PART--- A

CHAPTER-1
SALIENT FEATURE OF THE TRIMMU HEADWORKS DIVISION TRIMMU

1.1 LOCATION

Trimmu Headworks is located at a distance of about 25 Kilometres from Jhang Sadar. Its precise location is 72.1465^0 Latitude and 31.1448^0 Longitude. It falls in semi-arid zone with desert on its right and Rechna Doab on its left.

1.2 GENERAL DESCRIPTION

Trimmu Headworks was constructed in 1937–1939 as a part of the Haveli Project. It is located just below the confluence point of the river Jhelum and Chenab. The main features of the barrage are as under:

Length between the abutments	=	3937 ft
Total No. of bays / gates with LCPs (51+13)	=	64 Nos.
No. of bays / gates with LCPs Left under sluice	=	08 No. (30’ clear width each
Total No. of bays / gates with LCPs Main Weir	=	37 (60’ clear width each)
No. of bays/gates with LCPs Right Under sluice	=	6 No. (30’ clear width each)
Additional Bays / gates with LCPs (right side)	=	13 No. (11 No. 60’ and 2 No. 30’ width)
Pond level (Summer)	=	491.50 Ft
(Winter)	=	490.00 Ft
RL of the crest of main weir	=	477.50 Ft
RL of the crest of Left under sluice	=	472.00 Ft
RL of the crest of Additional Bays	=	471.00 Ft

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DESIGNED CAPACITY

Main Weir		=	491,500 Cusecs
Left under sluice		=	70,500 Cusecs
Right under sluice		=	65,000 Cusecs
Discharge Through Additional Bays		=	248,000 Cusecs
	Total	**=**	**875,000 Cusecs**

Three canals – Haveli Main Line, Trimmu Sidhnai Link (TS Link) and Rangpur Canal are off taking from the Headworks. Haveli main Line and TS Link off take from the left flank whereas the Rangpur off-takes from the right flank of the Headworks. Brief description of the canals is as under:

Haveli Main Line

Designed discharge =5170 Cusecs

Crest RL = 481.00 Ft

No. of bays = 5 Nos bays / gates with LCPs with width of 24 feet each (5×24=120 Feet)

Design F.S level = 489.00

Silt Ejector RD 1200

Maximum discharge = 1200 Cusecs

Crest RL = 477.40

Waterway = 24 ft

Silt Ejector RD 2000

Maximum discharge = 1000 Cusecs

Crest RL = 477.35

Waterway = 20 ft

Trimmu Sidhnai Link

Designed discharge =12500 Cusecs

Crest RL = 481.00 Ft

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No. of bays = 10 Nos bays / gates with LCPs with width of 24 feet

each (10×24=240 Feet)

Rang Pur Canal (New Head Regulator)

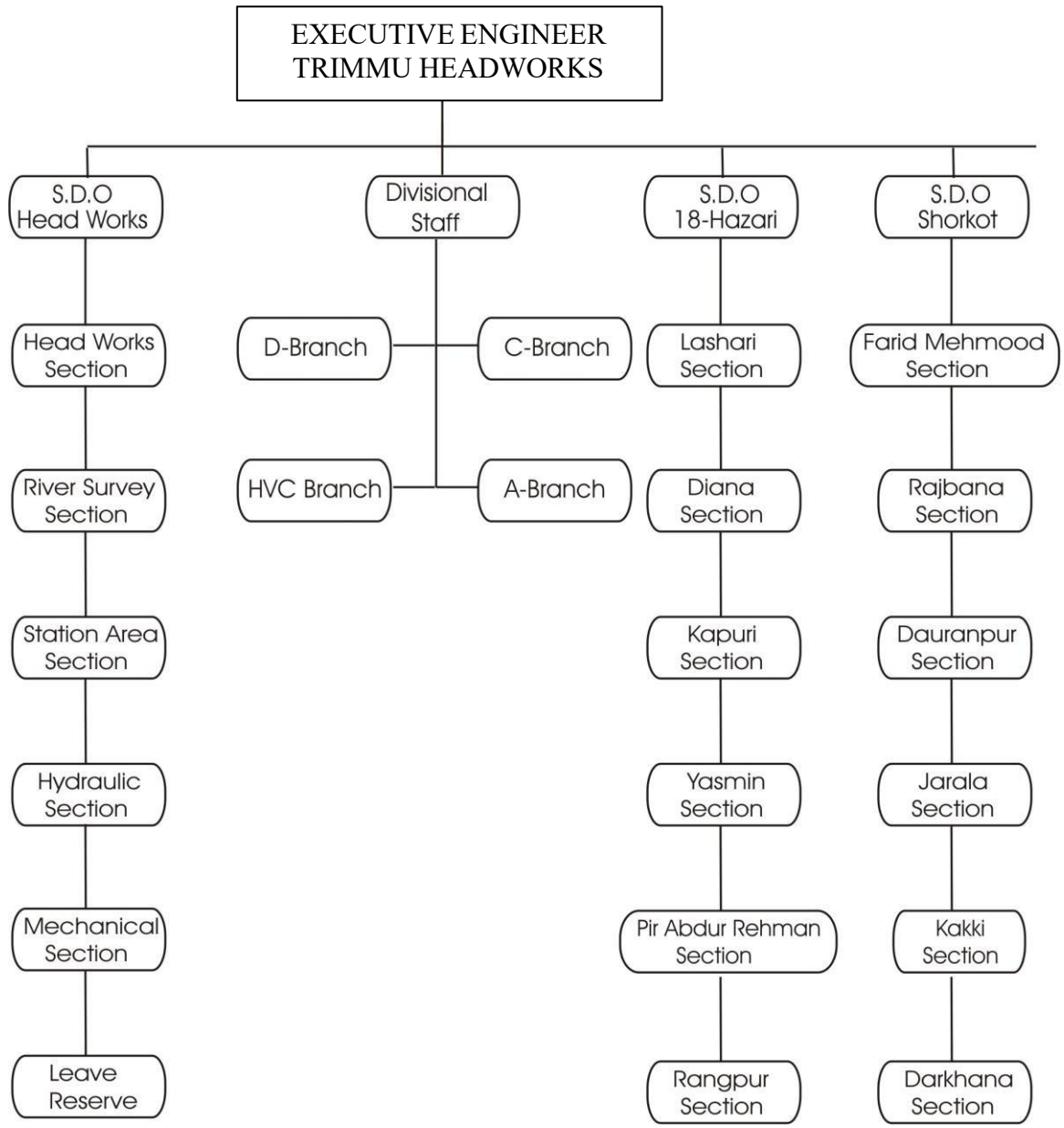
Designed discharge =2710 Cusecs

Crest RL = 483.50 Ft

No. of bays = 3 Nos bays / gates with LCPs with width of 24 feet

each (3×24 = 72 Feet)

1.3 ADMINISTRATIVE SETUP



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CHAPTER-2
FLOOD PROTECTION AND RIVER TRAINING WORKS

2.1 DESIGN PARAMETERS OF TRAINING WORKS

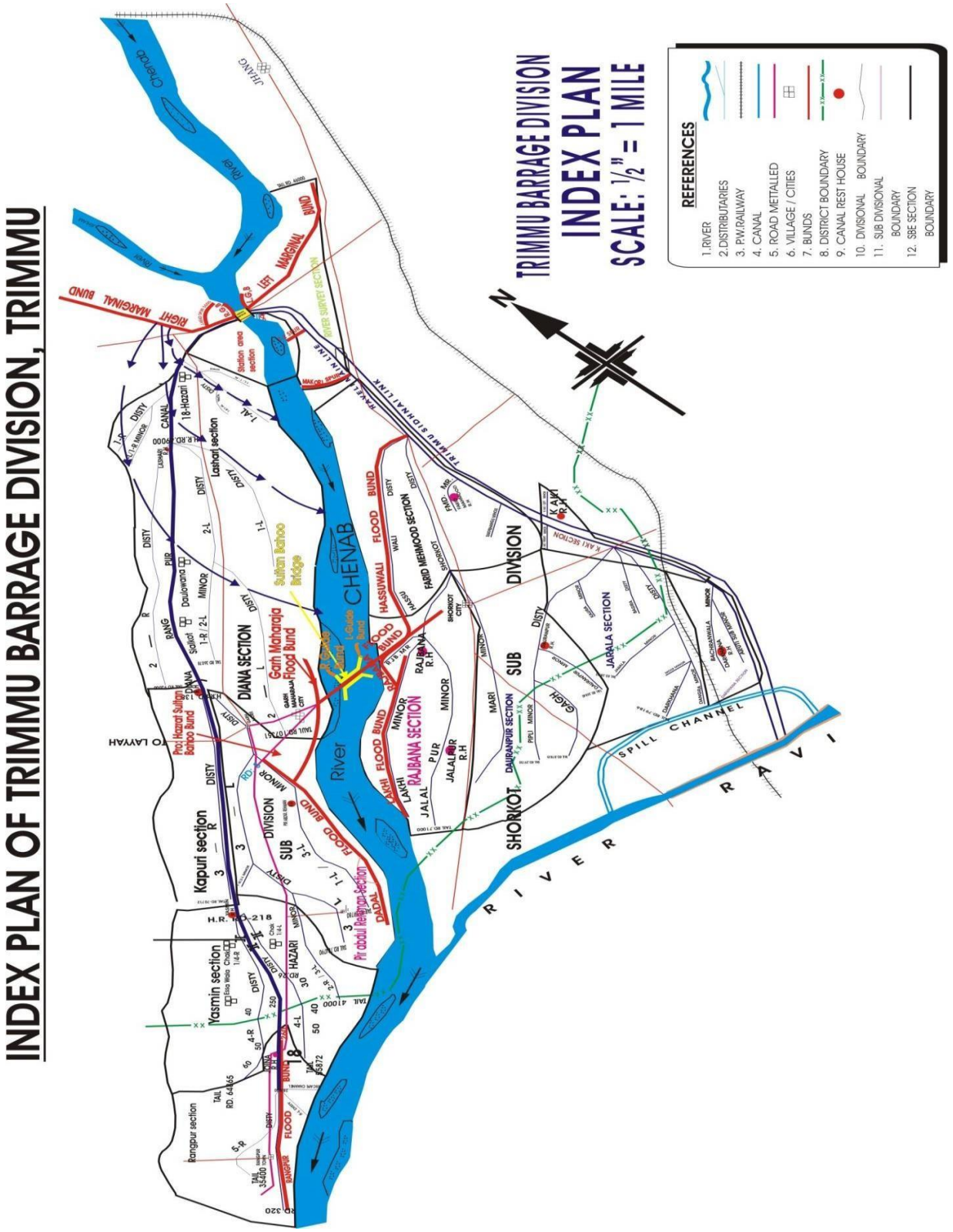
Sr. No	Name of Flood Bund	Length		Top Width	Side Slope		Free board	Remarks
		Feet	Miles	Feet	River Side	Country Side	Feet	
HEAD WORKS SUB DIVISION								
1.	**LEFT MARGINAL BUND**	46000	9.2	30	1:3	1:2	7	Free board with respect to anticipated HFL for 875,000 Cs.
	Wetting channel along LMB	46000	9.2	6	3:1	2:1	7	
A	Length of x-spurs at RD: 8900,10000,13000,11900, 16900,18600,23000,28500. 29500 & 34350 Length = 950+950+950+1100 +700+355+360+290+400+400	6455	1.29	25	3:1	2:1	6	
B	Guide Wall No. I (Connected with LMB RD 20+440)							
	Length of Shank	3772	0.75	30	3:1	3:1	6	
	Length of Head	1150	0.23	30	2:1	3:1	6	
	Total	**4922**	**0.98**					
C	Guide Wall No. II (Connected with LMB RD 14+900)							
	Length of Shank	576	0.12	30	3:1	3:1	6	
	Length of Head	1100	0.22	30	2:1	2:1	6	
	Total	**1676**	**0.34**					
D	Inverted Hockey spur in between 17+900 & 20+400 connected with Guide wall No. I RD 20+440							
	Length of Shank	600	0.12	25	3:1	3:1	6	
	Length of Curve portion	200	0.04	25	2:1	2:1	6	
	Total	**800**	**0.16**					
E	Guide wall at RD 17+900 of LMB							Free board with respect to anticipated HFL for 875,000 Cs.
	Length of Shank	1186	0.23	30	3:1	3:1	7	
	Length of Head	1295	0.25	30	2:1	2:1	7	
	Total	**2481**	**0.48**					
	TOTAL	**64894**	**13.18**					
2	**RIGHT MARGINAL BUND**	57765	11.55	25	3:1	2:1	7	Free board with respect to anticipated HFL for 875,000 Cs.
A	Wetting Channel along R.M.B	14800	3.20	6	3:1	2:1	7	
B	J-Head Spur at RD: 4597 RMB	9250	1.85	25	3:1	2:1	6	
C	X-spurs at RD: 23590 & 28815, Length= 900+1200	2100	0.42	25	3:1	2:1	6	
	TOTAL	**69115**	**13.82**					
D	Left Guide Bank U/S	4500	0.90	30	3:1	2:1	6	

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Sr. No	Name of Flood Bund	Length		Top Width	Side Slope		Free board	Remarks
		Feet	Miles	Feet	River Side	Country Side	Feet	
E	Left Guide Bank D/S	810	0.16	30	3:1	2:1	7	
F	Right Guide Bank U/S	4520	0.90	30/60	2:1	3:1	7	Free board with respect to anticipated HFL for 875,000 Cs.
G	Right Guide Bank D/S	810	0.16	30/60	2:1	3:1	7	
	TOTAL	**10640**	**2.128**					
3	**COLONY RING BUND**	9600	1.93	25	3:1	2:1	6	
A	T-Headed Spur No. 1	4704	0.94	25	3:1	2:1	6	
B	X-spur	700	0.14	25	3:1	2:1	6	
C	T-Headed Spur No. 2	6582	1.32	25	3:1	2:1	6	
D	X-spur	1400	0.28	25	3:1	2:1	6	
	TOTAL	**22986**	**4.61**	**125**	**3:1**	**2:1**	**6**	
4	**HAVELI MAIN LINE FLOOD BUND**	**55000**	**11.00**	**25**	**3:1**	**3:1**	**6**	
5	**J-HEAD MAKORI SPUR**	**10340**	**2.068**	**25**	**3:1**	**2:1**	**6**	
SHORKOT SUB DIVISION								
6	**HASSUWALI FLOOD BUND**	**72000**	**14.4**	**25**	**3:1**	**1.5:1**	**6**	
7	**RAJBANA FLOOD BUND**	**22750**	**4.55**	**25**	**3:1**	**2:1**	**6**	
A	Link flood Bund (Connecting Tail Rajbana Bund).	11400	2.28	25	3:1	2:1	6	
8	**LAKHI FLOOD BUND RD(25-67000)**	**42000**	**8.40**	**25**	**3:1**	**1.5:1**	**6**	
A	Mole Head at Lakhi Flood Bund	100	0.02					
B	Defence Bund Dabkalan	18500	3.70	10	1.5:1	1.5:1		
C	Protection Bund	850	0.17	15	2:1	2:1		
D	Stone studs 1,2&3	200	0.04	15	2:1	2:1		
	Total	**167800**	**33.56**					
18-HAZARI SUB DIVISION								
9	**DADAL FLOOD BUND**							
A	RD 0+000 to 11+000	11000	2.20	20	3:1	1½:1	6	
B	RD 11+000 to 69+629	58629	11.72	25	3:1	2:1	6	
C	X –spur at RD: 53,56,60 & 66 Length=540+800+250+1000+450	3040	0.60	10	2:1	2:1	6	
D	J-Head Spur at RD 54+500	2300	0.46	30	3:1	2:1	6	
	Total	**74969**	**14.98**					
10	**RANGPUR FLOOD EMBANKMENT ALONG LEFT BANK OF RANGPUR CANAL**							
A	RD 260+000 to 308+000	48000	9.6	20	3:1	2:1	6	
B	RD 308+000 to 318+000	10000	2.0	25	3:1	2:1	6	
C	Like inverted hockey spur RD 292+500	2654	0.53	30	3:1	2:1	6	
D	Earthen Stud Rd 308, 309, 310, 311,313, 315, 317	3500	0.7	20	1:3	--	6	
E	J-Head Spur at RD 302+000	6455	1.2	30	3:1	2:1	6	
	TOTAL	**70609**	**14.10**					
	GRAND TOTAL	**546353**	**109.27**					

