flood of 1973, the magnitude of which was a little short of the designed capacity of the weir, River Chenab Upstream of the Barrage developed loops and changes. The river was attacking along Right Marginal Bund in reach RD. 20+000 to 55+000. The matter was referred to Irrigation Research Institute for Model Studies and the following Training works were constructed from time to time on their recommendation.

Sr.#	Location of Spurs.	Marginal Bund	Year of Construction
1-	RD. 29+500	Right	1974
2-	RD. 48+000	Right	1976
3-	RD. 51+000	Right	1976
4-	RD. 23+000	Right	1977

Since, almost, all the creeks were flowing along the Right Marginal Bund, it was rightfully thought to bring the river in central position. In order to achieve this objective, an untied X-Bund was tried across the Main Creek on the recommendation of Irrigation Research Institute Lahore during the year 1978 and the river developed its course away from the Right Marginal Bund during Low Flood.

**SUPER FLOOD OF 1988**

This flood ever received at Qadirabad Barrage was almost equal to its designed capacity and it passed very safely without any induced breaches. The main flow remained along Left Marginal Bund and was declared the most vulnerable site. It remained under severe hit of the river attack. The stone apron was washed away and reduced to 70 ft against 80 ft design.





Only 25 ft width of apron was restored during the flood season. Subsequently under a scheme of "Restoration Flood Damages" 50% designed width of the apron was replenished during the year 1989-90. Although the flood discharge of 1988 was higher than that of 1973, but the flood heights remained lower which was a healthy trend of the river from regime point of view.

### SUPER FLOOD OF 1992

The Super Flood with discharge of 9,48,000 Cusecs passed safely from the Barrage during 09/1992 although the discharge was 48,000 Cs higher than designed capacity i.e. 9.00 lac cusecs. The pressure of river remained on Left Marginal Bund and, damaged the stone apron of Spur RD. 35+200 L.M.B and Right Guide Bund on upstream side. The top and side slopes of L.M.B, R.M.B and Spurs etc were damaged by the rains and super floods discharge.

### EXCEPTIONALLY HIGH FLOOD OF 1995

An exceptionally high flood with a discharge of 6,44,397 cusecs passed safely from Qadirabad Barrage during 07/1995. The main flow of the river remained along Left Marginal Bund. The Main Creek was flowing at a distance of only 2000' from toe of Bund at RD. 20+900 L.M.B which threatened the safety of bund. The stone aprons of spur RD. 48+000, Spur RD. 51+000 of R.M.B, Right Guide Bund and Spur RD. 35+200 of L.M.B were damaged during the flood. Restoration of top and side slope of L.M.B RD. 0+000 to 2+000, 5+000 to 13+000, 35+000 to 62+000 and 50+000 to 69+000 have since been completed.

### SUPER FLOOD OF 1996

Eight waves of floods passed through the Barrage during the flood season of 1996. The Super Flood with a discharge of 8,53,231 cusecs passed safely from the Barrage during 08/1996 without any accident or induced breaches.

### SUPER FLOOD OF 1997

During Flood Season of 1997 eight floods of different magnitudes form low to exceptionally high range were passed. The river started rising in July 1997. The Super Flood with downstream discharge of 8,73,447 cusecs passed safely from the Barrage during 08/1997 without any accident or induced breaches.

From 2006 to 2011 high flood has been passed through the Qadirabad Barrage. All the weir bays and under sluices were operated successfully as per regulation rule to pass these high floods. None of the river training work became under direct hit except the Right Guide Bund which was damaged during 2013 at discharge around 4 Lac Cs. The apron was partially restored but was again damaged during 2014.





## SUPER FLOOD OF 2014

A Super flood with discharge of 9,03,504 Cs. passed safely from the Barrage. Before the highest peak discharge a peak of 6,56,666 Cs. Passed for 18 Hours. The two peaks were passed safely without operation of Breaching section. The main pressure of flood remained along RGB damaging the apron, pitching and the bund between RD 3+000 to 4+000. In the present upstream river morphology and bela formation between the right guide bunds, it is suspected that in future the river's attack will continue at the right guide bund.

Downstream Qadirabad Barrage, two new creeks developed a few miles down the chocking bund inundating vast area downstream. The creeks were plugged by construction a bund called 2-Creek Bund. Ten Nos. breaches occurred at Pindi Bhattian Flood Protection Bund.

## FLOOD OF 2015

During the year 2015, medium flood was passed with peak discharge of 1.75 lac Cs. and 1.69 lac Cs. on 13-07-2015 at 10.00 hours and 24-09-2015 at 02:00 hours respectively. The peak flow was passed safely without any damage to any flood protection structure.

## FLOOD OF 2016

During the year 2016, very high flood was passed with peak Discharge of 4.00 Lac cusec for 10.00 hours respectively. The peak flow was passed safely without any damage to any flood protection.

## FLOOD OF 2017

During the year 2017, medium flood was passed with peak discharge of 186,660 cusecs 19.07.2017 at 14.00 hours. The peak flow was passed safely without any damage to any flood protection structure.





### FLOOD OF 2018

During the year 2018, Low flood was passed with peak discharge of 103,400 cusecs on 24.09.2018 at 21.00 hours. The peak flow was passed safely without any damage to any flood protection structure.

### FLOOD OF 2019

During the year 2019, Medium flood was passed with peak discharge of 159,544 cusecs on 01.08.2019 at 21.00 hours. The peak flow was passed safely without any damage to any flood protection structure except damaging 500 ft tail portion of 2-creek bund.

### FLOOD OF 2020

During the year 2020, high flood was passed with peak discharge of 267,540 cusecs on 20.08.2020 at 15.00 hours. The peak flow was passed safely without any damage to any flood protection structure except launching of stone on the upstream side of hockey stud constructed at RD. 3+000 of 2-Creek bund.

### FLOOD OF 2021

During the year 2021, medium flood was passed with peak discharge of 167,812 cusecs on 29.07.2021. The peak flow was passed safely without any damage to any flood protection structure.

### FLOOD OF 2022

During the year 2022, high flood was passed with peak discharge of 202,149 cusecs on 12.08.2022 at 22:00 hours. The peak flow was passed safely without any damage to any flood protection structure except launching of stone apron of RGB and damaging already existing studs of 2- Creek bund.





## Chapter No. 4

### Design Data & Historic Peak flood Data and previous 5 years flood data of Headworks & Barrages and or other control points.

Design Discharge of Qadirabad Barrage = 9.00 Lca Cs.

#### Previous Five Years Flood Data

Sr. No.	Date	Discharge Cs.	Flood Stage
1	24.09.2018	103400	Low Flood
2	01.08.2019	159,544	Medium Flood
3	20.08.2020	267,540	High Flood
4	29.07.2021	167,812	Medium Flood
5	12.08.2022	202,149	High Flood

#### 4.1 Flood Limits of River Chenab.

1	Low Flood	1.00 - 1.50 lac cusecs
2	Medium Flood	1.50 - 2.00 lac cusecs
3	High Flood	2.00 - 4.00 lac cusecs
4	Very High Flood	4.00 - 6.00 lac cusecs
5	Exceptionally High Flood	6.00 - 8.00 lac cusecs
6	Super Flood	8.00 lac Cs. and above

#### 4.2 Time Lags of Floods of River Chenab.

Limits	Range in Lac Cs.	Time Lag from Khanki to Qadirabad (Hrs)	Time Lag from Marala to Qadirabad (Hrs)
Low	1.00 - 1.50	8.00	20.00
Medium	1.50 - 2.00	7.00	17.00
High	2.00 - 4.00	6.00	15.00
Very High	4.00 - 6.00	5.00	13.00
Exceptionally High	Above 6.0	4.00	11.00





4.3

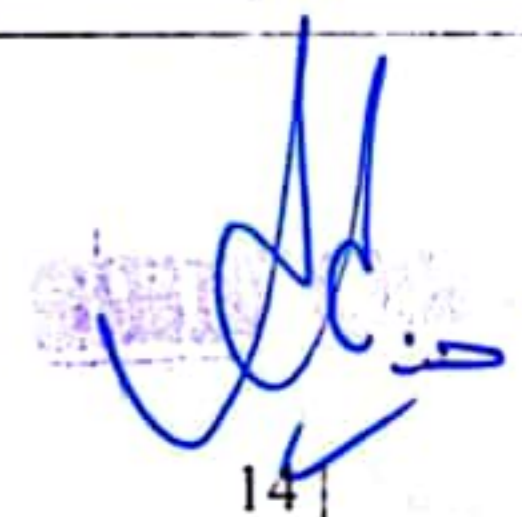
**HIGHEST FLOODS.**

Sr. No.	Date	Discharge Cs.	Critical Gauge at R.D. 15+000 L.M.B.	Flood Stage.
1	10.08.1973	8,54,341	712.32	Super Flood
2	26.09.1988	8,92,299	711.4	Super Flood
3	11.09.1992	9,48,530	713.40	Super Flood
4	24.08.1996	8,53,231	711.70	Super Flood
5	28.08.1997	8,73,442	711.90	Super Flood
6	07-09-2014	9,03,504	712.30	Super Flood

4.4

**PEAK DISCHARGES.**

Sr. No.	Date	Discharge Cs.	Critical Gauge at R.D. 15+000 L.M.B.	Flood Stage.
1	10.08.1973.	854,341	712.32	Super Flood
2	17.07.1975.	698,228	710.00	Exceptionally High
3	02.08.1976.	628,228	709.60	Exceptionally high
4	26.09.1988	892,299	711.40	Super Flood
5	11.09.1992	948,530	713.40	Super Flood
6	29.07.1995	644,794	706.30	Exceptionally High
7	24.08.1996.	853,231	711.70	Super Flood
8	28.08.1997	873,442	711.90	Super Flood
9	08.07.2005	369,847	697.00	High Flood
10	04.09.2006	443,206	699.10	Very High Flood
11	15.08.2013	403,403	698.05	Very High Flood
12	07-09-2014	903,504	712.30	Super Flood
13	13-07-2015	175,054	703.40	Medium Flood
14	08-08-2016	405,455	700.00	Very High Flood
15	19-07-2017	186,660	700.00	Medium Flood
16	24.09.2018	103,400	700.00	Low Flood
17	01.08.2019	159,544	700.00	Medium Flood
18	20.08.2020	267,540	700.00	High Flood
19	29.07.2021	167,812	700.00	Medium Flood
20	12.08.2022	202,149	700.00'	High Flood





## Chapter No. 5

### Flood Fighting Strategy.

#### **i. STAGE - I (Low Flood)**

When discharge ranges between 1.0 to 2.0 lac Cusecs, Sub Divisional Officer, Headworks will be the Incharge of overall watching operation and the Sub Engineer Incharge of their Sections at Left Marginal Bund and Right Marginal Bund will perform watching duties in their respective jurisdictions. No special watching is required.

#### **ii. STAGE - II (Medium Flood)**

When the discharge ranges between 2.0 to 4.0 Lac Cusecs, the Executive Engineer, Qadirabad Barrage Division will be the overall Incharge of watching operation. In addition the Sub Divisional Officer, Headworks will be the Incharge of watching operation of L.M.B along with supervisory staff of Sub Engineer, L.M.B Sub Engineer Colony Civil Section along with their watching gangs as listed in **duty roster at page 19**. The Sub Divisional Officer, Hafizabad Link Sub Division will be the Incharge of watching operation along with supervisory staff of Sub Engineer R.M.B-I and R.M.B-II Sections along with their watching gangs as listed in duty roster at page 18. The Sub Engineer, Headworks Civil Section will perform duty at Headworks to control the regulation strictly as per Regulation Rules.

#### **iii. STAGE - III (High Flood)**

When discharge ranges between 4.0 to 6.0 Lac Cusecs, the Executive Engineer, Qadirabad Barrage Division will be the overall Incharge of watching operation. The Sub Divisional Officer, Headworks will be the incharge of watching operation of L.M.B along with supervisory staff of Sub Engineer, L.M.B, Sub Engineer Colony Civil and Mechanical along with their watching gangs listed in **duty roster at Page 19**, on Right Marginal Bund, the Sub Divisional Officer, Hafizabad Link Sub Division will be the Incharge of watching operation along with supervisory staff of Sub Engineer R.M.B-I and R.M.B-II Sections and sub Engineer, Q.B. Link Section as listed in duty roster at Page 18. The Sub Engineer, Headworks Civil Section will perform duty at Headworks to control the regulation as per Regulation Rules.

#### **iv. STAGE - IV (Exceptionally High Flood)**

This stage will commence when the discharge downstream Qadirabad Barrage exceeds 6.00 Lac cusecs and the river is rising at Marala Barrage and Khanki Headworks. At this stage the Executive Engineer, Qadirabad Barrage Division will be the overall Incharge of





watching operation. In addition to above the following officers/ officials will be the Incharge of the reaches mentioned as under:-

1. **LEFT MARGINAL BUND.**

Sub Divisional Officer, Headworks will be the Incharge of watching operation on Left Marginal Bund with supervisory staff of Sub Engineer, Colony, Sub Engineer, LMB, LCC. Feeder and Sub Engineer, Bhikhi as listed in duty roster at Page 19.

2. **RIGHT MARGINAL BUND.**

Sub Divisional Officer, Hafizabad Link Sub Division will be the incharge of watching operation on R.M.B. with supervisory staff of Sub Engineer RMB-I, Sub Engineer RMB-II, Sub Engineer, Q.B. Link and Sub Engineer, Colony Hafizabad as listed in duty roster as Annexure-II. The spurs at RD. 35+200 LMB 2+500 downstream R.M.B. and RD. 48+000 RMB while under direct hit of river flow, emergency camps will be installed and watching of these spurs will be done strictly round the clock.

3. **BARRAGE.**

The Sub Engineer, Headworks Civil Section will perform duty on Headworks to control regulation as per Regulation Rules.

4. **POWER ARRANGEMENTS.**

It will be ensured that at least one No. generator is in working order and ready for feeding the Barrage in case of any power failure. The concerned staff will always remain present to start the generators in case of any emergency. This is the single most important precautionary measure and will be very strictly observed. The Sub Engineer, Mechanical Headworks will be responsible for keeping adequate quantity of Diesel available during Flood Season and for proper lightening arrangement existing at Barrage during floods.

5. **REGULATION OF FLOOD DISCHARGE THROUGH THE BARRAGE.**

Regulation of Barrage will be done strictly according to the regulation rules. The Executive Engineer, Qadirabad Barrage Division however may change the regulation pattern in case of any emergency if certain structure is under attack or due to concentration of flow taking place in certain days. Any departure from Regulation Rules in case of any emergency or other equally compelling factor will be made only for the safety of the Barrage and its allied works.





## 6. FLOOD INUNDATION

In low and medium flood stages, the flood water meanders within the limits of river bed width. Villages of District Hafizabad and Mandi Bahau-din are likely to be inundated during very high and exceptionally high flood.

## 7. FLOOD FIGHTING EMERGENCY CAMPS

When the discharge downstream Qadirabad Barrage is more than 4.00 Lac, emergency camps will be setup at proposed sites.

There are 9 No. Camp sites at following locations.

### Right Marginal Bund


1. RD. 7+000 – 9+000,
2. RD.19+000
3. RD 28+850,
4. RD. 48+000
5. RD. 51+000.

### Left Marginal Bund

6. RD. 20+000
7. RD. 45+500

### PINDI BHATTAIN FLOOD BUND

8. RD. 45+000 (Talhi Goraya)
9. RD. 74+650 (Jalalpur Bhattian).

  
S. SEN P.B.F.F.B  
~~SEN~~ / SEN RMB-I





## Chapter No. 6

### FLOOD DAMAGES RESTORATION WORKS

The RGB has been restored during closure 2022-23, as per the recommendation of DEC dated 05.04.2022 through its minutes of meeting issued vide No. 1088/PRO(H)/83-M dated 12.04.2022, between RD 2+700 to 4+200.

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# Duty Roster for Watching Right Marginal Bund and Spur (Distt: Gujranwala / M.B. Din / Gujrat)

## Chapter No. 7

### Flood Fighting Watching Arrangement

#### 7.1 Pre-Flood Arrangement

The following arrangements are necessary before flood:-

- i) Repair of river Training works.
- ii) Replacement of damaged liners of breaching section.
- iii) Procurement of flood fighting material.

#### 7.2 Watching Establishment.

1.	Reach = A	R.D. 0-40-000, Spur R.D. 14-700, 20-814, 23-000, 25-966 and 28-850	= 17.30 KM.
2.	Reach = B	R.D. 40-000 - 48-000 Spur R.D. 42-635, 48-000	= 4.28 KM
3.	Reach = C	R.D. 48-000 - 75-000, Spur R.D. 51-000 and 69-000	= 14.20 KM
4.	Reach = D	R.D. 76-000 - 106-300 (Tail) Spur R.D. 76-600 and 85-500	= 12.02 KM
5.	Reach = E	Right Guide Bund U S 5-700, Spur R.D. 2-500 RMB	= 3.37 KM
<b>Total</b>			<b>= 51.17 KM</b>

Sub Divisional Officer	Sub Engineer	Head Quarters	Reach	Watching Gangs									Criteria
				1 <sup>st</sup> Shift 0 - 8 hours			2 <sup>nd</sup> Shift 8 - 16 hours			3 <sup>rd</sup> Shift 16 - 24 hours			
				Permanent	Temporary	Total	Permanent	Temporary	Total	Permanent	Temporary	Total	
<b>Stage - I</b>				No special watching is required									Existing establishment will watch the bunds/ spurs
Discharge 1.00 to 2.00 lac cusecs													
SDO H/W	R.M.B-I	R.D. 28850	A										
Sub Division at Headworks	R.M.B-II	R.D. 69000	B										One man per 2.00 K.M. in addition to Mate / Mistry
Headworks	-ditto-	-ditto-	C										
Civil Section	-ditto-	-ditto-	D										
<b>Stage - II</b>													2 man per 2.00 K.M. in addition to Mate / Mistry
Discharge 2.00 to 4.00 lac cusecs													
SDO HFD	R.M.B-I	R.D. 28850	A	8	4	12	-	12	12	-	12	12	
Link Sub	R.M.B-II	R.D. 51000	B	3	1	4	-	4	4	-	4	4	
Division at R.D.48000	-ditto-	-ditto-	C	2	8	10	-	10	10	-	10	10	
	-ditto-	-ditto-	D	2	7	9	-	9	9	-	9	9	
	H/W (C)	-ditto-	E	4	9	4	-	4	4	-	4	4	
<b>Stage - III</b>													2 man per 2.00 K.M. in addition to Mate / Mistry
Discharge 4.00 to 6.00 lac cusecs													
SDO HFD	R.M.B-I	R.D. 28850	A	8	16	24	-	24	24	-	24	24	
Link Sub	R.M.B-II	R.D. 51000	B	3	5	8	-	8	8	-	8	8	
Division at R.D.48000	Q.B.Link	R.D. 69000	C	2	18	20	-	20	20	-	20	20	
	Q.B.Link		D	2	16	18	-	18	18	-	18	18	
	H/W (C)		E	4	4	8	-	8	8	-	8	8	
<b>Stage - I</b>													4 man per 2.00 K.M. in addition to Mate / Mistry
Discharge 6.00 lac cusecs & above													
SDO HFD	R.M.B-I	R.D. 28850	A	8	40	48	-	48	48	-	48	48	
Link Sub	Q.B.Link	R.D. 48000	B	3	13	16	-	16	16	-	16	16	
Division at R.D.48000	Colony	R.D. 69000	C	2	38	40	-	40	40	-	40	40	
	HFD		D	2	34	36	-	36	36	-	36	36	
	RMB-II		E	4	12	16	-	16	16	-	16	16	

Sub Engineer RMB

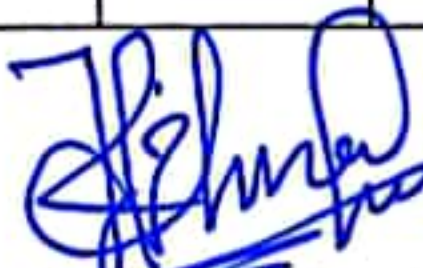
Sub Divisional Officer, (H/W)

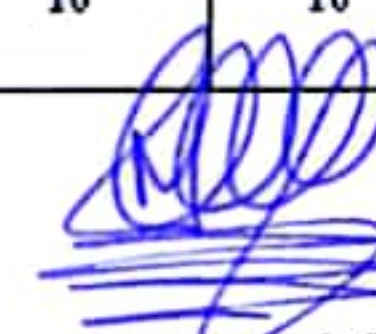


**DUTY ROSTER FOR WATCHING LEFT MARGINAL BUND AND SPURS (DISTRICT GUJRANWALA)**

1.	Reach = A	R.D. 0-13-300 with spur R.D. 13-300.	= 6.64 KM.
2.	Reach = B	R.D. 13-300 - 29-000 with spur R.D. 28-600.	= 5.56 KM.
3.	Reach = C	R.D. 29-000 - 45-000 with spur R.D. 35-200, 37-500	= 7.77 KM.
4.	Reach = D	R.D. 45-000 - 65-000, (Tail) spur R.D. 45-500	= 6.90 KM.
5.	Reach = E	Left Guide Bund U S & D S 5-700, Ring Bund and checking Bund 3-000	= 3.47 KM.
		Total	= 29.34 KM.

Sub Divisional Officer	Sub Engineer	Head Quarters	Reach	Watching Gangs									Criteria	
				1 <sup>st</sup> Shift 0 - 8 hours			2 <sup>nd</sup> Shift 8 - 16 hours			3 <sup>rd</sup> Shift 16 - 24 hours				
				Permanent	Temporary	Total	Permanent	Temporary	Total	Permanent	Temporary	Total		
<b>Stage - I</b>		Discharge 1.00 to 2.00 lac cusecs		No special watching is required									Existing establishment will watch the bunds/ spurs	
Headworks Sub Division at Headworks	L.M.B	R.D. 35200	A											
	L.M.B	R.D. 35200	B											
	L.M.B	R.D. 35200	C											
	H/W (C)	Barrage	D											
			E											
<b>Stage - II</b>		Discharge 2.00 to 4.00 lac cusecs											One man per 2.00 K.M. in addition to Mate / Mistry	
Headworks Sub Division at R.D. 35200 L.M.B.	L.M.B	R.D.35200	A	3	5	8	.	8	8	.	8	8		
	L.M.B	R.D. 35200	B	3	5	8	.	8	8	.	8	8		
	Colony	R.D.45500	C	2	6	8	.	8	8	.	8	8		
		R.D. 45500	D	2	6	8	.	8	8	.	8	8		
		R.D. 45500	E	2	2	4	.	4	4	.	4	4		
<b>Stage - III</b>		Discharge 4.00 to 6.00 lac cusecs											2 man per 2.00 K.M. in addition to Mate / Mistry	
S.D.O. Headworks	Colony	R.D. 1300	A	3	13	16	.	16	16	.	16	16		
	L.M.B.	R.D. 35200	B	3	13	16	.	16	16	.	16	16		
	L.M.B.	R.D. 35500	C	2	14	16	.	16	16	.	16	16		
	L.M.B.	R.D. 45500	D	2	14	16	.	16	16	.	16	16		
		R.D. 45500	E	2	6	8	.	8	8	.	8	8		
<b>Stage-I</b>		Discharge 6.00 lac cusecs & above											4 man per 2.00 K.M. in addition to Mate / Mistry	
Stage - IV SDO Headworks Sub Division	Colony	R.D. 13300	A	3	29	32	.	32	32	.	32	32		
	LCC	R.D. 20000	B	3	29	32	.	32	32	.	32	32		
	Feeder	R.D. 35200	C	2	30	32	.	32	32	.	32	32		
	LMB	R.D. 45500	D	2	30	32	.	32	32	.	32	32		
	Bhikhi	R.D.45500	E	2	14	16	.	16	16	.	16	16		

  
Sub Engineer LMB


  
Sub Divisional Officer,  
Headworks Sub Division.

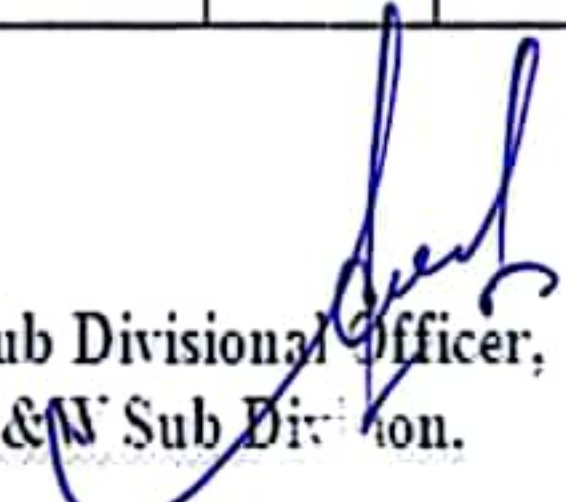


**DUTY ROSTER AND WATCHING ARRANGEMENT OF PINDI BHATTIAN FLOOD PROTECTION BUND (DISTRICT HAFIZABAD)**

1. Reach = A R.D. 18-600 TO 75-000 = 17 KM.  
 2. Reach = B R.D. 75-000 TO 136-000 = 19 KM.  
 Total = 36 KM

Sub Divisional Officer	Sub Engineer	Head Quarters	Reach	Watching Gangs									Criteria		
				1st Shift 0 - 8 hours			2nd Shift 8 - 16 hours			3rd Shift 16 - 24 hours					
				Permanent	Temporary	Total	Permanent	Temporary	Total	Permanent	Temporary	Total			
Stage - I S.D.O. C&W Sub Division	Discharge 1.00 to 2.00 lac cusecs		Rasul Nagar Mech. Sec. C&W.	Jalalpur Bhattian	A B	No special watching is required									Existing establishment will watch the bunds/spurs
Stage - II S.D.O. C&W Sub Division	Discharge 2.00 to 4.00 lac cusecs		Rasul Nagar Mech. Sec. C&W.	Jalalpur Bhattian	A B	4 4	11 12	15 16	- -	15 16	15 16	- -	15 16	15 16	One man per 2.00 K.M. in addition to Mate / Mistry
Stage - III S.D.O. C&W Sub Division	Discharge 4.00 to 6.00 lac cusecs		Rasul Nagar Mech. Sec. C&W.	Jalalpur Bhattian	A B	4 4	22 24	26 28	- -	26 28	26 28	- -	26 28	26 28	2 man per 2.00 K.M. in addition to Mate / Mistry
Stage - I Stage - IV S.D.O. C&W Sub Division	Discharge 6.00 lac cusecs & above		Rasul Nagar Mech. Sec. C&W.	Jalalpur Bhattian	A B	4 4	42 47	46 51	- -	46 51	46 51	- -	46 51	46 51	4 man per 2.00 K.M. in addition to Mate / Mistry

  
Sub Engineer P.B.F.P.B

  
Sub Divisional Officer,  
C&W Sub Division.



## 7.3

**Arrangement at Sensitive sites**

To meet with any emergency on sensitive sites during flood season, the following items / machinery will be arranged:-

- i. Flood fighting material & watching material.
- ii. Machinery / Dozer.
- iii. Stone.

## 7.4

**Watching Material.**

The detail of watching material is as under:-

Sr. No.	Items	Quantity required for each Camp.	Total Quantity required for 9 Nos. Camps	Quantity Available	Balance Required
1	Chargeable Torches	12 Nos.	108 Nos.	30 Nos.	78 Nos.
2	Baskets	25 Nos.	225 Nos.	225 Nos.	-
3	E.G. Bags	50 Nos.	450 Nos.	450 Nos.	-
4	Sutli.	1 Kg.	9 Kg	9 Kg.	-
5	Needles	6 Nos.	54 Nos.	54 Nos.	-
6	Kassi with Handles.	10 Nos.	90 Nos.	90 Nos.	-
7	Axes.	1 No.	9 Nos.	9 Nos.	-
8	Handle for Kassi /Axes.	10 Nos.	90 Nos.	-	90 Nos.
9	Buckets	4 Nos.	36 Nos.	36 Nos.	-
10	Hand Saws.	1 No.	9 Nos.	9 Nos.	-
11	Chouldaries Tent	1 No.	9 Nos.	9 Nos.	-
12	Manila Rope	50 Kg.	450 Kg.	450 Kg	-
13	Umbrella.	2 Nos.	18 Nos.	18 Nos.	-
14	Rain Coats.	2 Nos.	18 Nos.	18 Nos.	-
15	Generator 2000 Watt.	1 Nos.	9 Nos.	3 Nos.	6 Nos.
16	Petrol	100 Ltr	900 Ltr	-	900 Ltr
17	M. Oil	2 Ltr	18 Ltr	-	18 Ltr
18	Wires 7/0.29	150 Ft	1350 Ft	1100 Ft	250 Ft
19	Wooden Boards. 10 x 12	1 No.	9 Nos.	09 Nos.	-
20	Switch / Plugs.	6 Nos.	54 Nos.	14 Nos.	40 Nos.
21	LED Energy Savers. (25 Watt)	4 Nos.	36 Nos.	30 Nos.	6 Nos.