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2.2 LOCATION MAP



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CHAPTER-3

BRIEF HISTORY OF PAST FLOOD EVENTS

YEAR	DISCHARGE		BREACHED REACHES
1959	Through Barrage Through Breach Total	718,255 Cs 225,000 Cs 943,255 Cs	6 Nos Breaches in Right Marginal Bund RD: 16-18
1973	Through Barrage Through Breach Total	666,910 Cs 66,000 Cs 732,910 Cs	4 Nos Breaches in Right Marginal Bund RD: 16-18
1976	Through Weir	704,633 Cs	-
1992	Through Barrage Through Breach Total	683,117 Cs 205,000 Cs 888,117 Cs	6 Nos Breaches in Right Marginal Bund RD: 16-18
2014	Through Barrage Through Breach Total	626,006 Cs 77,000 Cs 703,006 Cs	2 Nos Breaches in Right Marginal Bund RD: 16-18
2025	Through Weir	550,965 Cs	-

Events Flood 2014

Sr No.	Date of occurrence	Time	Nature of incidents	Place of incidents	Efforts made for controlling incidents	Remarks
1	08-09-2014	5 :00 PM	Right pocket become non-modular	Barrage	By effective watching and exercising timely protective measure with the help of deployed machinery and flood fighting material, leakages, even of dangerous nature were controlled	Public property saved
2	09-09-2014	7 :20 PM	Leakage of dangerous nature	RD:44+360 LMB		
3	10-09-2014	1 :00 AM	Main Weir + Right Pocket Gates become free	Barrage		
4	10-09-2014	2:25 AM	Seepage of dangerous nature	RD:44+450 LMB		
5	10-09-2014	4:10 AM	Very serious leakage	RD:20+000 LMB		
6	10-09-2014	5:00 AM	All gates of barrage become free	Barrage		
7	10-09-2014	6:40 AM	Serious Seepage	RD:44+650 LMB		
8	10-09-2014	7:30 AM	Seepage of dangerous nature occurred	RD:44+500 LMB		
9	10-09-2014	8:15 AM	Seepage of dangerous nature was occurred	RD:25+940 LMB		
10	10-09-2014	10:30 PM	Seepage of dangerous nature was occurred	RD:44+450 LMB		

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Events Flood 2025

Sr No.	Date of occurrence	Time	Nature of incidents	Place of incidents	Efforts made for controlling incidents	Remarks
1	05.09.2025	1 :00 PM	Sluffing observed	RD 20+000 to 20+700 LMB	By effective watching and exercising timely protective measure with the help of deployed machinery and flood fighting material, leakages, even of dangerous nature were controlled	Public property saved
2	05.09.2025	3 :00 PM	Sluffing observed	RD 42+500 LMB RD 45+500 – 46+000 LMB		
5	06-09-2025	7:00 PM	Erosive action was observed and dumping of stone was done.	RD:65+000 to RD 66+000 Lakhi Flood Bund		
3	08-09-2025	4 :00 PM	Seepage observed at country side of LMB	RD 12+000 to 26+000 LMB		
4	09-09-2025	2:25 PM	It was observed that bela has been removed upstream Barrage	---		
6	01-10-2025 to 15.10.2025	5:00 AM	Erosive action and sluffing were observed	Spur at RD 292+500 & 302+000 RGP Flood Bund		

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CHAPTER-4
DESIGN DATA, HISTORIC PEAK FLOOD DATA AND PREVIOUS THRITY ONE YEARS FLOOD DATA OF HEAD WORKS / BARRAGES AND OR OTHER CONTROL POINTS

4.1 FLOOD LIMITS IN TRIMMU HEADWORKS DIVISION, TRIMMU

DESCRIPTION	FLOOD LIMITS (LAC CUSECS)
Low Flood	1.50 to 2.00
Medium Flood	2.00 to 3.00
High Flood	3.00 to 4.50
Very High Flood	4.50 to 6.00
Exceptionally High Flood	Above 6.00

4.2 TIME LAG OF FLOODS

The time lag of the peaks for river Jhelum and Chenab based upon study of actual Hydrograph for data of many years is tabulated as under:-

Sr. No.	Stage	River Chenab			River Jhelum	
		Marala to Khanki 39 Miles	Marala to Qadiraba d 57 Miles	Qadirabad to Trimmu 163 Miles	Mangla to Rasool 43 Miles	Rasool to Trimmu 178 Miles
		Hours	Hours	Hours	Hours	Hours
1	0.5 to 1 lac Cusecs	10	12	40	16-20	48
2	Low Flood	12	15	48	15	54
3	Medium Flood	14	16	60	12	60
4	High Flood	15	18	66-72	10	66-72
5	Exceptionally High Flood	15	18	78	8	72-78
6	As approved by the federal Flood Commission for the months of July and August	-	48	48	24	48

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4.3 **HIGHEST FLOODS**

The history of highest floods is as under: -

Year	Flood Level		Through Head Works	Through Breaches in embankments		Total
	U/S	D/S		Left Side	Right Side	
1959	492.10	489.50	71,8255	-	225,000	943,255
1960	490.00	488.50	605,132	-	-	605,132
1973	494.30	491.15	666,910	-	66,000	732,910
1976	493.6	489.7	70,4633	-	-	704,633
1992	494.40	490.80	683,117	-	205,000	888,117
1995	494.30	493.50	629,561	-	-	629,561
1997	494.50	491.95	677,417	-	-	677,417
2014	494.60	494.20	626,003	-	77,000	703,006
2025	492.50	491.00	550,965	--	---	550,965

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4.4 PEAK DISCHARGES

The history of peak discharges of last 31-years is as under: -

Year	Date	Discharge
1995	01-08-1995	629,561
1996	27-08-1996	543,708
1997	01-09-1997	677,417
1998	13-07-1998	148,668
1999	22-07-1999	61,476
2000	25-07-2000	116,179
2001	18-08-2001	72,431
2002	17-08-2002	108,627
2003	08-08-2003	122,892
2004	21-08-2004	42,756
2005	11-07-2005	162,097
2006	07-09-2006	266,270
2007	15-03-2007	173,532
2008	07-08-2008	54,234
2009	21-08-2009	46,765
2010	11-08-2010	323,026
2011	26-09-2011	127,790
2012	07-08-2012	67,694
2013	21-08-2013	267,609
2014	10-09-2014	703,006
2015	29-07-2015	150,865
2016	10.08.2016	153,339
2017	05.08.2017	89,345
2018	17.08.2018	81,680
2019	22.08.2019	93,021
2020	01.09.2020	196,077
2021	31.07.2021	106,867
2022	18.08.2022	122,115
2023	25.07.2023	116,786
2024	19.08.2024	87,030
2025	01.09.2025	550,965

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CHAPTER-5
FLOOD FIGHTING STRATEGY

The following precautionary measures are adopted before flood season to face any alarming situation at Trimmu Headworks but even then, arrangements are necessary to avoid heavy damages and flood fighting strategy is adopted in such a way that flood water passes safely through Barrage, up to its limit. For this reason, decision for the deployment of necessary machinery and watching establishment should be taken on the basis of discharge and gauges at Qadirabad Barrage, Chiniot Bridge and Riwaz bridge and all necessary arrangements should be completed before receiving the flood freshet.

In low flood, river water remains within the deep channel and does not cause any problem if regulation of gates is done as per rules. Watching establishment employed for this purpose will remain busy in removing jungle, filling gharas and porcupine holes if any.

i) MEDIUM FLOOD

When river water enters into Medium Flood i.e 2 to 3 Lacs, it will start spreading on adjoining area and also touching the toe of bunds. Then it becomes necessary to be more vigilant. The Flood bunds will be fully watched to avoid any leakage from bunds. Sub Engineers will shift their camps to sites as per duty roaster. Hourly gauges and discharge will be conveyed to Civil Administration and flood warning centers to inform public accordingly.

ii) HIGH FLOOD

When river water enters into high flood range i.e 3 to 4.5 Lacs, Sub Divisional Officer Head Works will shift his camp at Trimmu Headworks to supervise staff working on L.M.B and D/S Spurs. In whole period, regulation will be done in such a way that silt deposit in front of canals may be washed D/S of the river to minimize silt entry in to canals. Silt contents in water will be checked thrice a day and if it exceeds, the permissible limit, canals will be closed accordingly.

iii) VERY HIGH FLOOD

When river water enters into very high flood range i.e 4.5 to 6 Lacs, Executive Engineer alongwith Sub Divisional Officer Head Works will shift his camp at Trimmu Barrage to supervise staff working on L.M.B, RMB and D/S Spurs and to check

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leakage if any. Critical gauge will be checked on hourly basis round the clock. If discharge is in rising position, then breaching section is activated in consultation with Civil Administration and Pak Army.

iv) <u>EXCEPTIONALLY HIGH FLOOD</u>

Gauges of different sites especially gauge at RD: 15000 of L.M.B will be noted regularly and recorded. Executive Engineer will inform all agencies especially civil administration as well as Army about flood situation in rising position. In case of very high flood or exceptionally high flood, meeting will be held in field office with Army and Civil Administration to face the situation.

Two dozers, Two Excavator and necessary machinery will be kept ready at RD: 15+000 to 17+000 R.M.B for making cuts and closing breaches as and when required according to circumstances. When gauge at RD: 15000 L.M.B touches level 500.00 Ft and is found in rising position it will be the duty of Executive Engineer to request Army for operation of breach section for the safety of Barrage. When water subsides, the breaching sections will be closed (if operated) as soon as possible.

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CHAPTER-6

FLOOD RESTORATION WORKS LIKELY TO BE EXECUTED BEFORE FLOOD 2026

Sr No.	Name of work	Amount (Rs. In Million)
1	Restoration of Lakhi Flood Bund at RD 65+000 to 66+000 damaged during Flood 2025.	93.82
2	Repairing of T-Headed Spur No.2 damaged during Flood 2025	1.540
3	Restoration of spur at RD 292+500 Rangpur section damaged during flood 2025.	62.150
4	Restoration of spur at RD 302+000 Rangpur section damaged during flood 2025.	45.573
5	Remodeling and protection of critical reaches of LMB of Trimmu Barrage RD 18+000 to 46+000	44.480
6	Raising and protection of Rangpur Flood Bund	250.000

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CHAPTER-7
FLOOD FIGHTING WATCHING ARRANGEMENTS

7.1 PRE-FLOOD ARRANGEMENTS

The watching establishment on marginal bunds is required to be employed as per following scale in accordance with the approval given by Superintending Engineer Haveli Canal Circle Multan vide his letter No. 6272-73/170-W dated 31.05.1974 (Duty Roaster attached). In addition to previous mentioned material, which will be placed at different camp sites, an additional material will be also be required in order to meet with extraordinary worst situation and to recoup the site situation.

As a guide the following scale is assumed to be sufficient. The Executive Engineer with the consultation of the Superintending Engineer, Trimmu Canal Circle, Trimmu can increase the scale:

Flood Management Strategy for Flood Season 2026

1. Weak sites of flood bund / river training works have been attended / being attended.
2. Data boards / gauges, RD Marks have been updated.
3. Deficient reserve stock of stone has been recouped. 16.85 Lac cft reserve stock of stone is available to face any emergent situation during flood.

Sr. No.	Name of structure	Sanctioned Quantity	Available Quantity	Remarks
1	LGB U/S AND D/S	5.00	4.87	Deficient quantity will be procuring before start of flood season. Work orders already awarded to the contractors.
2	RGB U/S AND D/S	5.00	4.76	
3	J-HEAD SPUR RD 5500 OF RMB	1.50	1.57	
4	SLOPING SPUR ALONG COLONY RING BUND	1.00	0.32	
5	T-1 SPUR ALONG COLONY RING BUND	1.50	0.81	
6	T-2 SPUR D/S TRIMMU BARRAGE	1.50	0.79	
7	J-HEAD SPUR MAKORI	1.50	0.90	
8	DAB KALAN (Relates to SDO Shorkot)	1.25	0.50	
9	GUIDE WALL NO.1 ALONG LMB	1.50	0.76	
10	GUIDE WALL NO.2 ALONG LMB	1.50	0.76	
11	GUIDE WALL NO.3 ALONG COLONY RING BUND	1.50	0.59	
12	X-SPUR RD 23000 OF RMB	0.25	0.21	
	TOTAL (LACS CFT)	**23.00**	**16.85**	

XEN (T)

4. Flood fighting material is available to fight and pass the flood safely.
5. Gates and gearing system of the Barrage have been checked and is functioning properly.
6. Critical reaches of flood bunds are being attended to avoid any mishap.
7. Breaching section has been restored.

   Flood camps will be established during the flood season at vulnerable sites of embankment for the storage of the watching material and shelter for staff on or off duty. The watching material will be shifted into these camps at the start of the flood season.

   Officer in-charge will issue the material as and when emergency arises. Some balance material will be obtained / received back as issued during last year during Flood season only balance will be procured to meet the requirement of this year.

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7.2 Watching Establishment Details

Sr. No.	Structure Name	Length (Miles)	Flood Limits							
			Normal Flood Season		Low Flood		Medium/High Flood		Very High/ Exp. High Flood	
			Men	Shift	Men	Shift	Men	Shift	Men	Shift
			1 Person/ 2 mile/Shift (1 Shift)		1 Person/ mile/Shift (1 Shift)		2 Person/ mile/Shift (2 Shift)		5 Person / mile/ Shift (3 Shift)	
1	Left Marginal Bund and cross spurs	13.18	7		13		26		65	
2	Right Marginal Bund with Ring Bund and cross spurs	13.82	7		14		28		70	
3	Colony Ring Bund	4.61	2		5		9		23	
4	Left Guide Bund	0.90	1		1		2		5	
5	Right Guide Bund	0.90	1		1		2		5	
6	T-Headed Spur No. I	1.08	1		1		2		5	
7	T-Headed Spur No. II	1.60	1	1	2	1	3	2	8	3
8	T-Cum Hockey Sloping Spur	0.38	1		1		1		3	
9	Makori Spur	2.00	1		2		4		10	
10	J-Head Spur	1.85	1		2		4		10	
11	Hassu Wali Flood Bund	14.40	7		14		29		75	
12	Rajbana Flood Bund & connecting Tail Rajbana Bund	6.85	3		7		14		35	
13	Lakhi Flood Bund RD	9.00	5		9		18		45	

XEN (T)

14	Dadal Flood Bund	13.92	7		14		28		70	
15	5 No. X-Spurs	5.00	3		5		10		25	
16	Rangpur Flood Embankment	16.2	8		16		32		80	
TOTAL Per Shift :-			**56**	**1**	**107**	**1**	**212**	**2**	**534**	**3**
Total			**56**		**107**		**424**		**1602**	
No. of Mates			**5**		**9**		**35**		**133**	

Note: 01 No. Mate is for every 12 No. Beldars

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7.3 Established Camps Details

Sr. No.	Structure Name	Length (Miles)	Vulnerable sites		No. of Camps Established Except Vulnerable Points		
					Normal Flood season/Low Flood	Medium/ High Flood	Very High/Exp. High Flood
			Reach	No. of Camps	15 Miles	7 Miles	5 Miles
1	Left Marginal Bund RD 0-46000, Including 11 No. X-Spurs, Makori Spur, Guide Wall No.I & II	14.72	RD 14-21, RD 42-46	2	-	-	1
2	Right Marginal Bund RD 0-57765, Including X-Spur 2 No., Left Guide Bund, Right Guide Bund , J-Head Spur RD 4597	15.36	RD 20-27	1	-	1	2
3	Colony Ring Bund RD 0-9600, T-Headed Spur No.1, T-Headed Spur No.2, T-Cum Hockey sloping Spur, Guide Wall No.III	5.04	RD 4+000 - 5+000	1	-	-	-
4	Hassuwali Flood Bund	14.4	RD 8 to 9 20 to 22 38 to 39 49 to 50	4	-	-	-
5	Rajbana Flood Bund, Connecting tail Rajbana Flood Bund with lakhi Flood Bund RD 0-11400,	6.83	RD 0-6500	1	-	-	-
6	Rangpur Flood Embankment along left bank of Rangpur Canal RD 260-308 & 308-318 (Tiba) Range),left bank of escape channel RD 0-3850	16.22	RD 282 to 286, 308 to 318	2	-	1	1
7	Dadal Flood Embankment Right bank of River Chenab 0+000 to 69+629	14.98	RD 28+000-29+000 & RD 54+500-55+500	2	-	-	1
Total				**13**	**-**	**2**	**5**

XEN (T)

7.4 WATCHING MATERIAL

Detailed of watching material is revised after flood 2025 with reference to Chief Engineer, Drainage & Flood Zone, Lahore letter No.D&F/2025/1901-08/25/76 dated 06.11.2025 as per field requirements and experience.