**NOTE: Balance quantity will be procured before start of flood season 2023.**



B. Reserve Stock available.

**RESERVE STOCK OF STONE OF QADIRABAD BARRAGE DIVISION**

Sr. No.	Name of Structure	Sanctioned Qty (In Lac cft)	Available Qty (In Lac cft)	Balanced Qty (In Lac cft)	Remarks
1	<b>Headworks Civil section (District Hafizabad)</b>				
i)	U/S Left Guide Bund	2.000	2.410	-0.410	
ii)	U/S Right Guide Bund	2.000	1.537	0.463	
iii)	D/S Left Guide Bund	0.500	0.590	-0.090	
iv)	D/S Right Guide Bund	0.500	0.244	0.256	
v)	Emergent Stock	2.000	2.830	-0.830	
vi)	Head Regulator of Q.B. Link	1.000	0.000	1.000	
	<b>Sub Total</b>	<b>8.000</b>	<b>7.611</b>	<b>0.389</b>	
2	<b>Left Marginal Bund (District Gujranwala)</b>				
i)	Spur at RD. 13+300	1.500	1.530	-0.030	
ii)	Spur at RD. 28+600	1.000	0.264	0.736	
iii)	Spur at RD. 35+200	1.000	0.350	0.650	
iv)	Spur at RD. 37+500	1.000	1.000	0.000	
v)	Spur at RD. 45+500	1.000	0.646	0.354	
	<b>Sub Total</b>	<b>5.500</b>	<b>3.790</b>	<b>1.710</b>	
3	<b>Right Marginal Bund-I Section (District Mandi Baha-Ud-Din)</b>				
i)	Spur at RD. 2+500 D/S	2.250	1.770	0.480	
ii)	Spur at RD. 14+700	1.500	1.260	0.240	
iii)	Spur at RD. 20+814	0.500	0.430	0.070	
iv)	Spur at RD. 23+000	1.500	1.596	-0.096	
v)	Spur at RD. 25+966	0.500	0.500	0.000	
vi)	Spur at RD. 28+850	2.000	1.775	0.225	
vii)	D/D at Stone yard H/W Civil sec.	0.000	0.790	-0.790	
	<b>Sub Total</b>	<b>8.250</b>	<b>8.121</b>	<b>0.129</b>	
4	<b>Right Marginal Bund-II Section (District Gujrat)</b>				
i)	Spur at RD. 42+635	1.000	0.110	0.890	
ii)	Spur at RD. 48+000	1.000	0.160	0.840	
iii)	Spur at RD. 51+000	1.500	0.820	0.680	
iv)	Spur at RD. 69+000	1.000	0.990	0.010	
v)	Spur at RD. 76+000	1.000	0.990	0.010	
vi)	Spur at RD. 85+500	1.000	1.010	-0.010	
	<b>Sub Total</b>	<b>6.500</b>	<b>4.080</b>	<b>2.420</b>	
	<b>G. Total</b>	<b>28.250</b>	<b>23.602</b>	<b>4.648</b>	

Sufficient quantity of stone, more than 70% is available.



**7.5 Arrangement for Sounding & Probing.**

Arrangement for sounding and probing will be arranged if needed.

**7.6 Lighting Arrangement.**

Sub Engineer Headworks Mechanical will keep all the flood lights and other lighting arrangements in proper working condition with the help of electrician and other staff.

**7.7 Ration Arrangement.**

The establishment and the Supervisory staff will have their own flood arrangement. The Civil Authority shall arrange the supply of ration for at least 500 men when required during emergency.

**7.8 P.O.L Arrangement for Vehicles.**

In order to close & strengthen the breach / cut sites & operate breaching sections, some reserve of petrol and diesel is required for use in excavators, dozer & generators. Before the start of flood season, the Deputy Commissioner Gujranwala, Hafizabad, Gujrat and Mandi Baha-ud-Din will get oil reserved at any nearest petrol pump. Executive Engineer Qadirabad Barrage will be informed of the arrangements.

**7.9 Transportation.**

Tractor Trollies are available with the local contractors which will arrange these on call in emergency for transportation of labour and material. The Civil Administration of Gujranwala, Hafizabad, Gujrat and Mandi Baha-ud-Din Districts will be requested to provide transport for carriage of emergent material if not available from local sources in case of emergency.

**7.10 Law and Order.**

Concerned Deputy Commissioners will engage the necessary Security to control the law and order situation.

**7.11 Medical Arrangement for Labour.**

No first Aid facility is available at Qadirabad Barrage. District Health Officers Gujranwala, Hafizabad, Gujrat and Mandi Baha-ud-Din will be requested to make arrangements during flood season at Barrage.

**7.12 Liaison with other Department.**

Executive Engineer Qadirabad Barrage and Sub Divisional Officer Headworks will keep liaison with their counter parts in other departments. Higher Authorities of other Departments will be approached, if needed through Superintending Engineer Q.B. Link Circle Farooqabad and Chief Engineer Faisalabad Irrigation Zone Faisalabad.





**7.13 Role of Army.**

At least strength of about 300 Army men is required to deal with any emergency when the discharges expected to exceed 500000 Cusecs. On request of Executive Engineer Qadirabad Barrage Division, the Commander Engineers Headquarters 30 Corp Gujranwala Cantonment will provide necessary assistance.

**7.14 Duties of Telephone Attendant.**

Telephone at Telegraph office Qadirabad Barrage Division is attended by Signaler on duty. The telephone at Barrage flood office is attended by the Shift Incharge / Jamadar on duty.

**7.15 Wireless Arrangements.**

The wireless station in the flood warning centre located in Police Guards building Right side of Qadirabad Barrage will be installed by the telecommunication wing of the Punjab Police Department before the flood season. Two Mobile wireless set will be fixed in the vehicle Executive Engineer Qadirabad Barrage Division and Sub Divisional Officer Headworks Qadirabad Barrage. The flood warning, flood gauges, discharge and other information regarding flood are received and transmitted by the flood warning station at Lahore. The mobile units in the vehicle help the touring offices in keeping the flood officers informed.





## Chapter No. 8

### DETAIL OF ENCROACHMENT.

There is no encroachment on Flood embankments in Qadirabad Barrage Division.

Sr No.	Total Encroachments	Removed	Remaining	Remarks
--	---	--	--	--

### Critical encroachment

Sr No.	Total Critical Encroachments	Removed	Remaining	Remarks
--	--	--	--	--

There is no encroachment along flood protection infrastructure, river training works or flood plain / water way.





## Chapter No. 9

### DUTY ROSTER / FLOOD FIGHTING PROGRAM.

Sr. No.	Name of Structure	Location of vulnerable site	Reference of contingency plan
1	Right Marginal Bund	RD 27+000 to 31+000	Sub Divisional Officer Headworks is overall incharge with concern Sub Division and their field staff.
2	Left Marginal Bund	RD. 13+000 to 25+000	
3	Pindi Bhattian Flood Protection Bund	RD. 40+000 to 74+000	Sub Divisional Officer C&W is overall incharge with concern Sub Division and their field staff.

Already explained in Chapter No. 7 at page No. 19-21

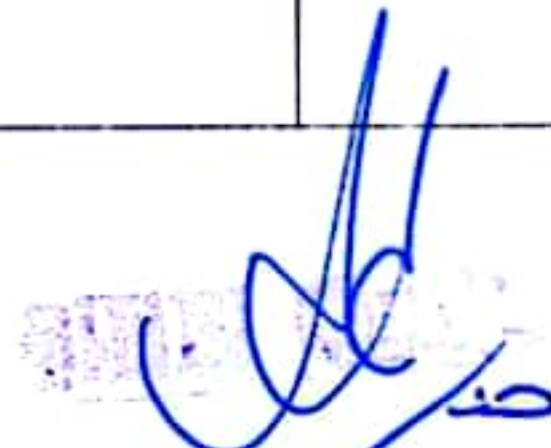
~~MA~~ / SEN  
RMB-I

  
20



**Chapter No. 10****EMERGENCY TELEPHONE NUMBERS.**

Sr. No.	Name of Officers & Designation with Office Address.	Code	Office Phone No.	Residence Phone. No.	Fax	Mobile
1	Secretary Irrigation, Irrigation Secretariat, Lahore	042	99212117 99212118	99200954	99212117	
2	Shahid Saleem Ch Chief Engineer, Irrigation, Faisalabad.	041	9200268	9239377	9200277	0322-2228637
3	Raja Sohail Haider Executive Engineer (OP), Faisalabad Irrigation, Faisalabad.	041	9200270	9201140	9200277	0340-7159459
4	Canal Telegraph Office, Flood Emergency Center Irrigation Departt: Faisalabad.	041	9200774	-	-	-
5	Flood Warning Center Jail Road Lahore.	042	99205175 -58	7572091-93	99200209	--
6	Fazal Kareem Chief Engineer, D&F Zone, Lahore.	042	99230602	--	99230731	0321-9446844
7	Director Flood, D&F Zone Lahore	042	99231614	-	99230731	--
8	Flood Emergency Officer, I&P Secretariat, Lahore	042	9212134	5432545	9212132	-
9	Rashid Khan Superintending Engineer, Q.B. Link Circle, Farooqabad.	056	3874046	3876222	3876430	0300-4242838
10	Adnan Yousaf Executive Engineer, Qadirabad Barrage Division, Qadirabad Canal Colony Distt: Hafizabad.	054	7550190	7550198	7550198	0300-1030530
11	Canal Telegraph Office, Qadirabad Barrage Division.	054	7550490	-	-	0307-6291091 0323-6168137
12	Executive Engineer, Q.B. Link Division, Farooqabad.	056	3874045	-	-	0323-4398909
13	Executive Engineer, Marala Barrage Division, Marala.	052	3502102	3502102	3502121	0333-8161746
14	Telegraph Office, Marala.	052	3502102			--
15	Executive Engineer, Khanki Headworks Division, Khanki.	055	6266227	6266239	6266239	
16	Muhammad Sheraz Sub Divisional Officer, Headworks Sub Division, Qadirabad.	054	7550490	-	7550198	0322-5558044
17	Hammad Ahmed Mansha Sub Divisional Officer, C&W Sub Division, Qadirabad.	054	7550490	-	7550198	0307-0486594





18	Commissioner Gujranwala Division Gujranwala	055	9201240	-	3734000	--
19	DC Gujranwala.	055	9200052	9200024-25	9200043	--
20	DC Hafizabad.	054	7521784	7521075	7521075	--
21	DC.Gujrat.	053	9260010	9260011	9260009	--
22	District Police Officer, Gujrat	053	9260026	-	9260029	--
23	DC Mandi Baha-ud-Din.	0546	504220	506488	504100	--
24	City Police Officer, Gujranwala	055	9200606	9200603	9200605	--
25	District Police Officer, Mandi Baha-ud-Din.	0546	502324	505155	503068	--
26	District Police Officer, Hafizabad.	054	7521777	7521777	7523232	--
27	Army Flood Office, Gujranwala Cantt.	055	2692105	-	-	--
28	Chief Engineer / Advisor Federal Flood Commission, Islamabad.	051	9206589	9266059	9201805	--
29	Chief Engineer, Floods, Islamabad.	051	9201365	9202316	9221805	--
30	Director Flood/ Secretary Punjab Commission, Lahore.	042	9231614	6653943	35862081	--
31	Police Station, Ali Pur Chatha.	055	6332910	-	-	--
32	District Police Officer, Gujranwala	055	9200606	-	9200605	--



## EMERGENCY TELEPHONE NUMBERS

Sr. No	Name of Office	Phone #	Fax	Mobile
1	2	3	4	5
<b>RESCUE 1122</b>				
1	Gujranwala	055-9201385	9201389	0323-6343900 (Engr. Ayaz Aslam)
2	Hafizabad.	0547-526014	506013	0333-4175110 (Engr. Sibghat Ullah)
3	M.B. Din.	0546-509835-8	509837	0321-5141122 (Engr. Imran Khan)
4	Gujrat.	053-3536788	9260368	Umair Akbar GEG 0333-6517115
<b>Fire Brigade. (16)</b>				
5	Gujranwala	055-3861111	-	0300-7463199 Iqrar Hussain Hashmi
6	Hafizabad	0547-524196	-	
7	Gujrat	053-9260179		
8	M.B. Din	0546-587961	-	

<b>D.H.O</b>						
	Ali Pur	055	9200115	-	-	-
	Gujranwala	055	9200110	-	-	-
	Mandi Baha-u-din	054	6508820	-	-	-
	Hafizabad.	054	7540224	-	-	-
	<b>Bomb Disposal Hafizabad DO Civil Defense</b>	054				<b>Irfan Ali, 0300-7569538</b>
	<b>Grid Station (Alipur Chatha)</b>	055	6333614			
	<b>Local Police Station (Alipur)</b>	055	6332910			





**STANDARD OPERATING PROCEDURE (SOP) FOR BREACHING SECTION.**

**11.1 History of Breaching section.**

Qadirabad Barrage was constructed during year 1963-68. At that time there was no breaching section. After the flood of 1973 Federal flood Commission in its 55<sup>th</sup> Meeting held on 17-06-1974 approved the Breaching Section of Qadirabad Barrage, located between R.D. 7-9 of R.M.B. It has never been operated since its construction.

**11.2 Location, Design, Quantity and Variety for the Explosive required for detonation.**

- i) The site of breaching section is located between RD. 7+000 to 9+000 of Right Marginal Bund.
- ii) It has been designed in four section of 98 ft in length and 402 ft apart. Each section consists of 9 rows, six on top of bund, one on country side slope and two on river side slope. Each row contains 15 liners

Sr. #	Name / Nomenclature of explosive materials / Accessories	Unit	Required Quantity / Nos.	Available Quantity / Nos.	Deficient Quantity / Nos.	Remarks
1	Wabo Card lot No. 6A/1906-02	MTR	1000	0	1000	Request for additional explosive required for new lines has been made to concerned army authority.
2	PE 3A Lot No.07/04 of 05/04	KG	980	0	980	
3	Poll fix 2/3 fill water & Dry Sand	No.	5	5	0	
4	Shovel G/S MK 3/4	No.	1	1	0	
5	Axes Hand	No.	1	1	0	
6	Axes fitting	No.	1	1	0	
7	Pick 4 1/2 LBS complete	No.	1	1	0	
8	Bar crow with chisel point 5'-5"	No.	2	2	0	
9	Beater fire matel	No.	3	3	0	
10	Bucket Extinguisher 4 GLN capacity	No.	36	36	0	
11	Fire Extinguisher 4 GLN soda acid (Shabger)	No.	4	4	0	
12	Trolley mounted fire extinguisher foam type	No.	4	4	0	
13	Fiber glass helmet	No.	12	12	0	
14	Lodder fire 28/30 aluminum	No.	1	1	0	
15	Rubber long shoes	No.	3	3	0	
16	M-S Electric detonator	No.	120	0	120	



	(3.5)					
17	M-S Non Electric delay det (3.5)	No.	400	0	400	
18	Deto No. 8 ( Electric)	No.	140	0	140	
19	Deto No. 8 Plain (Non) Electric	No.	520	0	520	
20	PE-3A (450 Gras slab	KG	1130	0	1130	
21	Primer CE oz	No.	120	0	120	
22	Wabox 8% -25MM	KG	7200	0	7200	
23	Wabonite bulk	KG	4110	0	4110	
24	M-S Electric delay dets, 3M	No.	420	0	420	

  
 XEN QBD



11.3 **Arrangement of Explosives and Security of explosive stores.**

The Explosive Store Building is located along Right Bank of Q.B. Link R.D. 1-3 to store Explosive Materials required for operation of the Breaching Section in hour of need. Pre-flood and post flood survey board inspects the explosives every year. The unserviceable explosive is destroyed and fresh explosive is recouped as the recommendation of concerned army authorities.

11.4 **List of the security staff with detail of their training etc.**

Three No. ex-military men security guard has been deployed for security of explosive store.

11.5 **Detail of mechanical means as a standby arrangement in case of detonation failure.**

One No. Dozer from Agriculture Department Mandi Baha-ud-Din is engaged at the breaching section as a stand by arrangement in case of detonation failure.

11.6 **Duty Roster in case of critical situation.**

Independent Sub Divisional officer and Sub Engineer will be deputed at the breaching section.

11.7 **Breaching Committee with their action plan.**

**OPERATING COMMITTEE**

The committee will decide the operation of breaching section. The following are the members of this Committee Notification No. SO (FLOODS) VI-33/97. Dated 15-07-2015

- |    |  |   |          |
|----|--|---|----------|
| 1- | Deputy Commissioner, Mandi Baha-ud-Din   | : | Convener |
| 2. | Executive Engineer, Qadirabad Barrage.   | : | Member   |
| 3- | Representative of 30 Corps (Pak Army)<br>(Not Below Lt. Col.)                      | : | Member   |
| 4- | Representative of Highway Department<br>(Not below the rank of Executive Engineer) | : | Member   |

This committee will operate the breaching section if the safe limit discharges exceed i.e. 9.0 Lac Cs. or the critical gauge at RD. 15+000 LMB reach at level of 712.00 and river is in rising condition.





11.8 **List of the villages likely to be inundated in case of breaching at RD. 7+000 to 9+000.**

- |              |                    |
|--------------|--------------------|
| 1. Bahu.     | 2. Manga.          |
| 3. Murid.    | 4. Randiali.       |
| 5. Burjwali. | 6. Channi Ghullah. |

11.9 **Announcement and detail of evacuation arrangements.**

In case of emergency, the District Government is alert and issues warning regarding evacuation of villages through local announcement.

11.10 **Detail of coordination with Civil / Army authorities.**

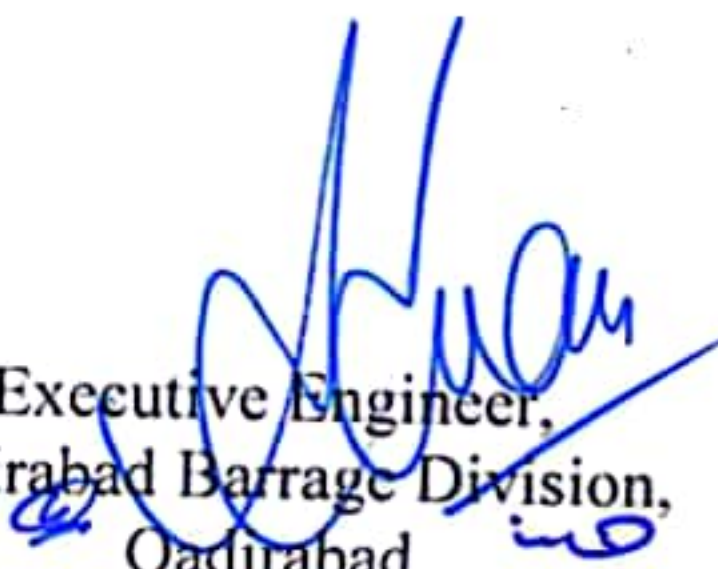
In case of high flood hourly flood gauges are passed to Civil as well as Army authorities. These three departments remain in touch through Telephone and wireless system.

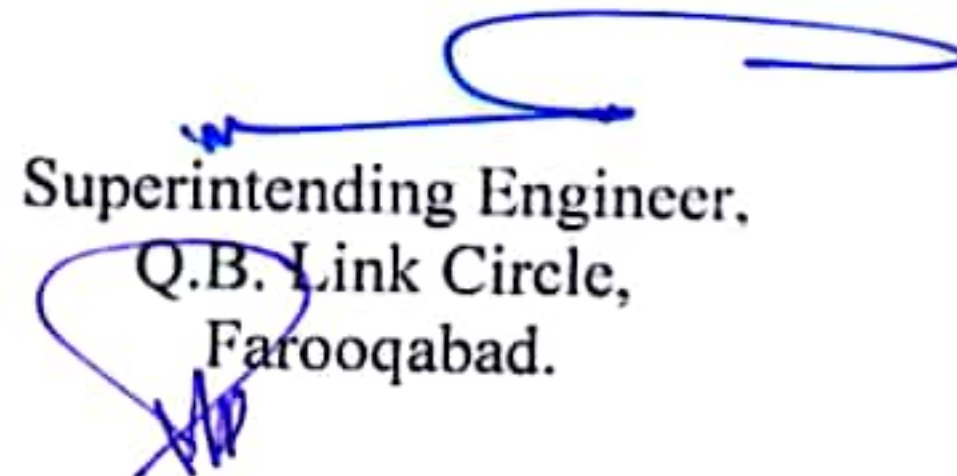
11.11 **Parallel Communication arrangements.**

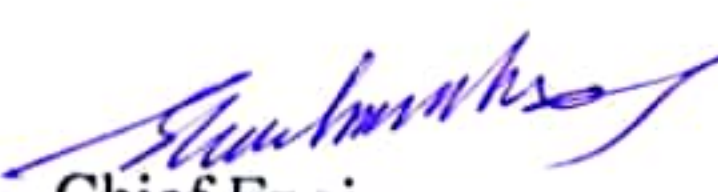
Telephone and wireless system are the parallel arrangements for communication.

11.12 **Index plan**

Index plan of breaching section is attached.

  
Executive Engineer,  
Qadirabad Barrage Division,  
Qadirabad

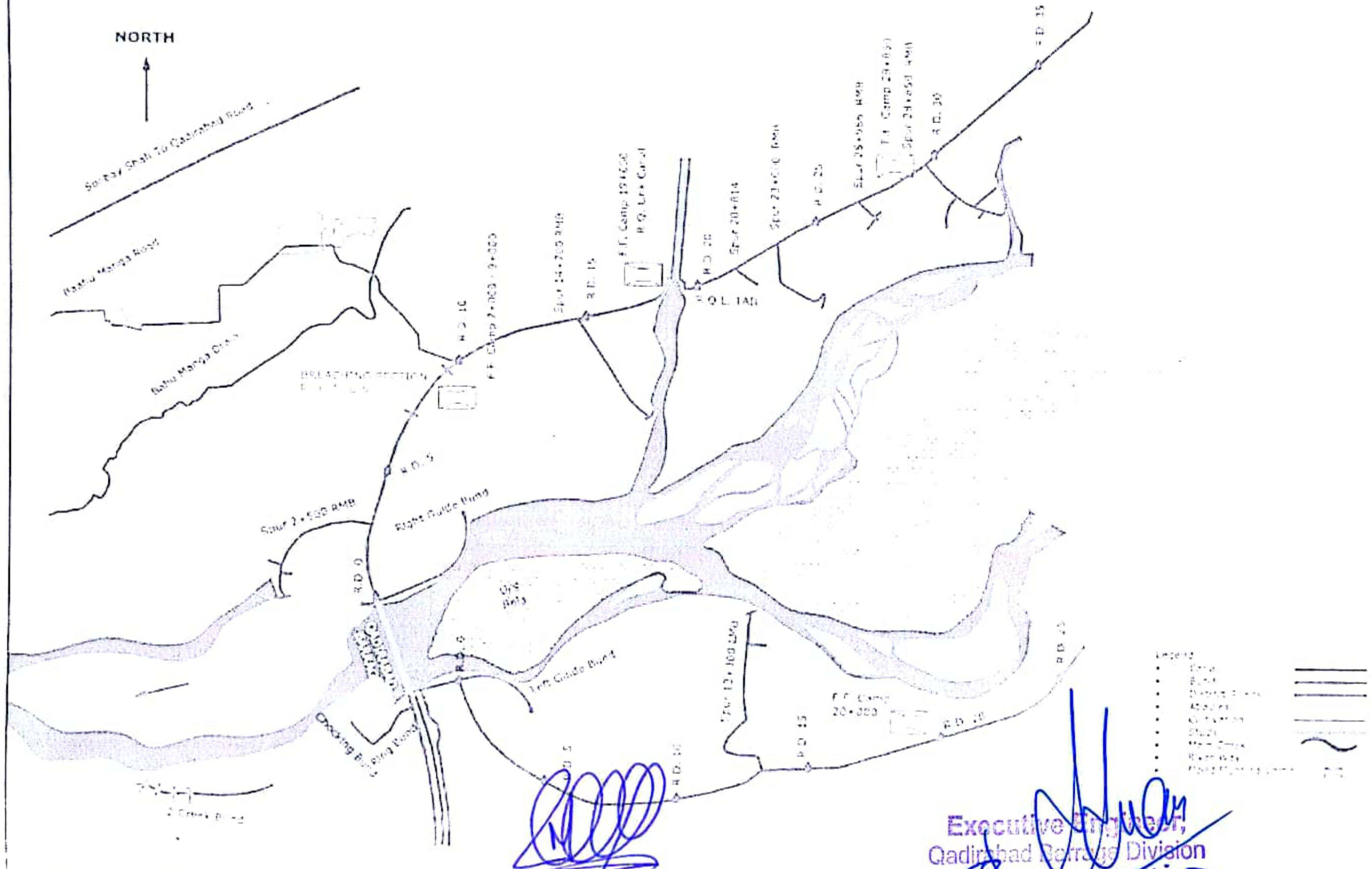
  
Superintending Engineer,  
Q.B. Link Circle,  
Farooqabad.

  
Chief Engineer,,  
Faisalabad Irrigation Zone,  
Faisalabad.



**PART PLAN OF BREACHING SECTION**

**R.D. 7+000 TO 9+000 RMB OF QADIRABAD BARRAGE**



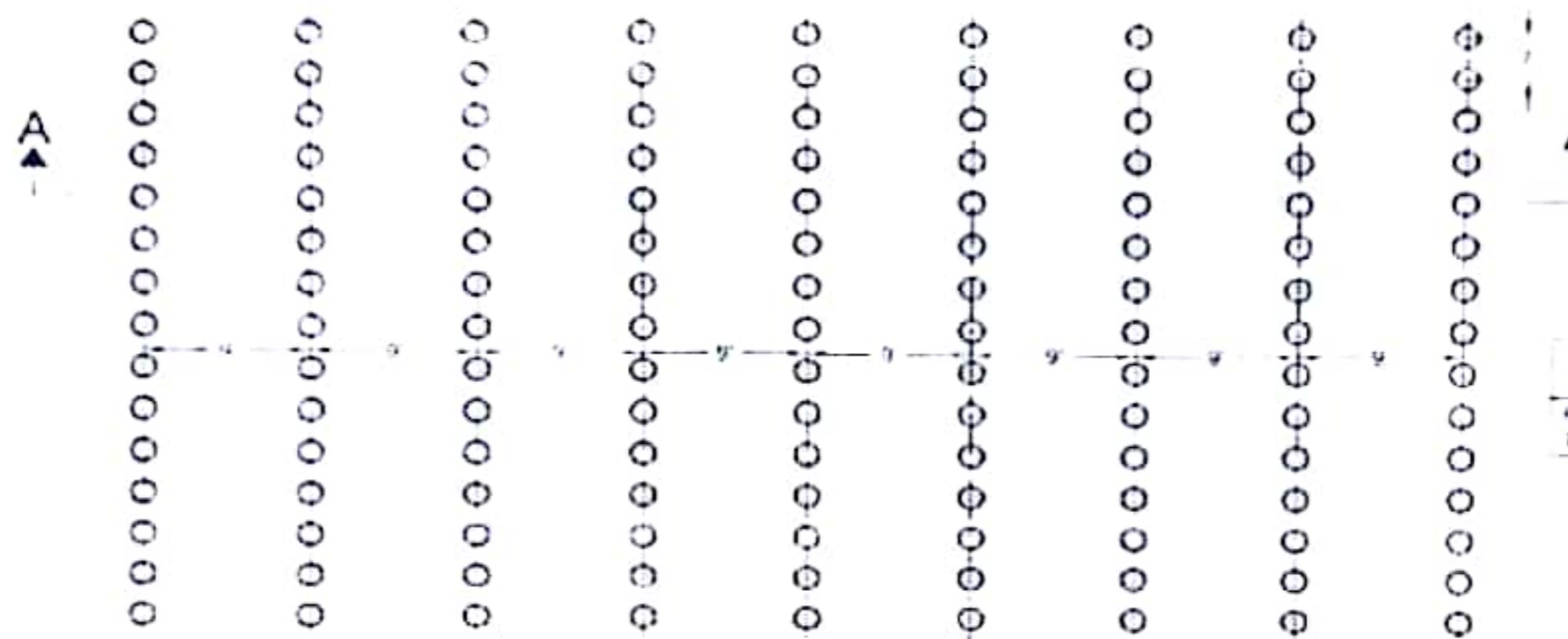
*[Handwritten Signature]*  
 S. S. E. H. H/W (M)