Watching material will be provided in ample quantity as the experience shows that presence of watching material is very necessary. The particular care would be taken to ensure that there is adequate quantity of the required material shown to be readily available everywhere particularly at vulnerable / critical sites. (Watching material)

Sr No.	Item	Unit	Total Required Qty	Available Qty	Balance Qty	Remarks
1	Shouldari / Tent	NO.	13	7	6	Balance quantity will be recouped during flood season 2026. Subject to approval of competent authority for permanent camp in case of high flood.
2	Chairs	NO.	78	33	45	
3	Table	NO.	13	8	5	
4	Generator(2-3 KVA)	NO.	13	8	5	
5	Pedestal Fans	NO.	13	8	5	
6	Charpois	NO.	26	14	12	
7	Symbolic Jackets	NO.	650	0	650	
8	Polythene Sheet	KG	1300	0	1300	
9	Bamboos (44” dia and 10ft long)	NO.	1300	0	1300	
10	Water Cooler	NO.	13	0	13	
11	Portable Umbrella	NO.	26	0	26	
12	Life Jackets	NO.	65	29	36	
13	Utensils (10 Person Serving)	NO.	13	0	13	
14	Jute / Plastic Bags	NO.	13000	0	13000	
15	Walke Talke Set	Sets	26	6	20	
16	Raincoats	NO.	130	0	130	
17	LED Flood Light	NO.	130	0	130	
18	Extension Cable (10 ft)	NO.	26	0	26	
19	Rechargeable Torches	NO.	260	131	129	
20	Kassi	NO.	260	163	97	

XEN (T)

21	Axes	NO.	260	109	151	Balance quantity will be recouped during flood season 2026. Subject approval of competent authority
22	GI Buckets	NO.	65	40	25	
23	7/44 Cable	Feet	6500	0	6500	
24	Sutli	Kg	26	16	10	
25	Sewing Needles	No.	130	79	51	
26	Emergency medical kit	No.	13	0	13	
27	Wire crates (3x3x3) (at only that camp near river action and reserve stock exists)	No.	1300	0	1300	

B. Minimum Requirement of Flood Fighting Materials for Temporary Camp (7 or 5 Miles) During Medium to Exceptionally High Flood to be Outsources (1 No Camps)

Sr No.	Item	Unit	Total Required Qty	Remarks
1	Shouldari / Tent	NO.	1	
2	Chairs	NO.	6	
3	Table	NO.	1	
4	Generator	NO.	1	
5	Pedestal Fans	NO.	1	
6	Charpois	NO.	2	
7	Symbolic Jackets	NO.	50	
8	Water Cooler	KG	1	
9	Portable Umbrella	NO.	2	
10	Utensils (10 Person Serving)	NO.	1	
11	Jute / Plastic Bags	NO.	500	
12	Walke Talke Set	NO.	1	
13	Raincoats	NO.	10	
14	LED Flood Light	NO.	10	
15	Extension Cable (10 ft)	Sets	2	
16	Rechargeable Torches	NO.	20	
17	Kassi	NO.	20	
18	Axes	NO.	20	
19	GI Buckets	NO.	5	
20	7/44 Cable	NO.	500	
21	Sutli	NO.	2	
22	Sewing Needles	NO.	10	

XEN (T)

7.5 ARRANGEMENT FOR SOUNDING AND PROBING

The arrangement for sounding and probing will be taken up with the boat. An extra boat equipped with bathymetric arrangements is also available for drawing of sounding and probing by using software.

7.6 LIGHTING ARRANGEMENT

All the gates of Trimmu Barrage, additional bays and off-taking canals have electrically operated local control panels in addition to provision of mechanical operation which are operated by regular regulation staff.

Independent 11-Kv transmission line have been laid to the energize the installations provided at Barrage. FESCO – WAPDA will ensure proper power supply to the head works. A well-equipped squad of electricians will be directed to be present at Head works to maintain the proper lighting arrangement and to deal with any emergency related to the electric supply at the barrage.

2 Nos. generators of 100 KVA capacity & 1 No. portable 50 KVA capacity generator are available at Trimmu Barrage and will be used in case of electricity failure at Barrage and at the most vulnerable point under the river attack. Whereas at other vulnerable points, small generators as well as torches and lamps will be used for the lighting / watching arrangement.

7.7 RATION ARRANGEMENT

Ration is provided by the Irrigation Department to the watching establishment deployed along flood bunds during flood days. However, ration for displaced persons from the flood area is provided by District Administration and NGOs.

7.8 P.O.L ARRANGEMENT FOR VEHICLE.

(Attention D.C Jhang)

Efforts will be made to stock some POL before the start of the flood season. The Deputy Commissioner, Jhang will order to reserve 5000 liters of Petrol and 10000 liters of Diesel at each of the following Petrol Pumps.

1. M/S M B Ahmad and Sons At Athara Hazari
2. P.S.O Patrolling Mahloana More
3. M/S Ateeq Shorkot city
4. P.S.O Garh More

XEN (T)

7.9 TRANSPORTATION

(Attention – Superintending Engineer, Trimmu Canal Circle, Trimmu
(Attention – Executive Engineer, Trimmu Headworks Division, Trimmu)
(Attention – D.C. Jhang)

There is one Toyota Hilux available with the Executive Engineer and one Pickup double cabin with the Sub Divisional Officer, Trimmu Headworks which will be used for the shifting of material, human resources and patrolling. There are One No. Pickup Double Cabin and One No. Suzuki Jeep Photohar under the use of the SDO Athara Hazari and Shorkot Sub division located on each side of the River Chenab on D/S of Trimmu Barrage. For further preparation in this regard, the SE Trimmu Canal Circle Trimmu and Deputy Commissioner Jhang will be requested to keep one Jeep on the standby basis for dealing with the situation if the emergency arises.

Executive Engineer, Sidhnai Headworks Division, Sidhnai / Superintending Engineer, Trimmu Canal Circle, Trimmu will be requested to provide Trucks/ Pickups in tip top condition to deal with the Emergency if required. The supervisory staff will be directed to arrange for the transport themselves as far as possible.

7.10 LAW AND ORDER

(Attention: Deputy Commissioner & District Police Officer Jhang)

Police guard at right and left side of Trimmu Headworks would be available round the clock and the D.C Jhang will be requested to increase the strength so that the flood emergency measures are not interrupted. Police will be particularly requested to quell any effort made by the public to cut or breach any bund or embankment. In case miscreants try to cut any flood bund, the officer incharge will immediately call for the help of police. In case of any other type of law and order situation, the call for police will be made to deal with the situation, so that the flood emergency measure may go un-interrupted. The police will also be responsible for the protection of the installations at the Headworks. Furthermore, security guards are also hired for protection of Trimmu Headworks. The canal guards equipped with weapons will also available with the Executive Engineer and Sub Divisional Officers of Trimmu Headworks Division.

XEN (T)

7.11 MEDICAL ARRANGEMENT FOR LABOUR

(Attention: Chief Executive Officer Health, Jhang)

The Chief Executive Officer, Jhang will be requested to set up a medical facility at Trimmu Headworks having trained and experienced staff along with the sufficient medicine during the flood season. The staff will remain present for 24 hours to meet with the emergency during the extreme flood at Trimmu.

7.12 LIAISON WITH ANOTHER DEPARTMENT

(Attention: Irrigation/Civil/Police department)

Executive Engineer Trimmu and Sub Divisional Officer, Trimmu Headworks will have close liaison with their counterparts of other departments and will call for any support they deem fit from them. Close contact will be maintained with civil authorities and police departments for all emergency measures. They will be constantly kept informed of the flood situation at Trimmu Headworks.

7.13 ROLE OF THE ARMY

The army authorities do the pre-flood inspection of the explosive store and breaching section. The breaching section is activated with the help of Pakistan Army by using the explosive material. In case this method fails, the breaches are made by using the dozers / excavator / labour. The Pakistan Army keeps on visiting the site from time to time.

7.14 DUTIES OF TELEPHONE ATTENDANT

Sr No.	Name of Official	Period	Time	
			From	To
1	Muhammad Usman	15.06.2026	06:00 A.M	02:00 P.M
2	Amir Iqbal	To	02:00 P.M	10:00 P.M
3	Qayoum Khan	15.10.2026	10:00 P.M	06:00 A.M

7.15 WIRELESS ARRANGEMENTS

There are two wireless sets working in Trimmu Headworks Division. One is working in Telegraph office Trimmu, and second with police is working at the Headworks. The wireless sets in vehicles will be provided by the DPO concerned before the coming flood.

XEN (T)

Chapter - 08

DETAIL OF ENCROACHMENT

ORIDINARY ENCROACHMENT

Total No. of Encroachments	Removed	Balance	Action to be taken
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,Nil,,,,,,,,,,,,,,,,,,,,,,,,,,			

CRITICAL ENCROACHMENT

Total No. of Encroachments	Removed	Balance	Action to be taken
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,Nil,,,,,,,,,,,,,,,,,,,,,,,,,,			

LIST OF ENCROACHMENT ON RIGHT MARGINAL BUND OF RMB SECTION

LIST OF ENCROACHMENT ON RIGHT MARGINAL BUND (RMB)

Sr No.	Location		Nature of Encroachment	Latitude	Longitude	Remark
	RD	Mouza				
,,Nil,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,						

LIST OF ENCROACHMENT ON LEFT MARGINAL BUND OF LMB SECTION

LIST OF ENCROACHMENT ON LEFT MARGINAL BUND (LMB)

Sr No.	Location		Nature of Encroachment	Latitude	Longitude	Remark
	RD	Mouza				
,,Nil,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,						

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Chapter - 09
DUTY ROSTER / FLOOD FIGHTING PROGRAM

Phase I - (Pre-Flood Period)

This phase covers the pre-flood period starting from start of the flood season upto the time the flood water raises upto 1 foot above general Natural Surface Level (NSL) along the flood bunds.

WATCHING: Flood watching establishment will be arranged according to flood scales / stages after consultation with the concerned authority and other essential need at site.

Stage	Strength
Water level is 1 foot above NSL or below along the flood bund	1 watchman per mile per shift in two shifts during 24 hours on Marginal and other flood bunds
Water level is more than1 foot above NSL along the flood bund	1 watchman per mile per shift in three shifts during 24 hours on Marginal and other flood bunds

During this phase the Sub Divisional officers of the bunds and respective Sub Engineers of the sections of the bunds will be the controlling officers under the overall supervision of the Executive Engineer, Trimmu Headworks Division, Trimmu.

Phase II – (Low Flood i.e. 1.50 to 2.00 Lac cusecs)

This phase starts when the discharge at the Trimmu Headworks is between 1.5 to 2 Lac cusecs. The details of the actions to be taken during this phase are as follows:

Activity	Action
Shifting of watching & necessary flood material to watching huts	Respective Sub Engineers, SDO, XEN.

Stage	Strength
The discharge ranges between 1.5 to 2.0 lac cusecs	2 persons per mile per shift in three shifts during 24 hours on Marginal and other flood bunds 1 Chowkidar per watching hut for round the clock duty till the time watching material is taken back from the watching huts after recession of the flood to a level 1 foot above NSL.

XEN (T)

Supervisory Staff

The duty roster during this phase of the flood, officers/officials duties are tabulated below. The officials under the overall control of the sub-divisional officers concerned will perform the duties.

Sr. No.	Location	Duty of Officer/Official
1	Barrage and Headworks	Sub Engineer Headworks
2	Right Marginal Bund (RD 0 – 57+765) J Head Spur (RD 0 – 9+250)	Sub Engineer Headworks
3	Left Marginal Bund (RD 0 – 46) along with wetting Channel & Guide Wall No.1 & 2	Sub Engineer River Survey
4	Colony Ring Bund along with i. T- Cum Hockey Spur ii. T Head No I and II Spur iii. Makori Spur. iv. Guide Wall No.3	Sub Engineer Station Area
5	Hassuwali Flood Bund (RD 0-24) Hassuwali Flood Bund (RD 24-48) Hassuwali Flood Bund (RD 48-72 Tail)	Zilladar, Shorkot Sub Engineer, Jarala Sub Engineer, Farid Mehmood

6	Rajbana Flood Bund (0 – tail)
	Link Bund (0 – tail)
		Sub Divisional officer Shorkot
		Sub Engineer, Dauranpur
		Sub Engineer, Kakki

7	Lakhi Flood Bund (13 – 45) Lakhi Flood Bund (45 – 68 tail)	Sub Engineer Rajbana Zilladar Dauranpur
8	Dadal Flood Bund & Embankment of 1L/3L Dadal Flood Bund (RD 0 – 25) Dadal Flood Bund (RD 25 – tail) Embankment of 1L/3L (RD 5 – 15380)	Sub Divisional Officer, 18-Hazari Sub Division (Overall Incharge) Sub Engineer Pir Abdur Rehman Zilladar Ahmad pur Sub Engineer Kapuri Section
9	Rangpur Flood Bund Rangpur Flood Bund (RD 260 - 320) Rangpur Flood Bund (RD 304 - 318)	Executive Engineer, Trimmu Headworks Division, Trimmu (Overall Incharge) Sub divisional Officer Athara Hazari Subdivision (Head quarter at RD 292) Sub Engineer Rangpur Sub Engineer Diana
10	Mole Head Gryne with 3 No. Solid Stone Studs at Dab Kalan including protection bund and defence bund	Sub Engineer, Rajbana.

XEN (T)

Phase III – (Medium Flood i.e. 2.00 to 3.00 Lac cusecs)

This phase starts when the discharge at the Trimmu Barrage crosses the medium level and is upto high level flood i.e. between 2.00 to 3.00 Lac cusecs. The details of the actions to be taken during this phase are as follows:

Stage	Strength
The discharge ranges between 2.0 to 3.0 lac cusecs	4 persons per mile per shift in three shifts during 24 hours on Marginal and other flood bunds. 1 Chowkidar per watching hut for round the clock duty till the time watching material is taken back from the watching huts after recession of the flood to a level 1 foot above NSL.