**Sub Divisional Officer**  
**Headworks Sub Division**  
**Qadirabad Colony**

**Executive Engineer,**  
**Qadirabad Barrage Division**  
**Qadirabad**



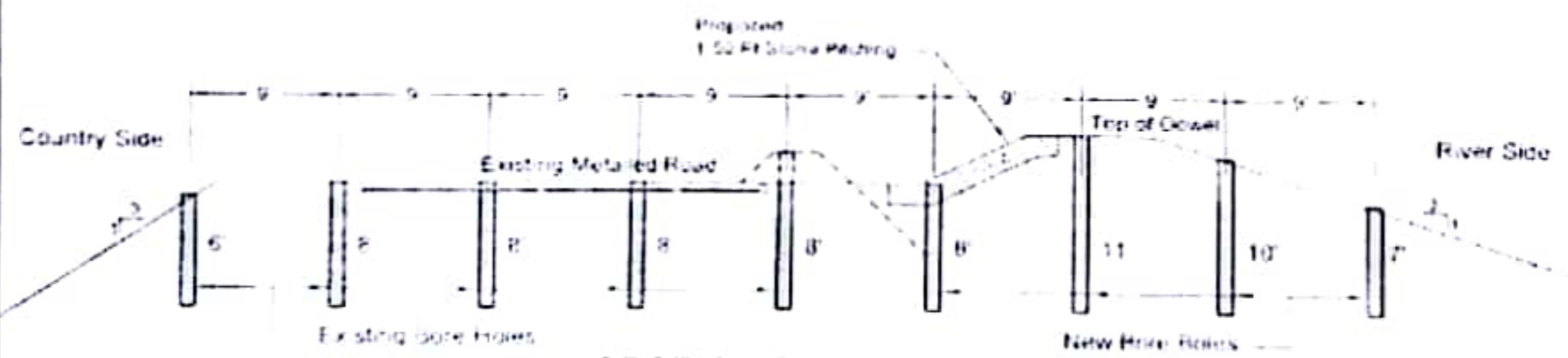
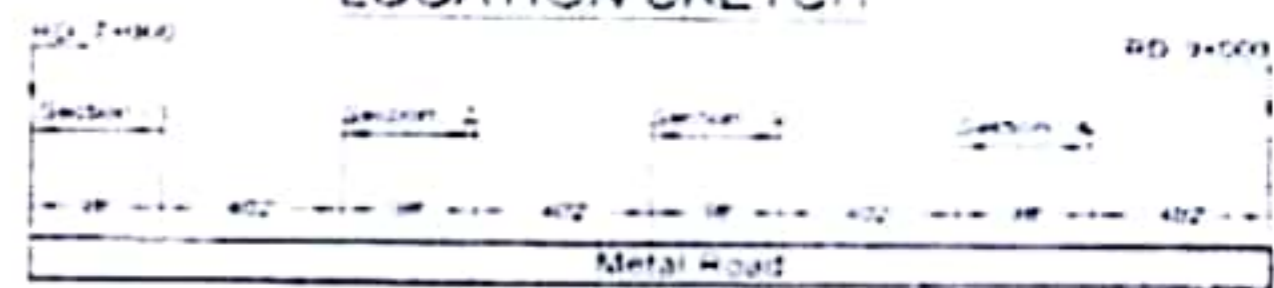
# BREACHING SECTION OF QADIRABAD AT RD. 7+000 TO 9+000 RMB



PLAN

LOCATION	LENGTH OF SECTION (FT)	WIDTH OF MARGINAL BUND (FT)	NO. OF HOLE ROWS	SOIL TYPE
Right Marginal Bund RD 7-9 (GRW - MB On Road)	2607	40	9	Sandy Soil

## LOCATION SKETCH



SECTION A-A

## SPACING OF HOLES

BETWEEN HOLES	10' 0" 1
BETWEEN ROWS	9' 0" 1
SIZE OF LINER	6" Dia

Project Manager  
PMIC DCRIP



Project Director Project Implementation Unit  
(PIU) Irrigation Department Punjab

Drawn	Checked	Approved	Scale
Yashwanth	Mahesh	Sub Divisional Officer	AS 1:1

*S. GEM H/W M*

*[Signature]*  
Sub Divisional Officer  
Headworks Sub Division  
Qadirabad Colony

*[Signature]*  
Executive Engineer  
Qadirabad Division  
Qadirabad



## PART "B"

### Chapter No. 12

#### VULNERABLE SITES ON FLOOD BUND / STRUCTURES.

##### 12.1 Apprehended Breaches in Flood Bunds / structures.

The following reaches are under direct hit of parallel flow that requires extra arrangement of watching and flood fighting material at the following sites:-

1) Right Marginal Bund.

RD. 27+000 to 31+000

Vulnerable village / settlements :

2) Left Marginal Bund.

RD. 13+000 to 25+000

3) Pindi Bhattain Flood Protection Bund.

RD. 30+000 to 50+000

##### 12.2 Operation of Breaching Section.

The breaching section will be operated if the safe limit discharge exceeds i.e. 9.0 Lac Cs or the critical gauge at RD. 15+000 LMB reaches at level of 712.00 and river in rising condition. The decision will be taken by the Breaching Committee as explained earlier vide chapter 11 at page 31.

##### 12.3 Breaches due to Rising of Flood Water, Deterioration of Flood Bunds etc.

The machinery will be deployed as per Flood Fighting Plan if the High, very High and exceptionally High Flood is forecasted by the Meteorological Department at the critical sites to avoid breaches due to rising of flood water and deterioration of flood bunds.





Chapter No. 13

EMERGENCY CONTINGENCY PLAN FOR VULNERABLE SITE NO. 1  
RD. 27+000 TO 31+000 RMB.

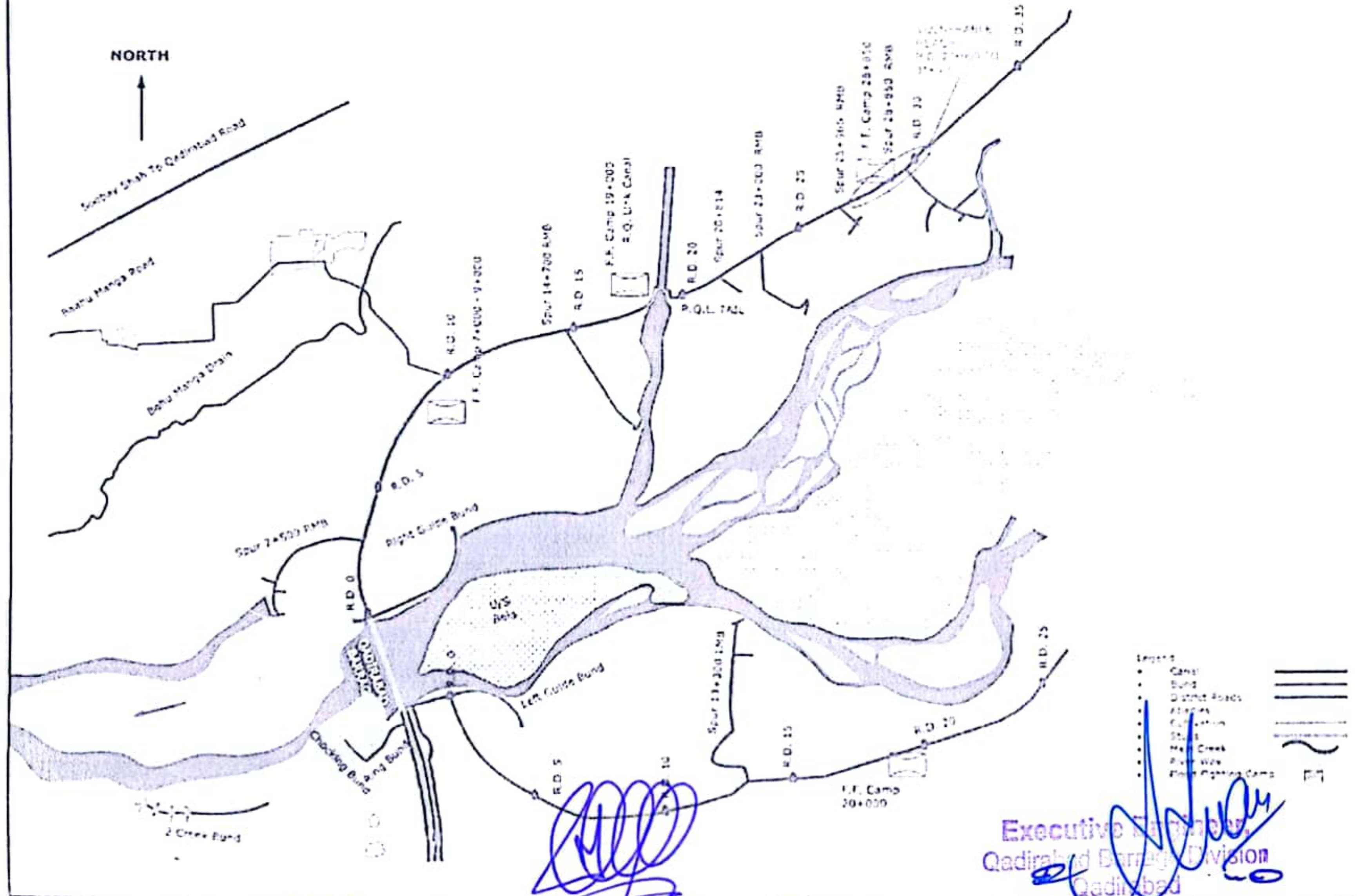
13.1 Plan showing route of Flood water coming out of the breach.

Plan showing route of Flood water coming out of the breach is attached at page No. 39.

A handwritten signature in blue ink is written over a purple rectangular stamp. The signature is stylized and appears to be 'A. D. S.' or similar. The stamp is mostly illegible but seems to contain some text.



**PART PLAN SHOWING FLOOD WATER ROUTE THROUGH EXPECTED BREACH R.D. 27+000 TO 31+000 RMB OF QADIRABAD BARRAGE. (SITE NO. 01)**



*MA SEN*  
*RMB-I*

**Sub-Divisional Officer**  
**Headworks Sub Division**  
**Qadirabad Colony**

**Executive Engineer,**  
**Qadirabad Barrage Division**  
**Qadirabad**



**13.2 Detail of villages abadies likely to be affected at RD. 27+000 to 31+000 RMB and this should also be shown on the plan.**

- |                     |                  |
|---------------------|------------------|
| 1. Channi           | 2. Channi Sanpal |
| 3. Thatha Kadaywala | 4. Jokolian      |
| 5. Sanpal           | 6. Ranmal Sharif |

**13.3 Strategy and action taken by explained in detail. This may include:-**

**13.3.1 Arrangements.**

Strategy and arrangement in case of any emergency during flood passing arrangements would be made if any damage occurs during flood.

**13.3.2 Establishment of Flood fighting Camps.**

There are 5 No. Camps sites at various places.  
Right Marginal Bund.

1. RD. 7+000 – 9+000,
2. RD.19+000,
3. RD. 28+850,
4. RD. 48+000
5. RD. 51+000.

**13.3.3 Duties of officers / officials and their camp sites.**

Camp No.	Location	Officer (Name + Designation + Mob No)	Official (Name + Designation + Mob No)
1	RD 7-9	Muhammad Sheraz SDO H/W (0322-5558044)	Muhammad Maaz Hanif Sub Engineer RMB-I (0303-9351514)
2	RD. 19	-do-	-do-
3	RD. 28+850	-do-	-do-
4	RD. 48+000	-do-	Ameer Hamza Sub Engineer RMB-II (0323-2187500)
5	RD. 51+000	-do-	-do-

**13.3.4 Departmental Machinery available.**

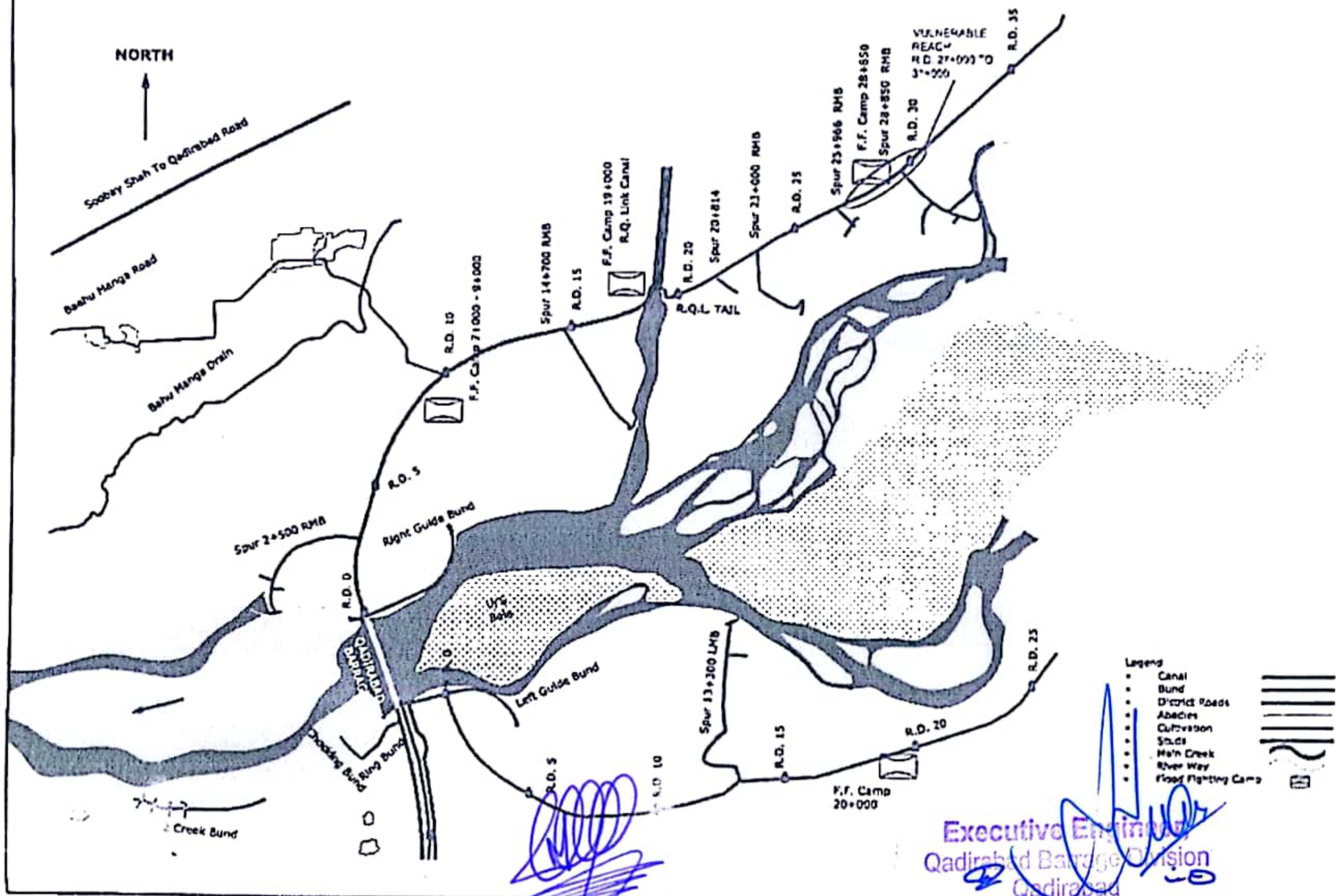
No departmental machinery is available at Qadirabad Barrage Division.