Supervisory Staff

The duty roster during this phase of the flood, officers/officials duties are tabulated below. The officials under the overall control of the concerned Sub Divisional officers will perform the duties.

Sr. No.	Location	Duty of Officer/Official
1	Barrage and Headworks/Guide Bunds	Sub Divisional Officer, Headworks Sub Engineer, Headworks
2	Right Marginal Bund (RD 0– 57+765) J Head Spur (RD 0 – 9+250)	Sub Engineer, Headworks.
3	Left Marginal Bund (RD 0 – 46) along with wetting Channel & Guide Wall No. 1 & 2	Sub Engineer, River Survey
4	1. Colony Ring Bund along with i) T- Cum Hockey Spur ii) T Head No I and II Spur iii) Guide Wall No.III 2. Makori Spur	Sub Engineer, Station Area Sub Engineer, Station Area Sub Engineer, Station Area Sub Engineer, Station Area Sub Engineer, River Survey
5	Hassuwali Flood Bund (RD 0-72 Tail)	Sub Enginerr Farid Mehmood
6	Rajbana Flood Bund (0 – tail) Link Bund (0 – tail)	Sub Engineer, Dauranpur
7	Lakhi Flood Bund (0 – tail)	Sub Engineer Rajbana Zilladar Shorkot
8	Dadal Flood Bund (RD 0 – 25) Dadal Flood Bund (RD 25 – tail) Embankment of 1L/3L (RD 5 – 15380)	Sub Engineer Pir Abdur Rehman Sub Engineer Lashari Sub Engineer Lashari

XEN (T)

9	Rangpur Flood Bund (RD 292) Rangpur Flood Bund (RD 260 - 320) Rangpur Flood Bund (RD 304 - 318)	Sub Divisional Officer Athara Hazari Sub Engineer Rangpur Sub Engineer Diana
10	Mole Head Gryne with 3 No. Solid Stone Studs at Dab Kalan including protection bund and defence bund	Sub Engineer, Rajbana

Phase IV – (High Flood i.e. 3.00 to 4.50 Lac cusecs)

This phase starts when the discharge at the Trimmu Barrage is between 3.00 to 4.50 Lac cusecs. The details of the actions to be taken during this phase are as follows:

Activity	Action
Requisition for 100 Army Jawans	XEN

Stage	Strength
The discharge ranges between 3.0 to 4.5 lac cusecs	6 persons per mile per shift in three shifts during 24 hours on Marginal and other flood bunds 1 Chowkidar per watching hut for round the clock duty till the time watching material is taken back from the watching huts after recession of the flood to a level 1 foot above NSL.

Supervisory Staff

The duty roster during this phase of the flood, officers/officials duties are tabulated below. The officials under the overall control of the Sub Divisional Officers concerned will perform the duties.

Sr. No.	Location	Duty of Officer/Official
1	Barrage and Headworks/ Guide Bunds	Executive Engineer Sub Divisional Officer, Headworks Sub Engineer, Headworks
2	Right Marginal Bund (RD 0 – 30) i. J Head Spur (RD 0 – 10) Right Marginal Bund (RD 30 – 57+765)	Sub Engineer, Leave Reserve (Head Quarter at RD 23) Sub Engineer, Kapuri (Head Quarter at RD 45)
3	Left Marginal Bund along with wetting Channel (RD 0 - 20) Left Marginal Bund along with wetting Channel (RD 20 - 46), Guide Wall No.I&II	Sub Engineer River Survey (Head quarter at RD 20) Sub Engineer, Hydraulic (Head quarter at RD 36)
4	1. Colony Ring Bund along with	Clerical Staff of Trimmu Division

XEN (T)

	i. T- Cum Hockey Spur ii. T Head No I and II Spur iii. Guide Wall No.III 2. Makori Spur	Deputy Collector, Trimmu Sub Engineer, Station Area Sub Engineer, River Survey
5	Hassuwali Flood Bund (RD 0-72 Tail)	Sub Enginerr Farid Mehmood
6	Rajbana Flood Bund (0 – tail) Link Bund (0 – tail)	Sub Engineer, Dauranpur
7	Lakhi Flood Bund (0 – tail)	Sub Engineer Rajbana Zilladar Shorkot
8	Dadal Flood Bund (RD 0 – 25) Dadal Flood Bund (RD 25 – tail) Embankment of 1L/3L (RD 5 – 15380)	Sub Engineer Pir Abdur Rehman Sub Engineer Lashari Sub Engineer Lashari
9	Rangpur Flood Bund (RD 292) Rangpur Flood Bund (RD 260 - 320) Rangpur Flood Bund (RD 304 - 318)	Subdivisional Officer AtharaHazari Sub Engineer Rangpur Sub Engineer Diana
10	Mole Head Gryne with 3 No. Solid Stone Studs at Dab Kalan including protection bund and defence bund	Sub Engineer, Rajbana

Phase V – (Very High Flood i.e. 4.50 to 6.00 Lac cusecs)

This phase starts when the discharge at the Trimmu Barrage is in very high flood stage i.e. between 4.50 to 6.00 Lac cusecs. During this phase special attention will be given to watch most vulnerable reaches of the bunds, concerned officer incharge is responsible that these points are especially watched. The details of the actions to be taken during this phase are as follows:

Activity	Action
Requisition for 200 Army Jawans	XEN

Watching

Stage	Strength
The discharge ranges between 4.50 to 6.00 lac cusecs	8 persons per mile per shift in three shifts during 24 hours on Marginal and other flood bunds 1 Chowkidar per watching hut for round the clock duty till the time watching material is taken back from the watching huts after recession of the flood to a level 1 foot above NSL.

XEN (T)

Supervisory Staff

The duty roster during this phase of the flood, officers/officials' duties are tabulated below. The officials under the overall control of the Sub Divisional Officers concerned will shift their headquarters and will perform the duties.

Sr. No.	Location	Duty of Officer/Official
1	Barrage and Headworks/ Guide Bunds	Executive Engineer Sub Divisional Officer, Headworks Sub Engineer, Headworks
2	Right Marginal Bund Right Marginal Bund (RD 0 – 57+765) i. J Head Spur (RD 0 – 9+250)	Sub Divisional Officer, T.S. Link Overall Incharge (Headquarter at RD 37) Sub Engineer, Leave Reserve Sub Engineer, Leave Reserve
3	Left Marginal Bund Left Marginal Bund along with wetting Channel (RD 0 - 20), Guide Wall No.I&II Left Marginal Bund along with wetting Channel (RD 20 - 46)	Sub Divisional Officer, Old Sidhnai, Overall Incharge (Headquarter at RD 42) Sub Engineer River Survey Sub Engineer, Hydraulic
4	1. Colony Ring Bund along with i. T- Cum Hockey Spur ii. T Head Spur No I iii) T Head Spur No II iv) Guide Wall No.III 3. Makori Spur	Clerical Staff of Trimmu Division Deputy Collector, Trimmu Silt Analyst Sub Engineer, Station Area Sub Engineer, Station Area Sub Engineer, River Survey
5	Hassuwali Flood Bund (RD 0-72 Tail)	Sub Enginerr Farid Mehmood
6	Rajbana Flood Bund (0 – tail) Link Bund (0 – tail)	Sub Engineer, Shorkot
7	Lakhi Flood Bund (0 – tail)	Sub Engineer Rajbana Zilladar Shorkot
8	Dadal Flood Bund (RD 0 – 25) Dadal Flood Bund (RD 25 – tail) Embankment of 1L/3L (RD 5 – 15380)	Sub Engineer Pir Abdur Rehman Sub Engineer Lashari Sub Engineer Lashari
9	Rangpur Flood Bund (RD 292) Rangpur Flood Bund (RD 260 - 320) Rangpur Flood Bund (RD 304 - 318)	Subdivisional Officer AtharaHazari Sub Engineer Rangpur Sub Engineer Diana
10	Mole Head Gryne with 3 No. Solid Stone Studs at Dab Kalan including protection bund and defence bund	Sub Engineer, Rajbana

Phase VI – (Exceptionally High Flood i.e. more than 6.00 Lac cusecs)

This phase commences when the discharge at the Trimmu Barrage is in exceptionally high flood stage i.e. more than 6.00 Lac cusecs. The details of the actions to be taken during this phase are as follows:

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Activity	Action to be taken by
Deputy Commissioner is informed to make arrangement for the evacuation of the marooned public within LMB and RMB	Executive Engineer
Military Authorities to keep ready for emergent operation	Executive Engineer
Police to watch that no un authorized cut is made by public especially all along LMB, RD 0 – 15 of RMB.	Executive Engineer
Engineers 4 Corps for energizing the breaching section, when water level approaches R.L 500 mark at the emergency	Executive Engineer
gauge installed at RD 15 of LMB.	District Administration & Zilladar 18 Hazari Sub division.
Arrangement for 200 Volunteers to cut RMB at Breaching section in case the blasting arrangement doesn't work.	

Watching

Stage	Strength
The discharge more than 6.0 Lac cusecs	8 persons per mile per shift in three shifts during 24 hours on Marginal and other flood bunds 1 Chowkidar per watching hut for round the clock duty till the time watching material is taken back from the watching huts after recession of the flood to a level 1 foot above NSL.

Supervisory Staff

The duty roster during this phase of the flood, officers/officials' duties are tabulated below. The officials under the overall control of the Sub Divisional Officers concerned will shift their headquarters and will perform the duties.

Sr. No.	Location	Duty of Officer/Official
1	Barrage and Headworks/ Guide Bunds	Executive Engineer, Trimmu Barrage Sub Divisional Officer, Headworks Sub Engineer, Headworks

2	Right Marginal Bund
	
	Right Marginal Bund (RD 0 – 30)
	i. J Head Spur (RD 0 – 9+250)
	Right Marginal Bund (RD 0 – 30)
	Right Marginal Bund (RD 30– 57+765)
		Sub Divisional Officer, T.S. Link Overall Incharge (Headquarter at RD 37)
		Sub Engineer, Yasmin
		Sub Engineer, Yasmin
		Sub Engineer, Leave Reserve
		Sub Engineer, Kapuri

XEN (T)

	Left Marginal Bund along with wetting channel Left Marginal Bund along with wetting Channel (RD 0 - 20) with guide wall No.1 & 2 Left Marginal Bund along with wetting Channel (RD 20 – 46)	Sub Divisional Officer, Old Sidhnai, Overall Incharge (Headquarter at RD 42) Sub Engineer River Survey Sub Engineer, Hydraulic
4	1. Colony Ring Bund along with 2. T- Cum Hockey Spur 3. T Head Spur No I 4. T Head Spur No II 5. Makori Spur	Clerical Staff of Trimmu Division Deputy Collector, Trimmu Silt Analyst Sub Engineer, Station Area Sub Engineer, River Survey
5	Hassuwali Flood Bund (RD 0-24) Hassuwali Flood Bund (RD24-48) Hassuwali Flood Bund (RD 48-72 Tail)	Zilladar, Shorkot Sub Engineer, Jarala Sub Engineer, Farid Mehmood

6	Rajbana Flood Bund (0 – tail)
	Link Bund (0 – tail)
		Sub Divisional officer Shorkot
		Sub Engineer, Dauranpur
		Sub Engineer, Kakki

7	Lakhi Flood Bund (13 – 45) Lakhi Flood Bund (45 – 68 tail)	Sub Engineer Rajbana Zilladar Shorkot
8	Dadal Flood Bund & Embankment of 1L/3L Dadal Flood Bund (RD 0 – 25) Dadal Flood Bund (RD 25 – tail) Embankment of 1L/3L (RD 5 -15380)	Sub Divisional Officer, 18-Hazari Sub Division Garh More (Overall Incharge) Sub Engineer Pir Abdur Rehman Zilladar Ahmad pur Sub Engineer Kapuri Section
9	Rangpur Flood Bund Rangpur Flood Bund (RD 260 - 320) Rangpur Flood Bund (RD 304 - 318)	Executive Engineer, Trimmu Headowkrs Division Trimmu (Overall Incharge) Sub divisional Officer Athara Hazari Sub Division (Head quarter at RD 292) Sub Engineer Rangpur Sub Engineer Diana
10	Mole Head Gryne with 3 No. Solid Stone Studs at Dab Kalan including protection bund and defence bund	Sub Engineer, Rajbana

In case of breach in the Right Marginal bund, Sub Engineer Lashari will look after the Rangpur Canal and manage cuts and cross bunds in Rangpur canal at RD 20-30, 40-46 and 70-80. Sub Engineer Dharkana will watch Haveli main Line from RD 184 – tail.

XEN (T)

Breach Closing Squad

When the discharge will exceed 4.00 Lac cusecs, the mobile units consisting of following items are to be raised in each sub division. The Tip Top condition of Pick up and Tractor Trolley will be ensured.

Stack ballies 16-foot-long	= 140 No.
Killas	= 200 No.
Munj Ban Course	= 140 Kg
Showels	= 50 No.
Gunny bags	= 700 No.
Sutli	= 3 Kg
Needles	= 28 No.
Baskets	= 350 No.
Excavator	=2 No.
Dozer	= 1 No.
Dumper	= 4 No.

In Headworks Sub Division, one unit will be kept on Left Marginal Bund and one at Right marginal Bund. In Shorkot Sub division, one unit will be kept at Lakhi Flood Bund, one at Hassuwali Flood Bund along with Rajbana Flood Bund and connecting tail Rajbana Flood Bund. Whereas in 18 Hazari Sub division two units will be deployed – one at Dadal Flood Bund and one at Rangpur Flood Bund.

A gang of 10 persons and a mate will move along with the unit at a moment notice. At the same time the Army Authorities will also be requested to provide manpower for closing leakage/breach.

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CHAPTER-10
EMERGENCY TELEPHONE NUMBERS

#	DESIGNATION	OFFICE	RESIDENCE
1.	Secretary to Government of the Punjab, Irrigation Department, Lahore.	042-99212117 042-99212118	042-35731116
2	Secretary South Punjab Irrigation Department Bahawal pur	062-9250544	-
3.	P.S. to Secretary IRR: Lahore.	042-99212116 042-99212117 042-99212118	042-5821839
4.	Additional Secretary (Tech:) IRR Department Lahore.	042-99212128	042-37841123
5.	Additional Secretary (Admn) IRR department Lahore.	042-99212119	042-7561576
6.	Deputy Secretary (Admn)	042-99212126	042-7575766
7.	Deputy Secretary (General)	042-99212125	042-5725896
8.	Deputy Secretary Development)	042-99212129	042-7586597
9.	Deputy Secretary (Power)	042-99212129	042-6826748
10.	Deputy Secretary (Operation)	042-99212127	042-891579
11.	Officer on Special Deputy	042-99212130	042-7573504
12.	U.S/S.O, (Floods) flood Emergency Officer	042-99212134	
13.	Deputy Director, P & D under Secretary	042-99212131	042-6853264
14.	S.O. General	042-99212133	
15.	S.O. (V)	042-99214021	
16.	Telegraph office Irrigation LHR	042-99212166	
17.	Chief Engineer D & F Zone Lahore.	042-99230602 Fax: 042-35862081	-
18	Director Flood D&F Zone LHR	042-99231614	
19.	Executive Engineer, Irrigation Jhang.	047-9200300	-
20.	XEN Rasool Headworks	0546/553211	-
21.	XEN Qadirabad Headworks	054-7550190	-
22.	Chief Engineer Mangla Dam	054-4639161 Fax 639162	-
23	XEN Marala Headworks	052-3502102	-
24	XEN Khanki Headworks	055-6266239	-
25.	D.C. Jhang.	047-9200081	047-7625881 047-7612437
26.	District Session Judge Jhang	047-9200092	-
27.	Addl Distt Session, Jhang	5372	-
28.	Senior Civil Judge, Jhang.	047-9200333	-
29.	Superintending Engineer, WAPDA, Jhang	047-9200228	
30	XEN WAPDA Jhang.	047-9200224	03701813310
31	S.D.O. WAPDA Jhang	047-9200227	03701813342

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32.	Executive District Officer (Revenue Jhang)	047-7612010	047-7624420
33.	District Officer Revenue Jhang.	047-920012	047-7612010
34.	Deputy District Officer (Revenue Jhang)	047-9200433	047-7612697
35.	314-Assault Engineers Battalion Gujranwala Cantt:	055-269-35188	
36.	25 Engineers Battalion Gujranwala Cant.	055-2694146	055-2694144 055-2695184
37.	Head Quarter Engineers 1 Crops Kharian Cantt (Tel: Miltary)	05771-592353	05771-592353
38.	XEN Balloki Barrage Division	049-4610300	
39.	Assistant Agricultural Engineering	625668	
40.	Sub Divisional Officer T.S. Link Shorkot Cantt:.	047-5501954	047-5501954
41.	XEN operation office of the Chief Engineer, Faisalabad Irrigation Zone Faisalabad	041-9200270	
42.	Chief Engineer, Sargodha Zone Sargodha	048-9230446	
43.	Chief Engineer, Bhalwalpur Zone Bahawalpur	062-9250265 Fax: 9250263	
44.	Chief Engineer, Research Punjab Lahore.	042-9212091 & 9212092 Fax 9212094	
45.	Director Flood Forecasting Bearue	7586479	
46.	Deputy Director Advertisement Lahore.	042-9201395 , 9201396 9201397	
47.	Relief Commissioner Lahore	042-9210780 & 9210781 Fax 9210555	
48.	Chairman, Federal Flood Commission, Lahore.	042-9206589 042-9221805	
49.	Director Flood / Sec: Punjab Flood Commission	042-99231614	
50.	Flood warning Center 46-Jail Road, Lahore.	042-7572091-93	
51	Assistant Commissioner Ahmed Pur Sial	047-534111	
52	Assistant Commissioner 18-Hazari	047-7645732	
53	Assistant Commissioner Jhang	047-9200733	
54	Assistant Commissioner SKT	047-5310171	
CHIEF ENGINEER, IRRIGATION MULTAN ZONE MULTAN			
1.	Chief Engineer	061-9200144	-
2.	Executive Engineer Operation	061-9200139 Fax 9200133	061-584303
3.	Assistant Design Engineer	061-9200143	-
4.	Administrative officer	061-9200141	-
5.	Zonal Accounts Officer	061-9200140	-

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6.	Telegraph office	061-9200922	-
TRIMMU CANAL CIRCLE, TRIMMU			
1.	Superintending Engineer Trimmu Canal Circle, Trimmu	047-7647051	0300-8696527
2.	XEN, Trimmu Headworks Division, Trimmu	047-7647200	0300-0762038
3.	XEN, Sidhnai Headworks Division, Sidhnai	0304-5295515	-
4.	XEN, Northern Tubewell Division (NTD),Multan	0333-7057024	
5.	S.D.O, Head works Sub Division, Trimmu	0301-2300051	
6.	S.D.O, Shorkot Sub Division, Shorkot	0300-8111461	
7.	S.D.O, 18-Hazari Sub Division, Garh More	0304-7879774	
HAVELI CANAL CIRCLE MULTAN			
1.	Superintending Engineer Haveli Canal Circle, Multan	061-9200136	061-9200300
2.	XEN, Multan Canal Division Multan	061-9200679	
3	XEN, Shujabad Canal Division Multan.	061-9200699	061-580184
MAILSI CANAL CIRCLE MULTAN			
1.	Superintending Engineer	9200134 Fax: 9200934	061-9200142
2.	XEN, Lodhran Division	06089200174	0608-511549
3.	XEN, Lower Western Bar		
4	XEN, Mailsi Syphon		
OTHERS			
1	XEN ,C.J. Link Kundian	045202-41289	
2	District Attorney Jhang	047-9200076	
3	District Police Officer, Jhang	047-9200444	
4	A.S.P. Jhang	047-9200446	
5	D.S.P Sadar Jhang	047-9200060	047-7613402
6	P.D.S.P Jhang	047-9200060	
7	Police Station (Saddar) Jhang	047-9200313	
8	D.S.P (H.Q)	047-9200082	

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CHAPTER-11

STANDARD OPERATION PROCEDURE (SOP) FOR BREACHING SECTIONS

11.1 HISTORY OF THE BREACHING SECTION

In order to protect the Trimmu Barrage and its allied training works from the on slaught of the floods, a breaching section was proposed on Right Marginal Bund between RD: 15+000-17+000 in the first instance. However, keeping in view the breaches made during the previous floods, a working paper was prepared and submitted to the Punjab Flood Commission embodying therein information regarding stages for activation of the breaching section and other physical factors relevant to the flood. The Punjab Flood Commission in its 55th meeting held on 17.06.1974 deliberated on the issue in detail and decided to activate the breaching section with water level at RD: 15000 Left Marginal Bund R.L 501. Subsequently Punjab Flood Commission in its meeting held on 30.06.1977 revised the R.L at RD: 15000 of Left Marginal Bund from R.L 501 to R.L 500 authorizing the Executive Engineer, Trimmu Headworks Division Trimmu to order the activation of the breaching section in case of sound and valid reasons for the protection of the Barrage. However, the project of Rehabilitation and up-gradation of Trimmu Headworks has been completed and enhance the design capacity of Trimmu Barrage from 645000 to 875000 Cs to minimize the chances of activation of Breaching section. The previous history of operation of breaching section is tabulated below.

Year	Discharge through Barrage (Cusecs)	Discharge through Breach Cut (Cusecs)	Total Discharge (Cusecs)
1959	718,255	225,000	943,255
1973	666,910	66,000	732,910
1992	683,117	205,000	888,117
2014	626,006	77,000	703,006
2025	550,965	--	550,965

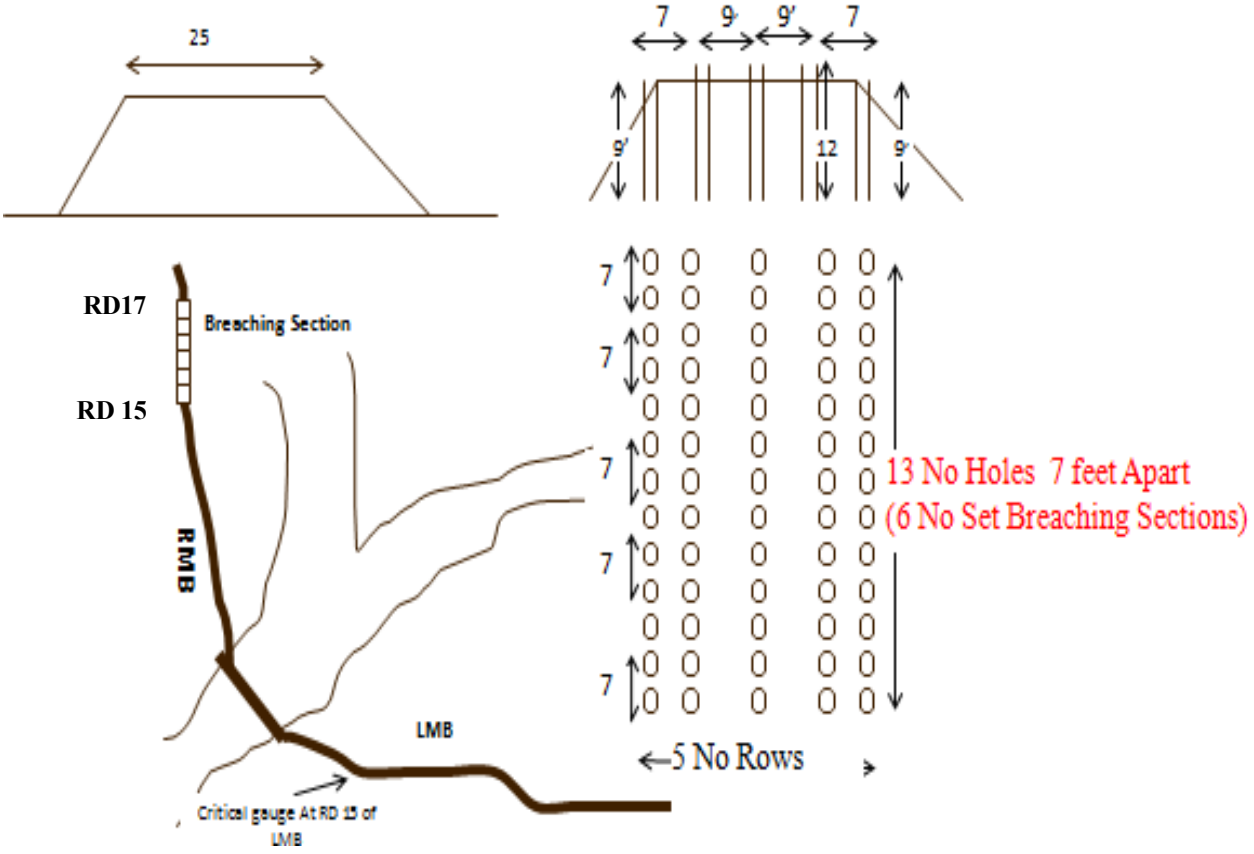
XEN (T)

11.2 LOCATION, DESIGN, QUANTITY AND VARIETY OF THE EXPLOSIVE REQUIRED FOR DETONATION.

The breaching section of Trimmu Barrage is located at RD 15 to 17 of R.M.B.

The detail of breaching section is shown in figure below.

Breaching section At Trimmu Barrage



XEN (T)

11.3 ARRANGEMENT OF EXPLOSIVE & SECURITY OF EXPLOSIVE

Explosive store has been shifted under the supervision of army authority at 1-Core Engineering Batalian Kharian Cantt, which will be shifted at site during the flood season as per schedule. The detail of explosive requirement as well as available is tabulated below.

CURRENT STATUS OF EXPLOSIVE / ACCESSORIES

S. No.	Name of explosive / accessories	Quantity required	Quantity available	Balance quantity required	When balance quantity will be arranged	Any previous Pending / outstanding payment
1	PE3A	6886 Kg	6886 Kg	-	-	No outstanding payment
2	Vabo Card	9100 Mtr	9100 Mtr	-	-	
3	Safety Fuze No.11	750 Mtr	750 Mtr	-	-	
4	Detonating card	6000 Mtr	6000 Mtr	-	-	
5	Primer CE	2940 No.	2940 No.	-	-	
6	Ceiling compound	60 Kgs	60 Kgs	-	-	
7	Liner 12 Ft	156 Nos	156 Nos	-	-	
8	Jute	150 Mtr	150 Mtr	-	-	
9	Liner 9 Ft	108 Nos	108 Nos	-	-	

11.4 LIST OF SECURITY STAFF ALONG WITH DETAIL OF THEIR TRAINING ETC

The explosive material for operation of Breaching section of Trimmu Barrage lies with Engineering Corps-I Stationed at Gujranwala Cantt. Army personal has been deputed for the security with the specialized training.

11.5 DETAIL OF MECHANICAL MEANS AS STANDBY ARRANGEMENTS IN CASE OF DETONATION FAILURE

The breaching section is activated with the help of the Army personal with explosive materials available at site. In case of the failure of this method, 1 No. Bulldozers and 2 No. excavator and 3 No. of dumpers will be deployed to cause cuts in the Right Marginal Bund. For this purpose, standby labour is also deployed. Furthermore, six bulldozers have been requested to be arranged by the Deputy Commissioner, Jhang.

XEN (T)

In the event of the activation of the breaching section, the flood waters spread surround 18-Hazari Town and travels in 3 directions as enunciated below: -

1. Main current hits Rangpur Canal between RD: 21000-23000.

2. Another current flows in creek cuts through 1-R Disty between RD: 3000 and 4000 then hits to Rangpur Canal between RD: 44000-45000.

3. 3rd current flows in depression along sand dunes and 2-R Disty up to RD: 13000 and then hits to Rangpur Canal between RD: 74000-75000 being a natural depression.

11.6 DUTY ROSTER IN CASE OF CRITICAL SITUATION

In case of critical situation, the Executive Engineer Trimmu Barrage Division and Sub Divisional Officer Head Works Sub Division will be available at the Barrage site for the coordination and Sub Divisional Officer, T.S. Link Sub Division will be available at R.M.B site as overall incharge of the site. However, the Secretary to Government of the Punjab Irrigation Department Lahore will depute officers on the flood bunds of Trimmu Headworks Division as per SOP's during Flood days.

11.7 BREACHING COMMITTEE WITH THEIR ACTION PLAN

Breaching section shall be operated on the orders of the following committee constituted by Government of the Punjab Irrigation Department vide notification No. SO(FLOODS)VI-33-97 dated 15-07-2015.

i) Deputy Commissioner Jhang (Convener).

ii) Deputy Commissioner, Muzaffar Garh (Member).

iii) Executive Engineer, Trimmu Headworks Division, Trimmu (Member).

iv) Representative from C & W Department not below the rank of as Executive Engineer.

v) Executive Engineer concerned of the Irrigation Department.

vi) Representative from Pakistan Army not below the rank of a Lt. Colonol.

(a) The decision to operate a breaching section shall be taken by the committee keeping in view the technical advice of the Executive Engineer Trimmu Headworks Division, Trimmu. In case of any difference of opinion among the members, the final decision shall rest with the Deputy Commissioner Jhang.

(b) In case of unavailability of the Deputy Commissioner, Jhang or his inability to take decision, or in case of a difference of opinion between the Deputy Commissioner, Jhang in which the breaching section is located and the district which is likely to be affected by the operation of the breaching section,

XEN (T)

the decision to operate a breaching section shall be taken by the respective Commissioner.

(c) Breaching section shall be operated when one or more of the following conditions are met:-

(i) The discharging capacity of the structure for which breaching section is located is exceeded and the safety of structure is threatened.

(ii) The critical gauge i.e R.L 500 Ft as indicated in the relevant Flood Fighting Plan is achieved or exceeded and is rising.

(iii) The safety of major population center-(s) is threatened due to high flood levels and in view of the Executive Engineer concerned of the Irrigation Department, operation of breaching section can help in reduction of flood levels.

(d) Where, in view of the Executive Engineer concerned of the Irrigation Department or the representative of the department owning the structure at which the breaching section is located, the aforesaid criteria is expected to be met after due consideration of all available technical and hydrological conditions, the aforesaid committee may operate the breaching section before the critical gauge is achieved or exceeded. In every such case, the view of the Executive Engineer concerned of Irrigation Department or the representative of the department owing the structure shall be expressed in writing and shall be based on flood forecast by Pakistan Meteorological Department or other reliable sources, the trend of discharges in the relevant river at upstream locations, the lag times, estimated attenuation and expected inflows from tributaries, nullahs and streams en-route. Where advance breaching is planned, the committee may also consult professional experts and seek advice from the Superintending Engineer or the Chief Engineer concerned of the Irrigation Department.

(e) Breaching section shall be operated by the contingent plan by the Chief Engineer and Pakistan Army as indicated in the Flood Fighting Plan. Explosive method shall be the preferred method for operation of breaching section. However, the Department owning the structures on which the breaching section is located, and in case of their failure to do so, Irrigation Department shall make available, in advance, necessary earth moving

XEN (T)

machinery and other equipment for affecting the breach through mechanical means in the shortest possible time.

(f) The Deputy Commissioner concerned and all other relevant agencies shall ensure all necessary arrangements for the safety and if required evacuation of population likely to be effected by the operation of breaching section.