**13.3.5 Machinery available from Private Sources.**

Tractor Trollies and other machinery like Dozer, Excavator Machine etc are available with the local contractors who will arrange these on call in emergency for transportation of labour and material. The Civil Administration of Gujrat and Mandi Baha-ud-Din Districts will be asked to requisite transport for carriage of emergent material if not available from local sources in case of emergency.



**PART PLAN SHOWING FLOOD WATER ROUTE THROUGH EXPECTED BREACH R.D. 27+000 TO 31+000 RMB OF QADIRABAD BARRAGE. (SITE NO. 01)**



*MA SEN  
RMB-I*

**Sub Divisional Officer  
Headworks Sub Division  
Qadirabad Colony**

**Executive Engineer  
Qadirabad Barrage Division  
Qadirabad**



13.3.6

**Flood Fighting Material required for Site No. 1 at RD. 27+000 to 31+000 RMB.**

Sr. No.	Items	Quantity Required
1	Chargeable Torches	8 Nos.
2	Baskets	-
4	E.G. Bags	-
5	Sutli.	-
6	Needles	-
7	Kassi with Handles.	-
8	Axes.	-
9	Handle for Kassi /Axes.	10 Nos.
10	Buckets	-
11	Hand Saws.	-
12	Chouldaries Tent	-
13	Manila Rope	-
14	Umbrella.	-
15	Rain Coats.	-
16	Generator 2000 Watt.	1 No.
17	Petrol	100 Ltr
18	M. Oil	2 Ltr
19	Wires 7/0.29	27 ft
20	Wooden Boards. 10 x 12	-
21	Switch / Plugs.	4 Nos.
22	LED Energy Savers. (25 Watt)	1 No





**Flood Fighting Material available at Site No. 1 at RD. 27+000 to 31+000 RMB.**

Sr. No.	Items	Unit	Required QTY	Quantity Available	Balance	Remarks
1	Chargeable Torches	No.	8	12	-	
2	Baskets	No.	-	25.	-	
4	E.G. Bags	No.	-	50	-	
5	Sutli.	Kg.	-	1	-	
6	Needles	No.	-	6	-	
7	Kassi with Handles.	No.	-	10	-	
8	Axes.	No.	-	1	-	
9	Handle for Kassi /Axes.	No.	10	10	-	
10	Buckets	No.	-	4	-	
11	Hand Saws.	No.	-	1	-	
12	Chouldaries Tent	No.	-	1	-	
13	Manila Rope	Kg.	-	50	-	
14	Umbrella.	Nos.	-	2	-	
15	Rain Coats.	Nos.	-	2	-	
16	Generator 2000 Watt.	No.	1	1	-	
17	Petrol	Ltr	100	100	-	
18	M. Oil	Ltr	2	2	-	
19	Wires 7/0.29	ft	27	150	-	
20	Wooden Boards. 10 x 12	No.	-	1	-	
21	Switch / Plugs.	No.	4	6	-	
22	LED Energy Savers. (25 Watt)	No.	1	4	-	



**EMERGENCY CONTINGENCY PLAN FOR VULNERABLE SITE NO. 2**  
**RD. 13+000 TO 25+000 LMB.**

13.1            **Plan showing route of Flood water coming out of the breach.**

Plan showing route of Flood water coming out of the breach is attached at page No.46.

A handwritten signature in blue ink is written over a purple rectangular stamp. The signature is stylized and appears to be 'J. D. S.'. The stamp is partially obscured by the signature.



13.2 **Detail of villages abadies likely to be affected and this should also be shown on the plan.**

- |                              |                             |
|------------------------------|-----------------------------|
| 1. Noor Pur (RD. 13-25)      | 2. Marajke (RD. 13-25)      |
| 3. Kot Hara (RD. 13-25)      | 4. Burj Tasha (RD. 13-25)   |
| 5. Thatha Shamsa (RD. 13-25) | 6. Rukh Kalan (RD. 45-50)   |
| 7. Burj Chatha (RD. 45-50)   | 8. Saloki Chatha (RD 45-50) |

13.3 **Strategy and action taken by explained in detail. This may include:-**

13.3.1 **Arrangements.**

Strategy and arrangement in case of any emergency during flood passing arrangements would be made if any damage occurs during flood.

13.3.2 **Establishment of Flood fighting Camps.**

There are two No camps sights at

Left Marginal Bund

1. RD. 20+000
2. RD. 45+500

13.3.3 **Duties of officers / officials and their camp sites.**

Camp No.	Location	Officer (Name + Designation + Mob No)	Official (Name + Designation + Mob No)
1	RD 20+000	Muhammad Sheraz SDO H/W (0322-5558044)	Khurram Rafiqui, Sub Engineer LMB Mob:0300-6297612
2	RD. 45+500	-do-	-do-

13.3.4 **Departmental Machinery available.**

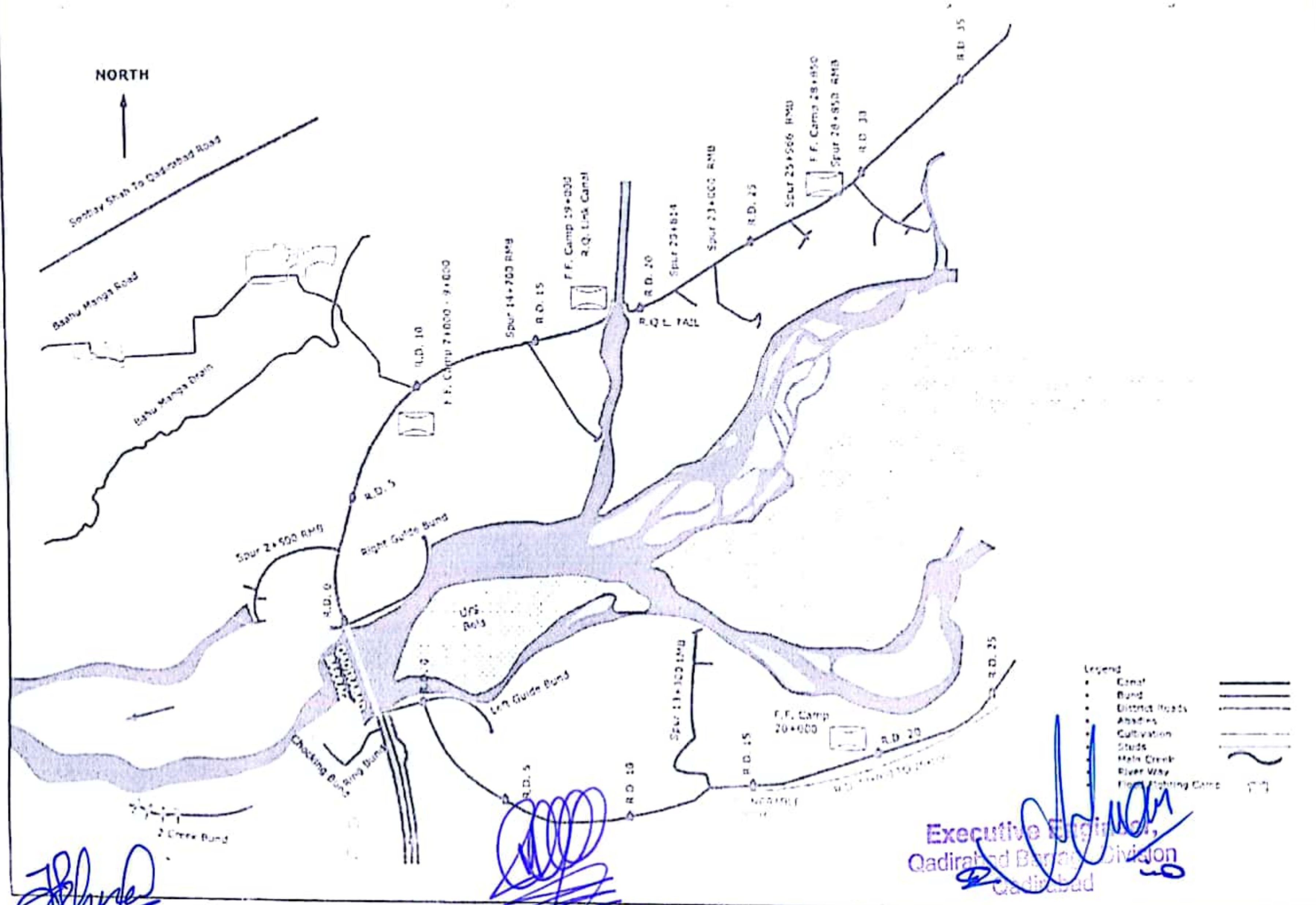
No departmental machinery is available at Qadirabad Barrage Division.

13.3.5 **Machinery available from Private Sources.**

Tractor Trolleys and other machinery like Dozer, Excavator Machine etc are available with the local contractors who will arrange these on call in emergency for transportation of labour and material. The machinery will be deployed as per plan attached as Annexure-A. The Civil Administration of Gujranwala Districts will be asked to requisite transport for carriage of emergent material if not available for local sources in case of emergency.



**PART PLAN SHOWING FLOOD WATER ROUTE THROUGH EXPECTED BREACH R.D.  
13+000 TO 25+000 LMB OF QADIRABAD BARRAGE. (SITE NO. 02)**



*[Handwritten Signature]*  
UMB

**Sub Divisional Officer  
Headworks Sub Division  
Qadirabad Colony**

**Executive Engineer,  
Qadirabad Barrage Division  
Qadirabad**



13.3.6

**Flood Fighting Material required for Excepted Site No. 2 at RD.  
13+000 to 25+000 LMB.**

Sr. No.	Items	Quantity Required
1	Chargeable Torches	8 Nos.
2	Baskets	-
4	E.G. Bags	-
5	Sutli.	-
6	Needles	-
7	Kassi with Handles.	-
8	Axes.	-
9	Handle for Kassi /Axes.	10 Nos.
10	Buckets	-
11	Hand Saws.	-
12	Chouldaries Tent	-
13	Manila Rope	-
14	Umbrella.	-
15	Rain Coats.	-
16	Generator 2000 Watt.	1 No.
17	Petrol	100 Ltr
18	M. Oil	2 Ltr
19	Wires 7/0.29	27 ft
20	Wooden Boards. 10 x 12	-
21	Switch / Plugs.	4 Nos.
22	LED Energy Savers. (25 Watt)	1 No.





13.3.7

**Flood Fighting Material available at Excepted Site No. 2 at RD.  
13+000 to 25+000 LMB.**

Sr. No.	Items	Unit	Required QTY	Quantity Available	Balance	Remarks
1	Chargeable Torches	No.	8	12	-	
2	Baskets	No.	-	25.	-	
4	E.G. Bags	No.	-	50	-	
5	Sutli.	Kg.	-	1	-	
6	Needles	No.	-	6	-	
7	Kassi with Handles.	No.	-	10	-	
8	Axes.	No.	-	1	-	
9	Handle for Kassi /Axes.	No.	10	10	-	
10	Buckets	No.	-	4	-	
11	Hand Saws.	No.	-	1	-	
12	Chouldaries Tent	No.	-	1	-	
13	Manila Rope	Kg.	-	50	-	
14	Umbrella.	Nos.	-	2	-	
15	Rain Coats.	Nos.	-	2	-	
16	Generator 2000 Watt.	No.	1	1	-	
17	Petrol	Ltr	100	100	-	
18	M. Oil	Ltr	2	2	-	
19	Wires 7/0.29	ft	27	150	-	
20	Wooden Boards. 10 x 12	No.	-	1	-	
21	Switch / Plugs.	No.	4	6	-	
22	LED Energy Savers. (25 Watt)	No.	1	4	-	





**EMERGENCY CONTINGENCY PLAN FOR VULNERABLE SITE NO. 3  
RD. 30+000 TO 50+000 OF PINDI BHATTIAN FLOOD PROTECTION  
BUND.**

**13.1 Plan showing route of flood water coming out of the breach.**

Plan showing route of flood water coming out of the breach is attached at page No. 51.

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13.2 **Detail of villages abadies likely to be affected and this should also be shown on the plan.**

- |                                  |                                |
|----------------------------------|--------------------------------|
| 1. Jalalpur Bhattian (RD. 75-80) | 2. Tahli Gorya (RD. 46-49)     |
| 3. Chodho Ahmed Yar (RD. 32-33)  | 4. Sadho key (65-69)           |
| 5 Thatha Asalat (RD. 34-44)      | 6. Chodho Khuda yar (RD 28-30) |
| 7. Bhattain Wala (RD. 50-55)     | 8. Dera Cheema (RD. 21-18)     |

**BACK WAY OF FLOOD WATER.**

1. Inlet RD. 33+000 to 34+000
- 2- // RD. 39+460
- 3- // RD. 42+000
- 4- // RD. 49+090
- 5- // RD. 56+000.

13.3 **Strategy and action taken by explained in detail. This may include:-**

13.3.1 **Arrangements.**

Strategy and arrangement in case of any emergency during flood passing arrangements would be made if any damage occurs during flood.

13.3.2 **Establishment of Flood fighting Camps.**

There are two No camps sites at

RD. 45+000 (Talhi Goraya) and RD. 74+650 (Jalalpur Bhattain)

13.3.3 **Duties of officers / officials and their camp sites.**

Camp No.	Location	Officer (Name + Designation + Mob No)	Official (Name + Designation + Mob No)
1	RD 45+000	Hamad Ahmed Mansha SDO C&W (0307-0486594)	Talat Javed, Sub Engineer 0302-9662189
2	RD. 74+650	-do-	-do-







13.3.4 **Departmental Machinery available.**

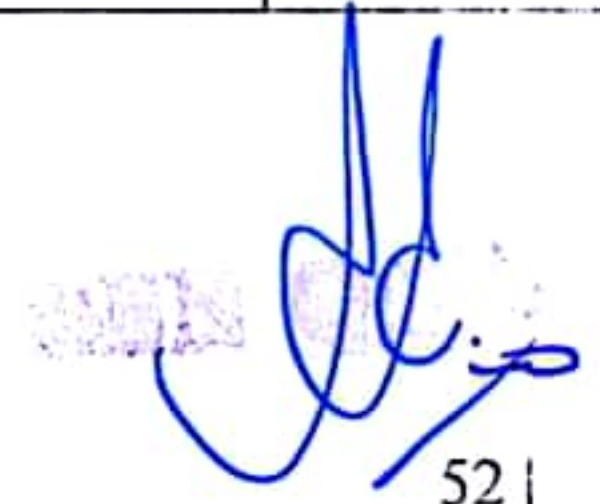
No departmental machinery is available at Qadirabad Barrage Division.

13.3.5 **Machinery available from Private Sources.**

Tractor Trolleys and other machinery like Dozer, Excavator Machine etc are available with the local contractors who will arrange these on call in emergency for transportation of labour and material. The machinery will be deployed as per plan attached at page No. 60-62. The Civil Administration of Hafizabad Districts will be asked to requisite transport for carriage of emergent material if not available for local sources in case of emergency.

13.3.6 **Flood Fighting Material required for Site No. 3 RD. 30+000 to 50+000 of Pindi Bhattian Flood Protection Bund.**

Sr. No.	Items	Quantity Required
1	Chargeable Torches	8 Nos.
2	Baskets	-
4	E.G. Bags	-
5	Sutli.	-
6	Needles	-
7	Kassi with Handles.	-
8	Axes.	-
9	Handle for Kassi /Axes.	10 Nos.
10	Buckets	-
11	Hand Saws.	-
12	Chouldaries Tent	-
13	Manila Rope	-
14	Umbrella.	-
15	Rain Coats.	-
16	Generator 2000 Watt.	1 No.
17	Petrol	100 Ltr
18	M. Oil	2 Ltr
19	Wires 7/0.29	27 ft
20	Wooden Boards. 10 x 12	-
21	Switch / Plugs.	4 Nos.
22	LED Energy Savers. (25 Watt)	1 No.





13.3.7

**Flood Fighting Material available at Site No. 3 RD. 30+000 to 50+000 of Pindi Bhattian Flood Protection Bund.**

Sr. No.	Items	Unit	Required QTY	Quantity Available	Balance	Remarks
1	Chargeable Torches	No.	8	12	-	
2	Baskets	No.	-	25.	-	
4	E.G. Bags	No.	-	50	-	
5	Sutli.	Kg.	-	1	-	
6	Needles	No.	-	6	-	
7	Kassi with Handles.	No.	-	10	-	
8	Axes.	No.	-	1	-	
9	Handle for Kassi /Axes.	No.	10	10	-	
10	Buckets	No.	-	4	-	
11	Hand Saws.	No.	-	1	-	
12	Chouldaries Tent	No.	-	1	-	
13	Manila Rope	Kg.	-	50	-	
14	Umbrella.	Nos.	-	2	-	
15	Rain Coats.	Nos.	-	2	-	
16	Generator 2000 Watt.	No.	1	1	-	
17	Petrol	Ltr	100	100	-	
18	M. Oil	Ltr	2	2	-	
19	Wires 7/0.29	ft	27	150	-	
20	Wooden Boards. 10 x 12	No.	-	1	-	
21	Switch / Plugs.	No.	4	6	-	
22	LED Energy Savers. (25 Watt)	No.	1	4	-	

13.4

**Detail of other infrastructure like Electric, Sui Gas, Telephone Installation, Road Network, Other Building, Canals and drainage network.**

There are no infrastructures like electric, Sui Gas, Telephone installation, Roads, Building, Canal etc on downstream of Breaching section.



## CHAPTER – 14

### 14.1 RESHUFFLING / RECOUPING PLAN OF RESERVE STOCK OF STONE DEPARTMENTALLY.

The reserve stock of stone for Qadirabad Barrage is available at site / camps.

The sufficient quantity of stone at available at sites.

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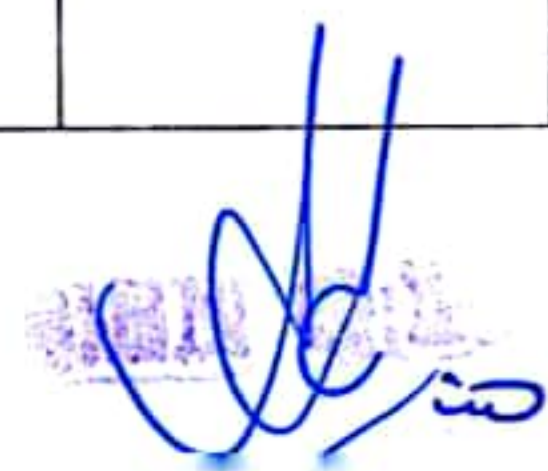
**QADIRABAD BARRAGE DIVISION QADIRABAD****14.2 Information About Inlet / Outlet Crossing is Flood Embankments of Qadirabad Barrage During flood 2023**

Sr. No.	Name of Embankment	Location of Crossing /outlet	Discharge capacity (Cs)	Methodology applied for crossing during flood	Detail of crossing /outlet such B.C be the type of construction	Watching done during Flood
1	Right Marginal Bund	R.D 42+500	34	Controlled by Gates and earth filling in bags	Gated Control	Being Closed By using earth filled bags
2		R.D 43+759	34	Controlled by Gates and earth filling in bags	Gated Control	Being Closed By using earth filled bags
3		R.D 45+750	34	Controlled by Gates and earth filling in bags	Gated Control	Being Closed By using earth filled bags
4		R.D 51+500	34	Controlled by Gates and earth filling in bags	Gated Control	Being Closed By using earth filled bags
5		R.D 56+218	34	Controlled by Gates and earth filling in bags	Gated Control	Being Closed By using earth filled bags
6		R.D 64+258	34	Controlled by Gates and earth filling in bags	Gated Control	Being Closed By using earth filled bags
7		R.D 66+860	34	Controlled by Gates and earth filling in bags	Gated Control	Being Closed By using earth filled bags





8		R.D 67+500	34	Controlled by Gates and earth filling in bags	Gated Control	Being Closed By using earth filled bags
9		R.D 73+600	34	Controlled by Gates and earth filling in bags	Gated Control	Being Closed By using earth filled bags
10		R.D 82+100	34	Controlled by Gates and earth filling in bags	Gated Control	Being Closed By using earth filled bags
11		R.D 88+200	34	Controlled by Gates and earth filling in bags	Gated Control	Being Closed By using earth filled bags
12		R.D94+770	34	Controlled by Gates and earth filling in bags	Gated Control	Being Closed By using earth filled bags
	<b>Left Marginal Bund</b>					
13		R.D 26+125	34	Controlled by Gates and earth filling in bags	Gated Control	Being Closed By using earth filled bags
14		R.D 33+542	35	Closed	Closed	Closed
15		R.D 40+241	34	Controlled by Gates and earth filling in bags	Gated Control	Being Closed By using earth filled bags
16		R.D 45+294	34	Controlled by Gates and earth filling in bags	Gated Control	Being Closed By using earth filled bags
17		R.D 50+938	34	Controlled by Gates and earth filling in bags	Gated Control	Being Closed By using earth filled bags
18		R.D 59+381	34	Controlled by Gates and earth filling in bags	Gated Control	Being Closed By using earth filled bags





1	Pindi Bhattian Flood Bund	RD. 33+600	7	238	Gated Control	Being Closed By using earth filled bags
2		RD. 39+460	1	34	Gated Control	-do-
3		RD. 49+090	2	68	Gated Control	-do-
4		RD. 56+095	1	34	Gated Control	-do-
5		RD. 71+555	1	34	Gated Control	-do-
6		RD. 76+000	7	238	Gated Control	-do-
7		RD. 102+560	3	102	Gated Control	-do-
9		RD. 112+900	1	34	Gated Control	-do-
10		RD. 124+700	3	102	Gated Control	-do-
11		RD. 126+000	1	34	Gated Control	-do-





## QADIRABAD BARRAGE DIVISION.

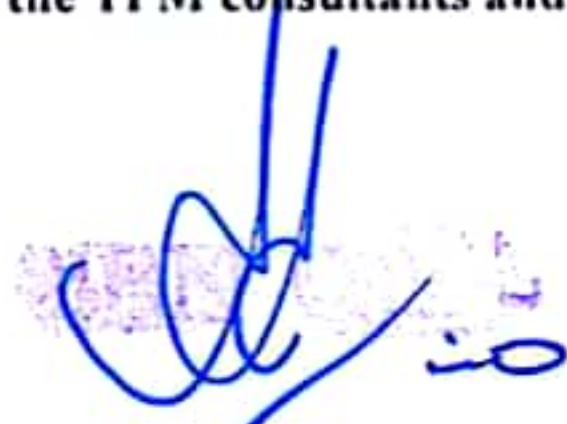
ACTION PLAN DURING FLOOD 2023 ON RIVER CHENAB

MEDIUM TO HIGH STAGE IN FAISALABAD ZONE

### 14.3 INFORMATION REGARDING DEPLOYMENT OF MACHINERY AT FLOOD EMBANKMENTS / BARRAGE DURING FLOODS 2023

Sr. No	Name of Structure	Length (In Mile)	Vulnerabl e Reach	Camp Locatio n	Site Incharge by Name & Cell No.	Machinery and Labour to be deployed						Availibility of Stone (Lac Cft)
						Excavator	Dozer	Front Blade Tractors	Dump Trucks	Tractor Trolleys	Labour (Beldar + Mate)	
1	Left Marginal Bund, Qadirabad Barrage.	12.99	RD.13-25	RD. 20+000	Muhammad Sheraz, SDO Headworks Sub Division 0322-5558044	1	0	1	0	4	12	2.50
2	Right Marginal Bund, Qadirabad Barrage.	21.26	RD. 7-9	RD. 8+000	Ameer Hamza Sub Engineer EMB-II 0320-2187500	1	1	1	0	4	12	1.77
			RD. 48-55	RD. 51+000	Khurram Rafiqui Sub Engineer LMB 0300-6297612	1	0	1	0	4	12	1.00
3	2 Creeks D/S Qadirabad Barrage.	0.62	RD. 0-3	RD. 2+000	Irshad Ahmed Shad Sub Engineer H/W Civil 0333-4318779	1	0	1	0	4	12	0
4	Pindi Bhattian Flood Protection Bund.	11.21	RD. 30-50	RD. 45+000	Hamad Ahmed Mansha SDO C&W Sub Division 0307-0486594	1	0	1	0	4	12	0
<b>Total:-</b>						<b>5</b>		<b>5</b>	<b>-</b>	<b>20</b>	<b>60</b>	<b>5.27</b>

The machinery and labour shall be procured subject to verification of the TPM consultants and as per Departmental policy.





## QADIRABAD BARRAGE DIVISION.

### ACTION PLAN DURING FLOOD 2023 ON RIVER CHENAB

#### HIGH TO VERY HIGH STAGE IN FAISALABAD ZONE

#### 14.4 INFORMATION REGARDING DEPLOYMENT OF MACHINERY AT FLOOD EMBANKMENTS / BARRAGE DURING FLOODS 2023

Sr. No.	Name of Structure	Length (In Mile)	Vulnerable Reach	Camp Location	Site Incharge by Name & Cell No.	Machinery and Labour to be deployed						Availability of Stone (Lac Cft)
						Excavator	Dozer	Front Blade Tractors	Dump Trucks	Tractor Trolleys	Labour (Beldar + Mate)	
1	Left Marginal Bund, Qadirabad Barrage.	12.99	RD.13-25	RD. 20+000	Muhammad Sheraz, SDO Headworks Sub Division 0322-5558044	2	0	2	0	8	24	2.50
2	Right Marginal Bund, Qadirabad Barrage.	21.26	RD. 7-9	RD. 8+000	Ameer Hamza Sub Engineer EMB-II 0320-2187500	1	1	1	0	4	24	1.77
			RD. 48-55	RD. 51+000	Khurram Rafiqui Sub Engineer LMB 0300-6297612	2	0	2	0	8	24	1.00
3	2 Creeks D/S Qadirabad Barrage.	0.62	RD. 0-3	RD. 2+000	Irshad Ahmed Shad Sub Engineer H/W Civil 0333-4318779	1	0	1	0	4	24	0
4	Pindi Bhattian Flood Protection Bund.	11.21	RD. 30-50	RD. 45+000	Hamad Ahmed Mansha Sub Divisional Officer C&W Sub Division 0307-0486594	2	0	2	0	8	24	0
<b>Total:-</b>						<b>8</b>		<b>8</b>	<b>-</b>	<b>32</b>	<b>120</b>	<b>5.27</b>

The machinery and labour shall be procured subject to verification of the TPM consultants and as per Departmental policy.