11.8 LIST OF VILLAGES LIKELY TO BE INUNDATED IN CASE OF BREACH / HIGH FLOOD

The water escaping through the activated breaching section will flow along Right Bank of Rangpur Canal crossing Jhang-Muzaffar Garh Road at 30 KM from Jhang. The flood water traveling along Rangpur Canal crosses through cuts at Rangpur Canal at RD: 21+000-23+000, 44+000-45+000 and 74+000-75+000 and remaining water spreads between Right Bank of Rangpur Canal and sand dunes up to a distance of about 100 K.M from Trimmu Barrage.

The area likely to be affected / inundated by the spills. The villages / abadies and other infrastructures like road, canals etc inundated / damaged are detailed here under:-

S#	Tehsil	Villages
1	Tehsil Jhang	Dhoin Muhammad , Mansoor Sial , Diraj , Kot Khera, Mohal, Guniana, Wijhlana. **Total Villages = 7 Nos.**
2	Tehsil 18-Hazari	Mari Shah Sakheera, Kot Shakir, Machiwal, Sajhran , Kot Maldave, Munday Syed, Dosa, Dabi, Umran Janubi, Kamra, Baila Chotra , Lateef Shah, Basti Sanga, Loaharan Wala, Kharal Sipra, Kotla Naik Ahmed, Kotli Baqir Shah, Gari Fateh Ullah, Sheroana, Loha Bhir, Johiya, Ahmed Abas, Bela Shar, Bolla Patwana. Rashid Pur , Jbanoana, Dhan Miani, Pahar Pur, Kot Murad, Rodo Sultan, Taror, Kot Rustum, Basti Nusrat, Lashari, Malkana, **Total Villages = 36**
3	Tehsil Ahmed Pur Sial	Sultan Bahoo, Dull, Diraj, Pir Abdul Rehman , Samanduana, Naikokara Kotli, Mehmood Shah, Garh Maharaja , Chak 5/2-L, Tiba Gehli, Fateh Pur, Jusa, Fateh Pur Pariti, Islam Pur Nashaib, Islam Pur faraz, Chak Norang Shah, Kot Mupal, Inayat Shah. Saiwa Sadhana. **Total Villages =23**
4	Tehsil Muzaffar Garh	Maqsoodpur , Dera Fazil ,Bahadaur, Amir Pur, Sargana, Kirari Ali Mardan , Kacha Nashaibi, Behram Pur ,Chbootra Mamil, Fatoo Fanaka, Dera Hayat, Bahli Shumali, Sadi Pur, Makoo Jamal **Total Villages = 13**
TOTAL VILLAGES		**79 Nos**

XEN (T)

11.9 ANNOUNCEMENT AND DETAIL OF EVACUATION ARRANGEMENTS

The time lag between Qadirabad Barrage and Trimmu Barrage is 72 hours and Rasul Barrage to Trimmu Barrage is 72 hours. Thus, Irrigation Department has ample time to inform Civil Administration and other concerned agencies about the flood situation for warning the civil population, arranging their evacuation and adopting other protective measures. A critical gauge stands fixed at RD: 15000 of Left Marginal Bund depicting the trend of the flood heights and when the R.L. of the critical gauge touches the value as R.L. 500 if the river is still in rising position, the necessity operation of the Barrage is established on the basis of 3 hourly gauges of the upper Barrages.

The gauges received from Qadirabad Barrage and Rasul Barrage are calculated / assessed at the Barrage keeping in view the time lag and flood situation is brought to the notice of Army, Civil Administration and other relevant agencies for informing the public about the quantum of flood and its affect for making arrangement of evacuation. The operation of the breaching section will be intimated to the Army at least 12 hours in advance for making arrangements to shift the explosive to the breaching site.

Similar Civil Administration is to be informed about the operation of breaching section at least 12 hours in advance.

- The Deputy Commissioner Jhang to make arrangement for the evacuation of the public within LMB and RMB and the population coming on route of spill water.
- Military authorities to keep ready for emergency operation.
- Police to watch that no unauthorized cuts be made by public especially along LMB & RMB.
- Engineering 1-Corp for energizing the breaching section, when water level approaches 500.00 Mark at the critical gauge installed at RD: 15000 Left Marginal Bund.

11.10 DETAIL OF COORDINATION WITH CIVIL / ARMY AUTHORITIES

There is breaching section located at RD: 15+000-17+000 Right Marginal Bund. A critical gauge fixed at RD: 15000 of Left Marginal Bund when its level reaches to 500.00 and is in rising position, the hourly flood gauges are passed to Civil Administration as well as Army authorities. These three Departments remain in

XEN (T)

touch through telephonic and wireless system. The breaching section will be operated with the help of Army as per standing instructions.

In the event of the activation of the breaching section, the flood waters spread surround 18-Hazari Town and travels in 3 directions as enunciated below:-

1. Main current hits Rangpur Canal between RD: 21000-23000.
2. Another current flows in creek cuts through 1-R Disty between RD: 3000 and 4000 then hits to Rangpur Canal between RD: 44000-45000.
3. 3rd current flows in depression along sand dunes and 2-R Disty up to RD: 13000 and then hits to Rangpur Canal between RD: 74000-75000 being a natural depression.
4. Metalled Road linking Trimmu Barrage to Tehsil 18-Hazari head quarter will be disconnected. Jhang- Muzaffar Garh Road, Jhang-Bhakkar Road can be disconnected.
5. Telephone exchanges 18-Hazari , Rodu Sultan and 2 Nos Suger Mills, Rice Mills , Petrol pumps, Government colleges, Middle and High Schools, basic health units, grid station are likely to be disturbed.

The following officers will be informed before operating the breaching section and it is the duty of Executive Engineer, Trimmu Headworks to inform.

1. The Secretary, Government of the Punjab, Irrigation Department, Lahore.
2. The Chief Engineer, Irrigation Multan Zone, Multan.
3. The Superintending Engineer, Trimmu Canal Circle, Trimmu.
4. The Superintending Engineer, Haveli Canal Circle, Multan.
5. The Chief Engineer, Drainage & Flood Zone, Lahore.
6. The Flood Relief Commissioner, Lahore.
7. The Chief Engineering Adviser, Chairman Federal Flood Commission, 6-Ataturk Avenue G-5/1,Islamabad.
8. The Commissioner, Faisalabad Division, Faisalabad.
9. The Deputy Commissioner, District Muzaffargarh.
10. The Deputy Commissioner, District Jhang.
11. The Head Quarter 1-Corp Engineer, Battlion, Kharian Cantt:

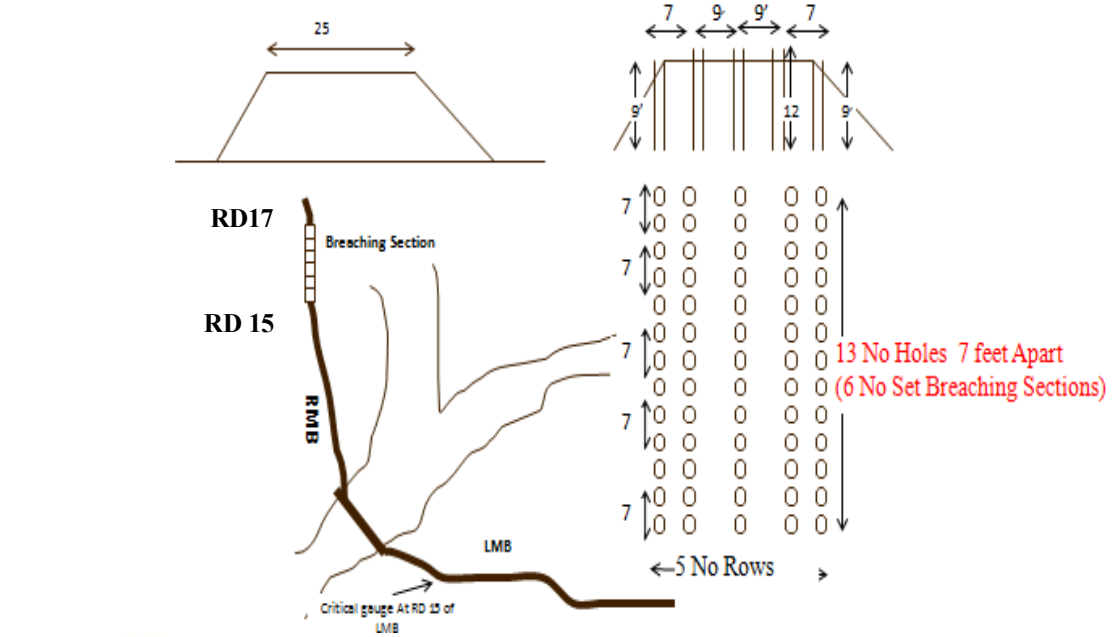
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12. The Deputy District Officer (Revenue) Jhang/ Shorkot / 18-Hazari/Ahmedpur Sial and Muzaffar Garh.
13. The District Police offcer's Jhang / Muzaffar Garh.
14. The Sub Divisional Officer's on watching.
15. All Sub Engineer's on duty.
16. Concerned Executive Engineer of FESCO.
17. The Chief Executive Officer's Jhang / Muzaffar Garh

11.11 PARALLEL COMMUNICATION ARRANGEMENT

In addition to installation of Wireless set at Trimmu Barrage some temporary connections will be arranged at left side of the Barrage as well as field office where all the Officers / Officials will meet together to chalk out further programs. One supervisor of T & T Department will remain available at site for proper control and operation of all this system.

11.12 INDEX PLAN



Executive Engineer
Trimmu Headworks Division
Trimmu

Superintending Engineer
Trimmu Canal Circle,
Trimmu

Chief Engineer,
Irrigation Multan Zone
Multan

XEN (T)

Part – B

CHAPTER-12
VULNERABLE SITES ON FLOOD BUND / STRUCTURES

12.1 APPREHENDED BREACHES IN FLOOD BUNDS / STRUCTURES

Sr. No.	Name of Flood Bund	Reach	
		From RD	To RD
1	Right Marginal Bund	20+000	27+000
2	Left Marginal Bund	14+000 42+000	21+000 46+000
3	Colony Ring Bund	4+000	5+000
4	Rangpur Flood Bund	282+000 308+000	286+000 318+000
5	Hassu Wali Flood Bund	08+000 20+000 38+000 49+000	09+000 22+000 39+000 50+000
6	Rajbana Flood Bund	0+000	6+500
7	Dadal Flood Bund	28+000 54+500	29+000 55+500

12.2 OPERATION OF BREACHING SECTION

The Breaching section of Trimmu Barrage was approved on Right Marginal Bund between RD 15+000-17+000. The Punjab Flood Commission in its 55th meeting held on 17.06.1974 deliberated on the issue in detail and decided to activate the breaching section with water level at RD: 15000 Left Marginal Bund R.L 501. Subsequently Punjab Flood Commission in its meeting held on 30.06.1977 revised the R.L at RD: 15000 of Left Marginal Bund from R.L 501 to R.L 500 authorizing the Executive Engineer, Trimmu Headworks Division Trimmu to order the activation of the breaching section in case of sound and valid reasons for the protection of the Barrage. They history of operation of breaching section is tabulated below.

Year	Discharge through Barrage (Cusecs)	Discharge through Breach Cut (Cusecs)	Total Discharge (Cusecs)
1959	718,255	225,000	943,255
1973	666,910	66,000	732,910
1992	683,117	205,000	888,117
2014	626,006	77,000	703,006

12.3 BREACHES DUE TO RISING OF FLOOD WATER, DETERIORATION FLOOD BUNDS ETC.

R.R.E,Route plans attached at Pages

No such occurrence.

XEN (T)

CHAPTER-13

EMERGENCY CONTINGENCY PLAN FOR VULNERABLE SITE (SITES) LISTED ABOVE EMERGENCY CONTINGENCY PLAN MUST INCLUDE

PLAN NO. 1

RD: 20+000 – 27+000 RIGHT MARGINAL BUND

13.1 PLAN SHOWING ROUTE OF FLOOD WATER COMING OUT OF THE BREACH SUPPORTED WITH LEVELS.

Plan Attached

13.2 DETAIL OF VILLAGES ABADIES LIKELY TO BE AFFECTED AND THIS SHOULD ALSO BE SHOWN ON THE PLAN.

- 18-Hazari
- Behllar.
- Chowkan Janpur
- Malkana

13.3 STRATEGY AND ACTION TAKEN BE EXPLAINED IN DETAIL. THIS MAY INCLUDE.

Strategy has been explained in section 5 and, The employed labour, Flood Fighting Material and available machinery will be deployed on the breach for control of spilling water coming out from the breach. All efforts will be made to control the breach.

13.3.1 ARRANGEMENTS

The necessary arrangements will be made at site and a flood control room will be operational, walkie talkie sets will be connected.

13.3.2 ESTABLISHMENT OF FLOOD FIGHTING CAMPS

Flood fighting camp will be established at RD: 20+000 of R.M.B

13.3.3 DUTIES OF OFFICERS / OFFICIALS AND THEIR CAMP SITES

Sub Engineer Head Works Section will be incharge of the camp site.

Sub Engineer Mr. Asif = Mobile No. 0324-6751933

13.3.4 DEPARTMENTAL MACHINERY AVAILABLE

- Government Tractor Trolly

XEN (T)

13.3.5 MACHINERY AVAILABLE FROM PRIVATE SOURCE

Machinery will be made available through private source i.e Government contractors.

Machinery detail is given in chapter 14.

13.3.6 STATUS OF FLOOD FIGHTING MATERIAL

S.#	Description	Total Quantity Required		Total Quantity Available	Deficient Quantity	Remarks
1	Shouldari / Tent	1	NO.	1	-	There is some deficient Flood fighting material.
2	Chairs	6	NO.	6	-	
3	Table	1	NO.	1	-	
4	Generator(2-3 KVA)	1	NO.	1	-	
5	Pedestal Fans	1	NO.	1	-	
6	Charpois	2	NO.	2	-	
7	Symbolic Jackets	50	NO.	-	50	
8	Polythene Sheet	100	KG	-	100	
9	Bamboos (44" dia and 10ft long)	100	NO.	-	100	
10	Water Cooler	1	NO.	-	1	
11	Portable Umbrella	2	NO.	-	2	
12	Life Jackets	5	NO.	5	-	
13	Utensils (10 Person Serving)	1	NO.	-	1	
14	Jute / Plastic Bags	1000	NO.	-	1000	
15	Walke Talke Set	2	Sets	2	-	
16	Raincoats	10	NO.	-	10	
17	LED Flood Light	10	NO.	-	10	
18	Extension Cable (10 ft)	2	NO.	-	2	
19	Rechargeable Torches	20	NO.	20	-	
20	Kassi	20	NO.	20	-	
21	Axes	20	NO.	20	-	
22	GI Buckets	5	NO.	5	-	
23	7/44 Cable	500	Feet	-	500	
24	Sutli	2	Kg	2	--	
25	Sewing Needles	10	No.	10	--	
26	Emergency medical kit	1	No.	-	1	
27	Wire crates (3x3x3) (at only that camp near river action and reserve stock exists)	100	No.	-	100	

13.3.7 Flood Fighting material Available

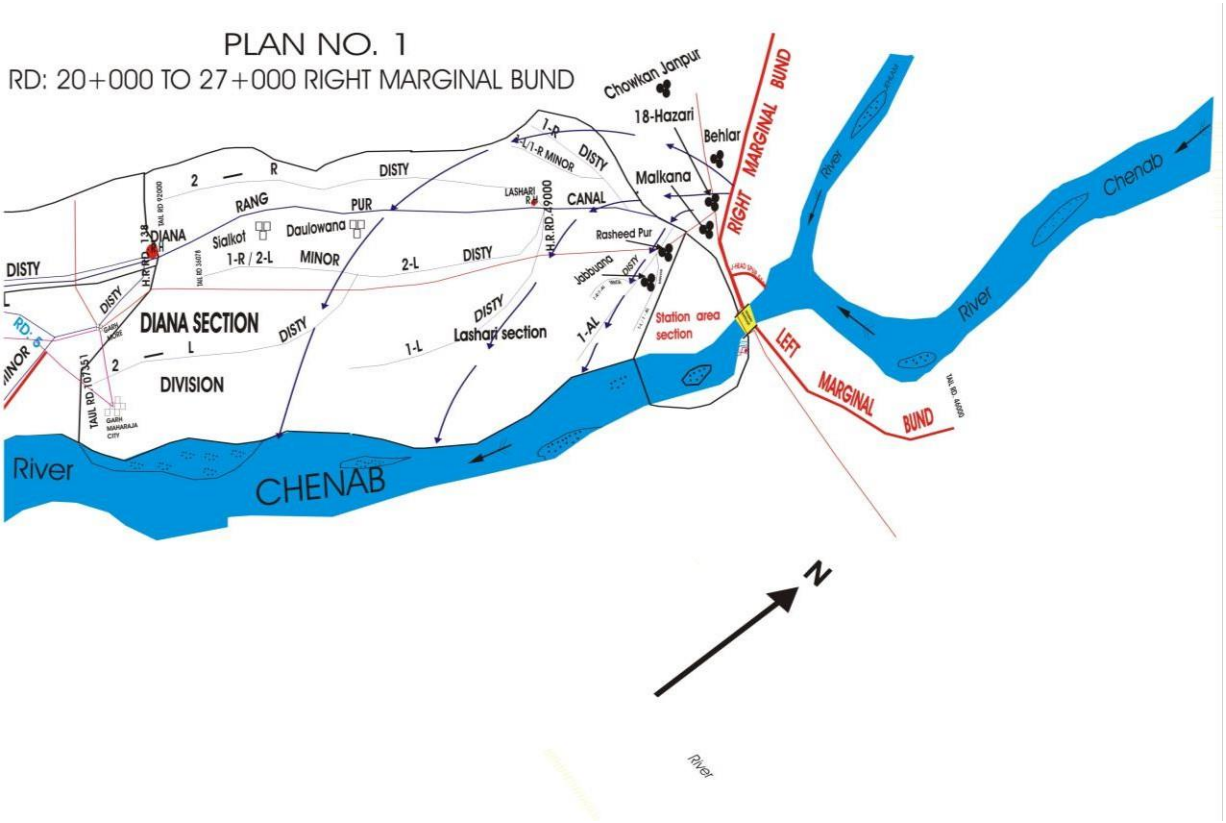
Detail of Flood Fighting Material available has already been metioned in section 13.3.6

13.4 DETAIL OF OTHER INFRASTRUCTURE LIKE ELECTRIC SUI GAS TELEPHONE INSTALLATION, ROAD NETWORK, OTHER BUILDING, CANAL AND DRAINAGE NETWORK.

- Grid Station Wassu Astana

XEN (T)

- Telephone Exchange 18-Hazari
- Basic Health Centers 18-Hazari
- Tehsil council 18-Hazari
- Jhang-Bhakkar Road
- Jhang-Muzaffar Garh Road
- Rangpur Canal & its system



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PLAN NO. 2

RD: 14+000 – 21+000 & 42+000 to 46+000 LEFT MARGINAL BUND

13.1 PLAN SHOWING ROUTE OF FLOOD WATER COMING OUT OF THE BREACH SUPPORTED WITH LEVELS.

Plan Attached

13.2 DETAIL OF VILLAGES ABADIES LIKELY TO BE AFFECTED AND THIS SHOULD ALSO BE SHOWN ON THE PLAN.

- Sumandari Kalan
- Mansoor Sial
- Mahloana
- Kot Dewan
- Haveli Bahadar Shah
- Mahranwala

13.3 STRATEGY AND ACTION TAKEN BE EXPLAINED IN DETAIL. THIS MAY INCLUDE.

Strategy has been explained in section 5 and The employed labour, Flood Fighting Material and available machinery will be deployed on the breach for control of spilling water coming out from the breach. All efforts will be made to control the breach.

13.3.1 ARRANGEMENTS

The necessary arrangements will be made at site and a flood control room will be operational, walkie talkie sets will be connected.

13.3.2 ESTABLISHMENT OF FLOOD FIGHTING CAMPS

Flood fighting camp will be established at RD: 16+000 and 42+000 of L.M.B

13.3.3 DUTIES OF OFFICERS / OFFICIALS AND THEIR CAMP SITES

Sub Engineer River Survey Section will be incharge of the camp site.

Sub Engineer Mr. Asif = Mobile No. 0324-6751933

13.3.4 DEPARTMENTAL MACHINERY AVAILABLE

- Government Tractor Trolly

13.3.5 MACHINERY AVAILABLE FROM PRIVATE SOURCE

Machinery will be made available through private source i.e Government contractors. Machinery detail is given in chapter 14..

XEN (T)

13.3.6 Flood Fighting Material Required

S.#	Description	Total Quantity Required		Total Quantity Available	Deficient Quantity	Remarks
1	Shouldari / Tent	2	NO.	2	-	There is some deficient Flood fighting material.
2	Chairs	12	NO.	6	6	
3	Table	2	NO.	1	1	
4	Generator(2-3 KVA)	2	NO.	1	1	
5	Pedestal Fans	2	NO.	1	1	
6	Charpois	4	NO.	2	2	
7	Symbolic Jackets	100	NO.	-	100	
8	Polythene Sheet	200	KG	-	200	
9	Bamboos (44" dia and 10ft long)	200	NO.	-	200	
10	Water Cooler	2	NO.	-	2	
11	Portable Umbrella	4	NO.	-	4	
12	Life Jackets	10	NO.	5	5	
13	Utensils (10 Person Serving)	2	NO.	-	2	
14	Jute / Plastic Bags	2000	NO.	-	2000	
15	Walke Talke Set	4	Sets	-	4	
16	Raincoats	20	NO.	-	20	
17	LED Flood Light	20	NO.	-	20	
18	Extension Cable (10 ft)	4	NO.	-	4	
19	Rechargeable Torches	40	NO.	20	20	
20	Kassi	40	NO.	20	20	
21	Axes	40	NO.	20	20	
22	GI Buckets	10	NO.	10	-	
23	7/44 Cable	1000	Feet	-	1000	
24	Sutli	4	Kg	2	2	
25	Sewing Needles	20	No.	10	10	
26	Emergency medical kit	2	No.	-	2	
27	Wire crates (3x3x3) (at only that camp near river action and reserve stock exists)	200	No.	-	200	

13.3.7 Flood Fighting material Available

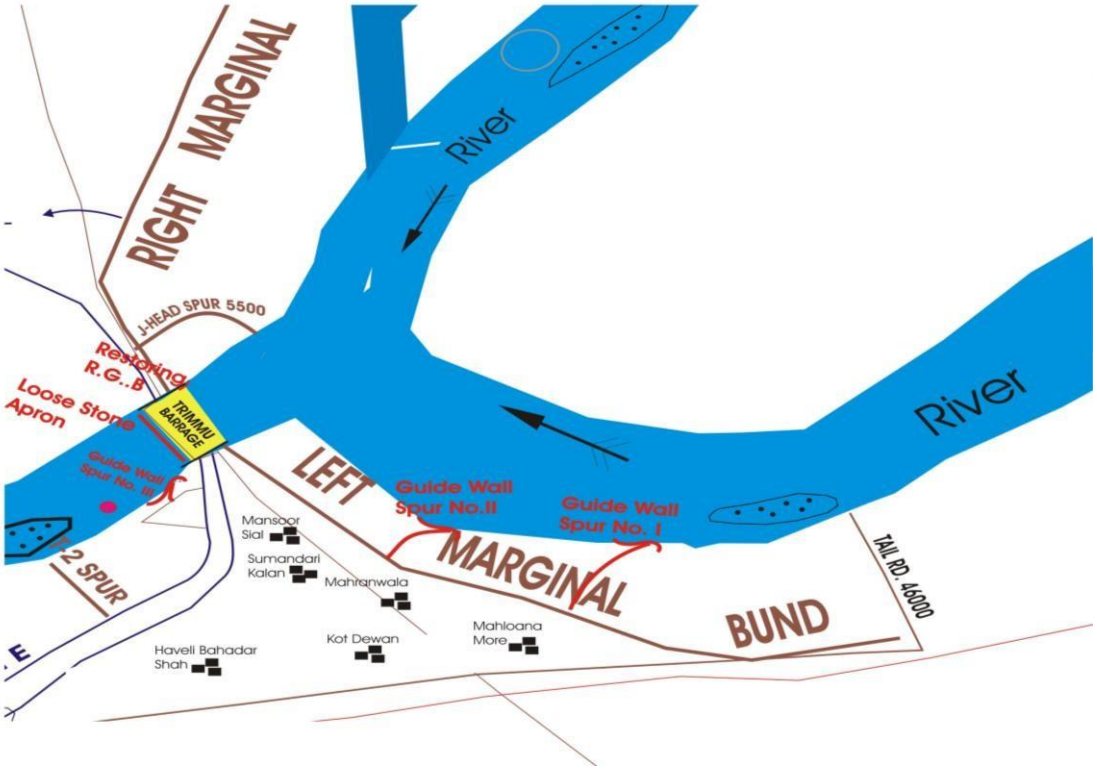
Detail of Flood Fighting Material available is already in section 13.3.6

13.4 DETAIL OF OTHER INFRASTRUCTURE LIKE ELECTRIC SUI GAS TELEPHONE INSTALLATION, ROAD NETWORK, OTHER BUILDING, CANAL AND DRAINAGE NETWORK.

- PARCO Pipe Line
- Telephone Exchanges
- Grid Station
- Petrol Pumps

XEN (T)

- Jhang-Multan Road.
- Jhang-Bhakkar Road
- Rice Mills.
- Basic Health Centers
- T.S.Link Canal.
- Haveli Main Line.



RD
21

XEN (T)

CHAPTER-13

EMERGENCY CONTINGENCY PLAN FOR VULNERABLE SITE (SITES) LISTED ABOVE. EMERGENCY CONTINGENCY PLAN MUST INCLUDE

PLAN NO. 3

RD: 282+000 to 286+000 & 308+000 to 318+000 Rangpur Flood Bund

13.1 PLAN SHOWING ROUTE OF FLOOD WATER COMING OUT OF THE BREACH SUPPORTED WITH LEVELS.

Plan Attached

13.2 DETAIL OF VILLAGES ABADIES LIKELY TO BE AFFECTED AND THIS SHOULD ALSO BE SHOWN ON THE PLAN.

- Rangpur Town.
- Kaudi Wal
- Kari Ali Mardan
- Bahrampur
- Chabootra Kamal
- Dera Habit

13.3 STRATEGY AND ACTION TAKEN BE EXPLAINED IN DETAIL. THIS MAY INCLUDE.

Strategy has been explained in section 5 and The employed labour, Flood Fighting Material and available machinery will be deployed on the breach for control of spilling water coming out from the breach. All efforts will be made to control the breach.

13.3.1 ARRANGEMENTS

The necessary arrangements will be made at site and a flood control room will be operational, walkie talkie sets will be connected.

13.3.2 ESTABLISHMENT OF FLOOD FIGHTING CAMPS

Flood fighting camp will be established at RD: 282+000 and 315+000 of Rangpur Flood Bund

13.3.3 DUTIES OF OFFICERS / OFFICIALS AND THEIR CAMP SITES

Sub Engineer Rangpur section will be incharge of the camp site.

Sub Engineer Rangpur section Mr Malik Aslam=Mobile No. 0305-7902992

XEN (T)

13.3.4 DEPARTMENTAL MACHINERY AVAILABLE

Not available

13.3.5 MACHINERY AVAILABLE FROM PRIVATE SOURCE

Machinery will be made available through private source i.e Government contractors. Machinery detail is given in chapter 14.

13.3.6 FLOOD FIGHTING MATERIAL REQUIRED

S.#	Description	Total Quantity Required		Total Quantity Available	Deficient Quantity	Remarks
1	Shouldari / Tent	2	NO.	1	1	There is some deficient Flood fighting material.
2	Chairs	12	NO.	4	8	
3	Table	2	NO.	1	1	
4	Generator(2-3 KVA)	2	NO.	1	1	
5	Pedestal Fans	2	NO.	1	1	
6	Charpois	4	NO.	2	2	
7	Symbolic Jackets	100	NO.	-	100	
8	Polythene Sheet	200	KG	-	200	
9	Bamboos (44" dia and 10ft long)	200	NO.	-	200	
10	Water Cooler	2	NO.	-	2	
11	Portable Umbrella	4	NO.	-	4	
12	Life Jackets	10	NO.	4	6	
13	Utensils (10 Person Serving)	2	NO.	-	2	
14	Jute / Plastic Bags	2000	NO.	-	2000	
15	Walke Talke Set	4	Sets	-	4	
16	Raincoats	20	NO.	-	20	
17	LED Flood Light	20	NO.	-	20	
18	Extension Cable (10 ft)	4	NO.	-	4	
19	Rechargeable Torches	40	NO.	18	22	
20	Kassi	40	NO.	25	15	
21	Axes	40	NO.	18	22	
22	GI Buckets	10	NO.	9	1	
23	7/44 Cable	1000	Feet	-	1000	
24	Sutli	4	Kg	2	2	
25	Sewing Needles	20	No.	11	9	
26	Emergency medical kit	2	No.	-	2	
27	Wire crates (3x3x3) (at only that camp near river action and reserve stock exists)	200	No.	-	200	

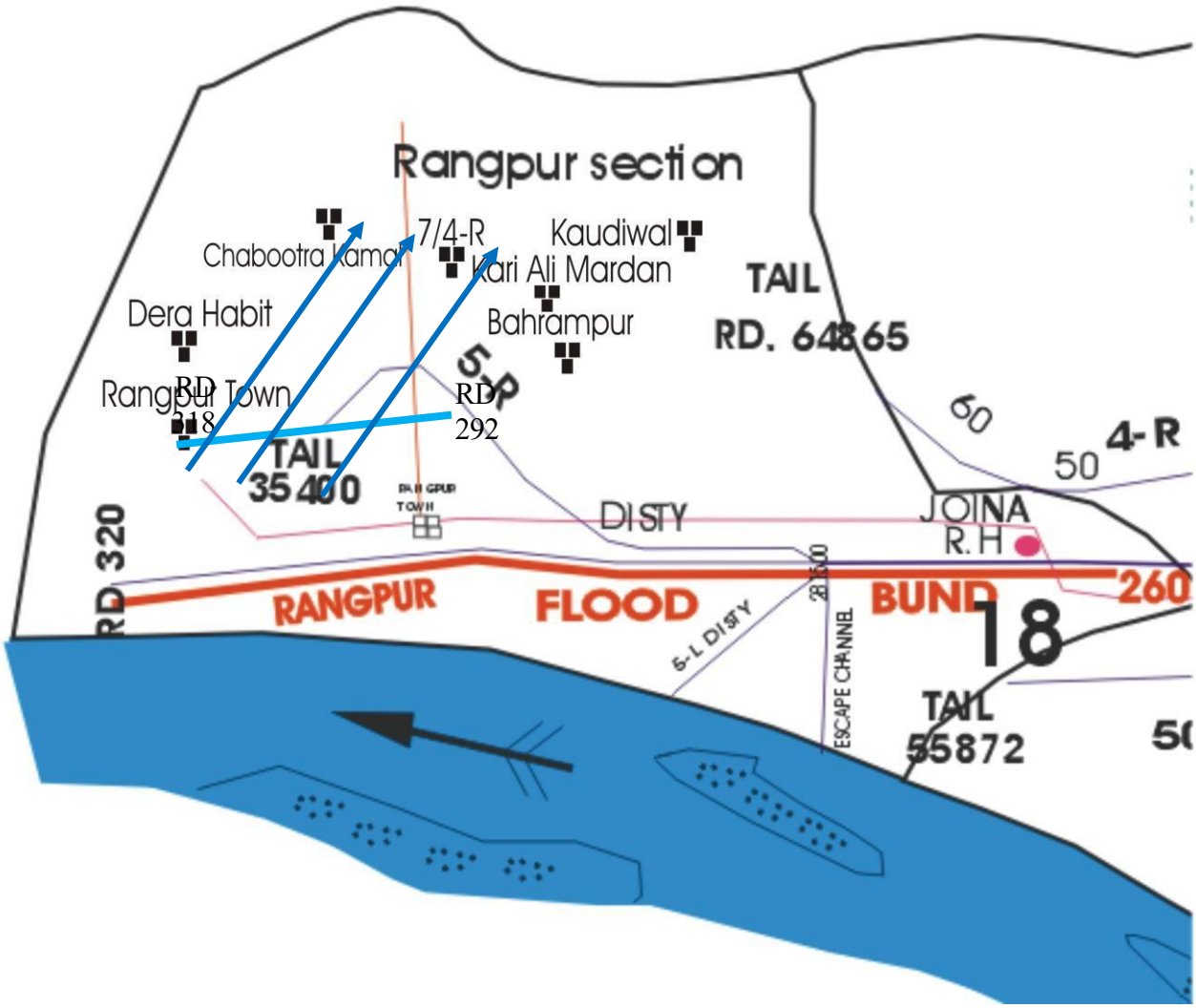
13.4 DETAIL OF OTHER INFRASTRUCTURE LIKE ELECTRIC SUI GAS TELEPHONE INSTALLATION, ROAD NETWORK, OTHER BUILDING, CANAL AND DRAINAGE NETWORK.