## QADIRABAD BARRAGE DIVISION.

### ACTION PLAN DURING FLOOD 2023 ON RIVER CHENAB

#### VERY HIGH TO EXCEPTIONALLY HIGH STAGE IN FAISALABAD ZONE

#### 14.5 INFORMATION REGARDING DEPLOYMENT OF MACHINERY AT FLOOD EMBANKMENTS / BARRAGE DURING FLOODS 2023

Sr. No.	Name of Structure	Length (In Mile)	Vulnerable Reach	Camp Location	Site Incharge by Name & Cell No.	Machinery and Labour to be deployed						Availability of Stone (Lac Cft)
						Excavator	Dozer	Front Blade Tractors	Dump Trucks	Tractor Trolleys	Labour (Beldar + Mate)	
1	Left Marginal Bund, Qadirabad Barrage.	12.99	RD.13-25	RD. 20+000	Muhammad Sheraz, Sub Divisional Officer, Headworks Sub Division 0322-5558044	2	0	2	0	8	30	2.50
2	Right Marginal Bund, Qadirabad Barrage.	21.26	RD. 7-9	RD. 8+000	Ameer Hamza Sub Engineer EMB-II 0320-2187500	1	1	1	0	4	30	1.77
			RD. 48-55	RD. 51+000	Khurram Rafiqui Sub Engineer LMB 0300-6297612	2	0	2	0	8	30	1.00
3	2 Creeks D/S Qadirabad Barrage.	0.62	RD. 0-3	RD. 2+000	Irshad Ahmed Shad Sub Engineer H/W Civil 0333-4318779	1	0	1	0	4	24	0
4	Pindi Bhattian Flood Protection Bund.	11.21	RD. 30-50	RD. 45+000	Hamad Ahmed Mansha Sub Divisional Officer C&W Sub Division 0307-0486594	2	0	2	0	8	30	0
<b>Total:-</b>						<b>8</b>		<b>8</b>	<b>-</b>	<b>32</b>	<b>144</b>	<b>5.27</b>

The machinery and labour shall be procured subject to verification of the TPM consultants and as per Departmental policy.

  
 60



**14.6 POLICE DEPLOYMENT PLAN**  
**QADIRABAD BARRAGE DIVISION, QADIRABAD**

**Performa-1**

Sr.	Site of Breaching section	Concerned Canal Division	Concerned Police station & District	Police personal to be deployed		Remarks (if any)
				Inspector / S.I / A.S.I	Constables	
1	RD. 7+000 - 9+000 of RMB	Qadirabad Barrage Division	Ranmal Sharif, M.B. Din	Sub Inspector = 01 Nos.	6 Nos.	

**Performa-2**

Sr.	Vulnerable sites used for illegal cuts during floods	Concerned Canal Division	Concerned Police station & District	Police personal to be deployed		Remarks (if any)
				Inspector / S.I / A.S.I	Constables	
1	RD. 20+000 to 48+000 of Q.B. Link Canal	Qadirabad Barrage Division	Vanike Tarar, Hafizabad	Sub Inspector = 02 Nos.	8 Nos.	
2	Pindi Bhattian Flood Bund RD. 18+600 to 74+650	Qadirabad Barrage Division	Pindi Bhattian, Hafizabad	Sub Inspector = 02 Nos.	8 Nos.	

**Performa-3**

Sr.	Name of Barrage	Concerned Canal Division	Concerned Police station & District	Police personal to be deployed		Remarks (if any)
				Inspector / S.I / A.S.I	Constables	
1	Qadirabad Barrage	Qadirabad Barrage Division	Alipur Chatha, Gujranwala	Sub Inspector = 02 Nos.	8 Nos.	

4-

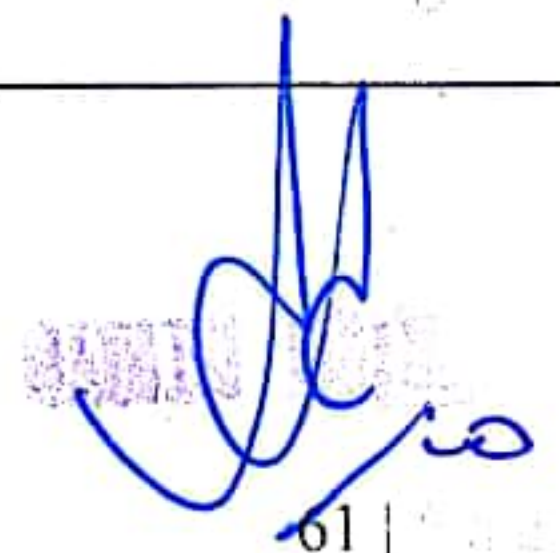
Traffic police if required for smooth traffic flow at Barrage during flood. (add required detail)

04 Nos. Traffic Police constables will be required during flood.

5-

Any other suggestions.

NIL

  
 61



**PROVISION OF ADDITIONAL FLOOD FIGHTING MATERIAL**  
**QADIRABAD BARRAGE DIVISION**

**14.7 SYNTHETIC BAGS WITH CAPACITY OF 500 KG**

**a. LEFT MARGINAL BUND**

Sr. No.	Site	Total Bags Required	Total Bag Available	Balance Required
1	Vulnerable site RD 13000 to 25000	300	100	200

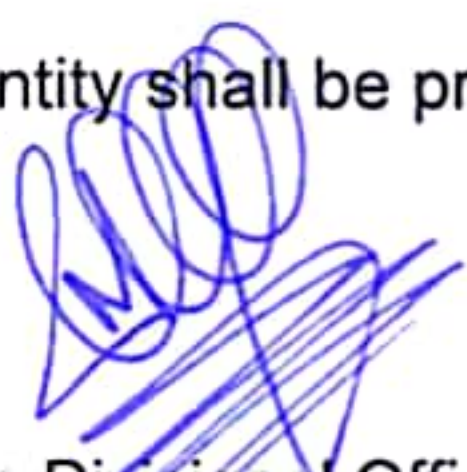
**b. RIGHT MARGINAL BUND**


Sr. No.	Site	Total Bags Required	Total Bag Available	Balance Required
1	Vulnerable site RD 20000 to 28000	200	125	75
2	Vulnerable site RD 51000 to 62000	200	150	50

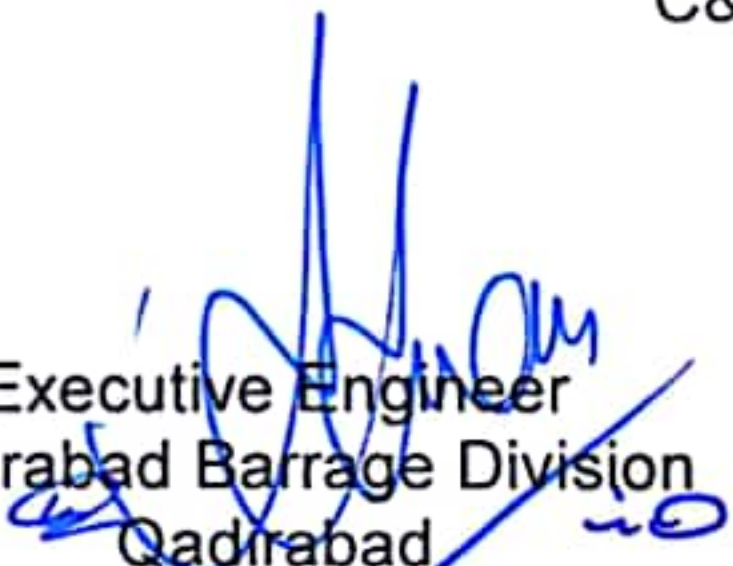
**c. PINDI BHATIAN FLOOD PROTECTION BUND**

Sr. No.	Site	Total Bags Required	Total Bag Available	Balance Required
1	Vulnerable site RD 47700 to 74600	300	220	80

Balance quantity shall be procured before flood season 2023.

  
Sub Divisional Officer,  
Headworks Sub Division,  
Qadirabad Barrage.

  
Sub Divisional Officer,  
C&W Sub Division,  
Qadirabad

  
Executive Engineer  
Qadirabad Barrage Division  
Qadirabad



**PROVISION OF ADDITIONAL FLOOD FIGHTING MATERIAL**  
**QADIRABAD BARRAGE DIVISION**

**14.8 PLASTIC SHEET**

**a. LEFT MARGINAL BUND**

Sr. No.	Site	Total Plastic Sheet Required	Total Plastic Sheet Available	Balance Required
1	RD. 13000 TO 20000 (7000 x 20)	140,000 Sft	Nil	140,000 Sft

**b. RIGHT MARGINAL BUND**


Sr. No.	Site	Total Plastic Sheet Required	Total Plastic Sheet Available	Balance Required
1	RD. 25000 to 28000: (3000 x 20)	60,000 Sft	Nil	60,000 Sft
2	RD. 51000 to 56000: (5000 x 20)	100,000 Sft	Nil	100,000 Sft
3	RD. 95000 to 106000: (11000 x 20)	220,000 Sft	Nil	220,000 Sft


**c. PINDI BHATIAN FLOOD PROTECTION BUND**

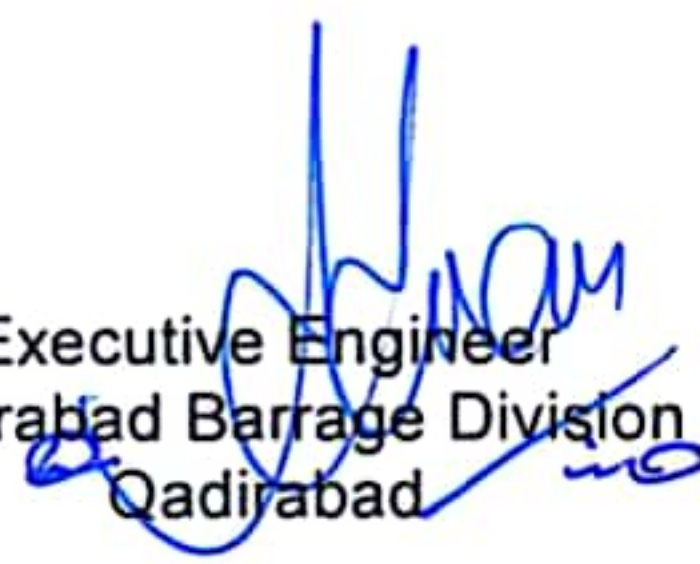
Sr. No.	Site	Total Plastic Sheet Required	Total Plastic Sheet Available	Balance Required
1	RD 47000 to 70000: (23000 x 20)	460,000 Sft	Nil	460,000 Sft

**Total = 980000 Sft.**

Balance quantity shall be procured before flood season 2023.

  
Sub Divisional Officer,  
Headworks Sub Division,  
Qadirabad Barrage.

  
Sub Divisional Officer,  
C&W Sub Division,  
Qadirabad

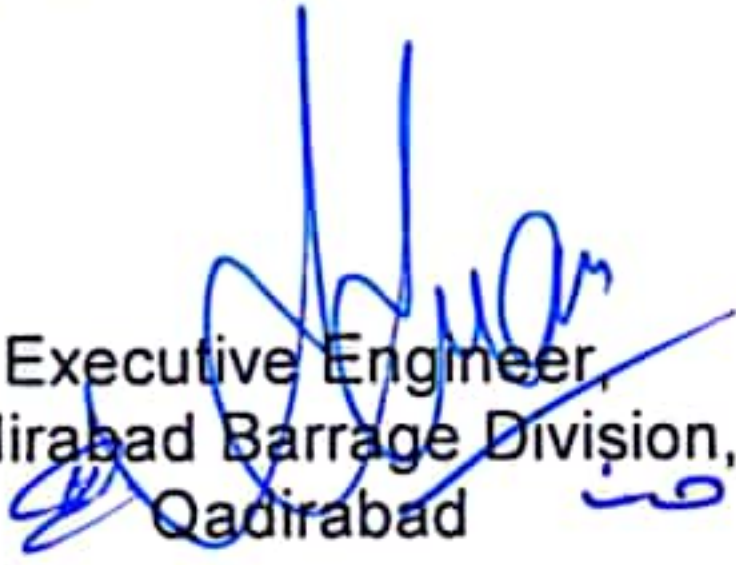
  
Executive Engineer  
Qadirabad Barrage Division  
Qadirabad



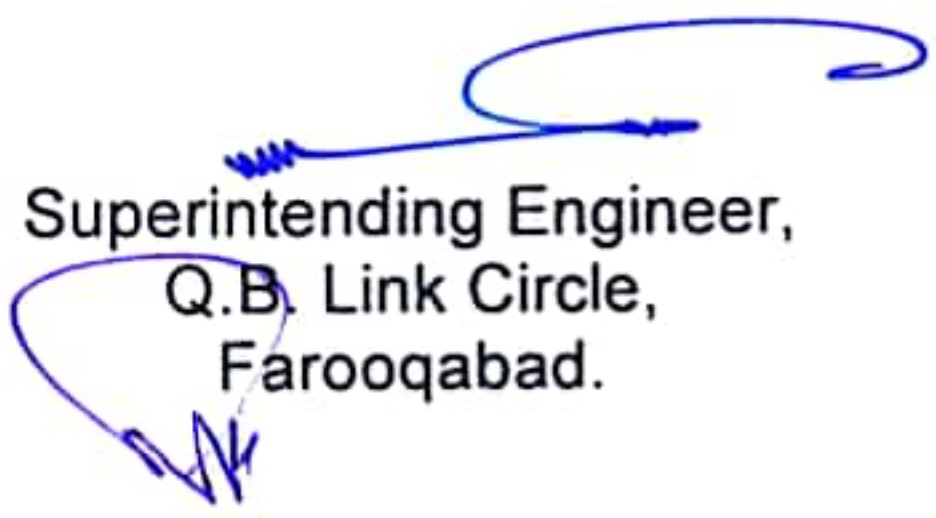
## Chapter-15

### BACK UP DIVISION

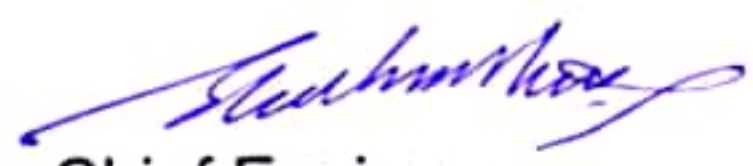
In case of any emergency the Q.B. Link Division Farooqabad is backup to this Division.



Executive Engineer,  
Qadirabad Barrage Division,  
Qadirabad



Superintending Engineer,  
Q.B. Link Circle,  
Farooqabad.



Chief Engineer,,  
Faisalabad Irrigation Zone,  
Faisalabad.