- PARCO Pipe Line
- Grid Station

XEN (T)

- Telephone Exchange
- Rural Health Center
- Government Boys Degree College
- Vocational Institute.
- Government Schools
- Muzaffar Garh to Jhang Road.
- Rangpur to Chowk Sarwar Shaheed Road.
- 5-R Disty
- Rangpur Canal

PLAN NO.3
RD.292+000 TO 318+000 RANGPUR FLOOD BUND



XEN (T)

PLAN NO. 4

RD 8+000 to 9+000,RD 20+000 to 22+000, RD 38+000 to 39+000 and RD: 49+000 TO 50+000 OF HASSU WALI FLOOD BUND

13.1 PLAN SHOWING ROUTE OF FLOOD WATER COMING OUT OF THE BREACH SUPPORTED WITH LEVELS.

Plan Attached

13.2 DETAIL OF VILLAGES ABADIES LIKELY TO BE AFFECTED AND THIS SHOULD ALSO BE SHOWN ON THE PLAN.

- Budhuana.
- Qaim Bharwana
- Kakku Wala
- Shah Sadiq Niang
- Fouja Dhara
- Allah Yar Joota
- Meerak Sial
- Mouza Mangan
- Shorkot City

13.3 STRATEGY AND ACTION TAKEN BE EXPLAINED IN DETAIL. THIS MAY INCLUDE.

Strategy has been explained in section 5 and The employed labour, Flood Fighting Material and available machinery will be deployed on the breach for control of spilling water coming out from the breach. All efforts will be made to control the breach.

13.3.1 ARRANGEMENTS

The necessary arrangements will be made at site and a flood control room will be operational, walkie talkie sets will be connected..

13.3.2 ESTABLISHMENT OF FLOOD FIGHTING CAMPS

Flood fighting camp will be established at RD: 8+000,RD 20+000, RD 38+000 and RD: 49+000 of Hassu Wali Flood Bund

13.3.3 DUTIES OF OFFICERS / OFFICIALS AND THEIR CAMP SITES

Sub Engineer Farid Mehmoood Section will be incharge of the camp site.

Sub Engineer Farid Mehmoood Asghar Ali Shah : Mobile No. 0301-7203509

XEN (T)

13.3.4 DEPARTMENTAL MACHINERY AVAILABLE
Not Available

13.3.5 MACHINERY AVAILABLE FROM PRIVATE SOURCE

Machinery will be made available through private source i.e Government contractors.

Machinery detail is given in chapter 14.

13.3.6 FLOOD FIGHTING MATERIAL REQUIRED

S.#	Description	Total Quantity Required		Total Quantity Available	Deficient Quantity	Remarks
1	Shouldari / Tent	4	NO.	1	3	There is some deficient Flood fighting material.
2	Chairs	24	NO.	8	16	
3	Table	4	NO.	2	2	
4	Generator(2-3 KVA)	4	NO.	2	2	
5	Pedestal Fans	4	NO.	2	2	
6	Charpois	8	NO.	2	6	
7	Symbolic Jackets	200	NO.	-	200	
8	Polythene Sheet	400	KG	-	400	
9	Bamboos (44” dia and 10ft long)	400	NO.	-	400	
10	Water Cooler	4	NO.	-	4	
11	Portable Umbrella	8	NO.	-	8	
12	Life Jackets	20	NO.	6	14	
13	Utensils (10 Person Serving)	4	NO.	-	4	
14	Jute / Plastic Bags	4000	NO.	-	4000	
15	Walke Talke Set	8	Sets	4	4	
16	Raincoats	40	NO.	-	40	
17	LED Flood Light	40	NO.	-	40	
18	Extension Cable (10 ft)	8	NO.	-	8	
19	Rechargeable Torches	80	NO.	40	40	
20	Kassi	80	NO.	50	30	
21	Axes	80	NO.	25	55	
22	GI Buckets	20	NO.	7	13	
23	7/44 Cable	2000	Feet	-	2000	
24	Sutli	8	Kg	4	4	
25	Sewing Needles	40	No.	18	22	
26	Emergency medical kit	4	No.	-	4	
27	Wire crates (3x3x3) (at only that camp near river action and reserve stock exists)	400	No.	-	400	

13.4 DETAIL OF OTHER INFRASTRUCTURE LIKE ELECTRIC SUI GAS TELEPHONE INSTALLATION, ROAD NETWORK, OTHER BUILDING, CANAL AND DRAINAGE NETWORK.

- Telephone Exchange

XEN (T)

- Petrol Pumps
- Jhang-Multan Road.
- Rice Mills.
- Basic Health Centers
- Hassu Wali Disty.
- Shorkot Disty.



XEN (T)

PLAN NO. 5

RD: 0+000 – 6+500 RAJBANA FLOOD BUND

13.1 PLAN SHOWING ROUTE OF FLOOD WATER COMING OUT OF THE BREACH SUPPORTED WITH LEVELS.

Plan Attached

13.2 DETAIL OF VILLAGES ABADIES LIKELY TO BE AFFECTED AND THIS SHOULD ALSO BE SHOWN ON THE PLAN.

- **Babal wala**
- **Yousaf Wala.**
- **Binda Sarbana**
- **Lakhi**

13.3 STRATEGY AND ACTION TAKEN BE EXPLAINED IN DETAIL. THIS MAY INCLUDE.

Strategy has been explained in section 5

13.3.1 ARRANGEMENTS

The necessary arrangements will be made at site and a flood control room will be operational, walkie talkie sets will be connected.

13.3.2 ESTABLISHMENT OF FLOOD FIGHTING CAMPS

Flood fighting camp will be established at RD: 6+000 of Rajbana Flood Bund

13.3.3 DUTIES OF OFFICERS / OFFICIALS AND THEIR CAMP SITES

Sub Engineer Rajbana Section will be incharge of the camp site.

Sub Engineer Rajbana Section Mr Muzaffar Ali Sajid : Mobile No. 0300-6998432

13.3.4 DEPARTMENTAL MACHINERY AVAILABLE

Not Available

13.3.5 MACHINERY AVAILABLE FROM PRIVATE SOURCE

Machinery will be made available through private source i.e Government contractors.

Machinery detail is given in chapter 14.

XEN (T)

13.3.6 FLOOD FIGHTING MATERIAL REQUIRED

S.#	Description	Total Quantity Required		Total Quantity Available	Deficient Quantity	Remarks
1	Shouldari / Tent	1	NO.	1	0	There is some deficient Flood fighting material.
2	Chairs	6	NO.	3	3	
3	Table	1	NO.	1	0	
4	Generator(2-3 KVA)	1	NO.	1	0	
5	Pedestal Fans	1	NO.	1	0	
6	Charpois	2	NO.	2	0	
7	Symbolic Jackets	50	NO.	0	50	
8	Polythene Sheet	100	KG	0	100	
9	Bamboos (44" dia and 10ft long)	100	NO.	0	100	
10	Water Cooler	1	NO.	0	1	
11	Portable Umbrella	2	NO.	0	2	
12	Life Jackets	5	NO.	3	2	
13	Utensils (10 Person Serving)	1	NO.	0	1	
14	Jute / Plastic Bags	1000	NO.	0	1000	
15	Walke Talke Set	2	Sets	0	2	
16	Raincoats	10	NO.	0	10	
17	LED Flood Light	10	NO.	0	10	
18	Extension Cable (10 ft)	2	NO.	0	2	
19	Rechargeable Torches	20	NO.	10	10	
20	Kassi	20	NO.	16	4	
21	Axes	20	NO.	8	12	
22	GI Buckets	5	NO.	3	2	
23	7/44 Cable	500	Feet	0	500	
24	Sutli	2	Kg	2	0	
25	Sewing Needles	10	No.	10	0	
26	Emergency medical kit	1	No.	0	1	
27	Wire crates (3x3x3) (at only that camp near river action and reserve stock exists)	100	No.	0	100	

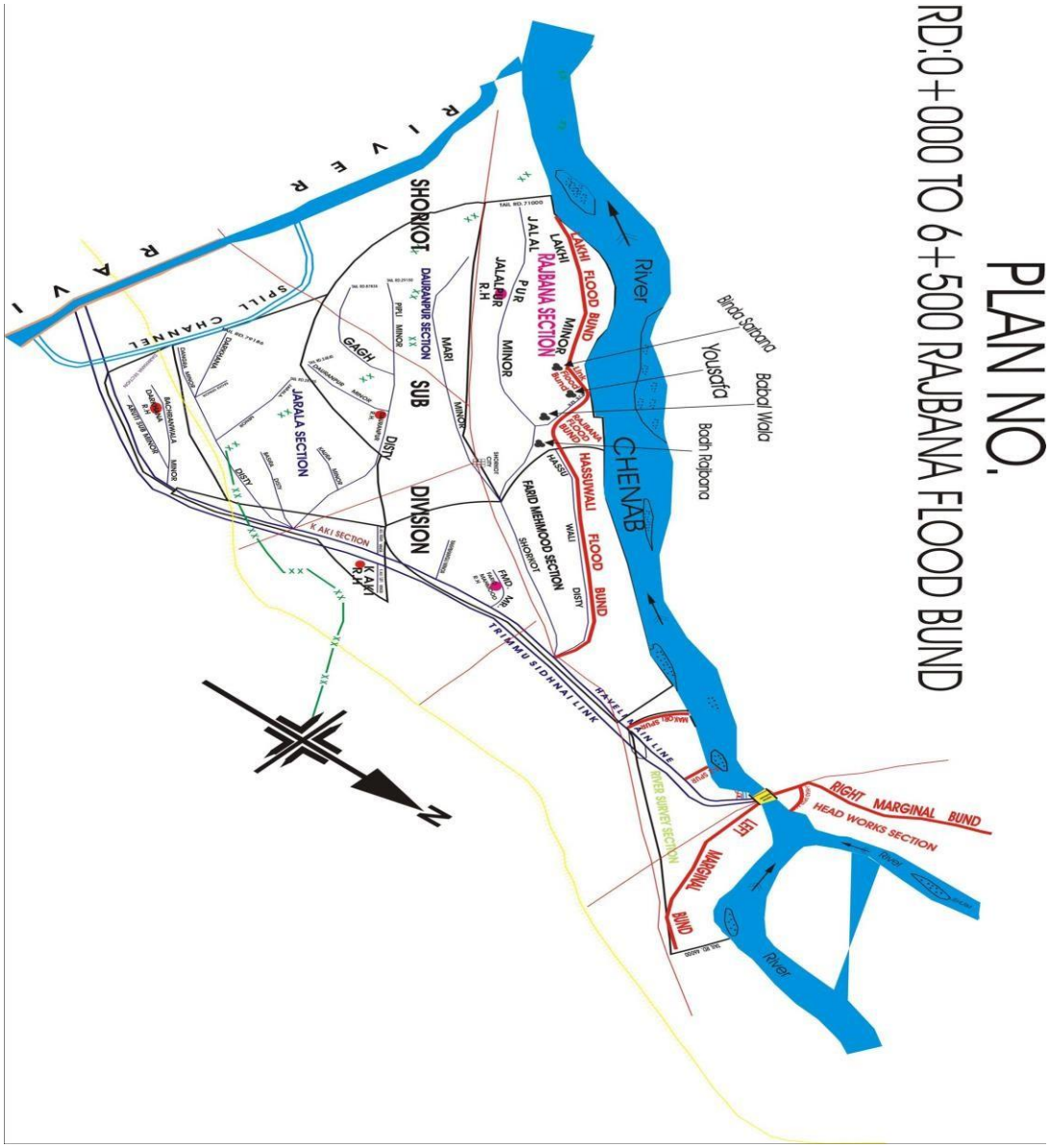
13.4 DETAIL OF OTHER INFRASTRUCTURE LIKE ELECTRIC SUI GAS TELEPHONE INSTALLATION, ROAD NETWORK, OTHER BUILDING, CANAL AND DRAINAGE NETWORK.

- Shorkot-Garh Maharaja Road
- Basic Health Centre
- Union Council
- Vetrinary Hospital.
- Basic Health Unit
- Rajbana Minor.
- Jalalpur Minor

XEN (T)

PLAN NO.

RD:0+000 TO 6+500 RAJBANA FLOOD BUND



XEN (T)

PLAN NO. 6

RD: 4+000-5+000 Colony Ring Bund

13.1 PLAN SHOWING ROUTE OF FLOOD WATER COMING OUT OF THE BREACH SUPPORTED WITH LEVELS.

Plan Attached

13.2 DETAIL OF VILLAGES ABADIES LIKELY TO BE AFFECTED AND THIS SHOULD ALSO BE SHOWN ON THE PLAN.

- **Canal colony Trimmu**
- **Rest House**
- **Binda Sarbana**
- **Kori**

13.3 STRATEGY AND ACTION TAKEN BE EXPLAINED IN DETAIL. THIS MAY INCLUDE.

Strategy has been explained in section 5

13.3.1 ARRANGEMENTS

The necessary arrangements will be made at site and a flood control room will be operational, walkie talkie sets will be connected..

13.3.2 ESTABLISHMENT OF FLOOD FIGHTING CAMPS

Flood fighting camp will be established at **RD: 5+000 Colony Ring Bund**

13.3.3 DUTIES OF OFFICERS / OFFICIALS AND THEIR CAMP SITES

Sub Engineer Station area Section will be incharge of the camp site.

Sub Engineer Station area Mr Aurangzeb: Mobile No. 0300-5247825

13.3.4 DEPARTMENTAL MACHINERY AVAILABLE

Not Available

13.3.5 MACHINERY AVAILABLE FROM PRIVATE SOURCE

Machinery will be made available through private source i.e Government contractors.

Machinery detail is given in chapter 14.

XEN (T)

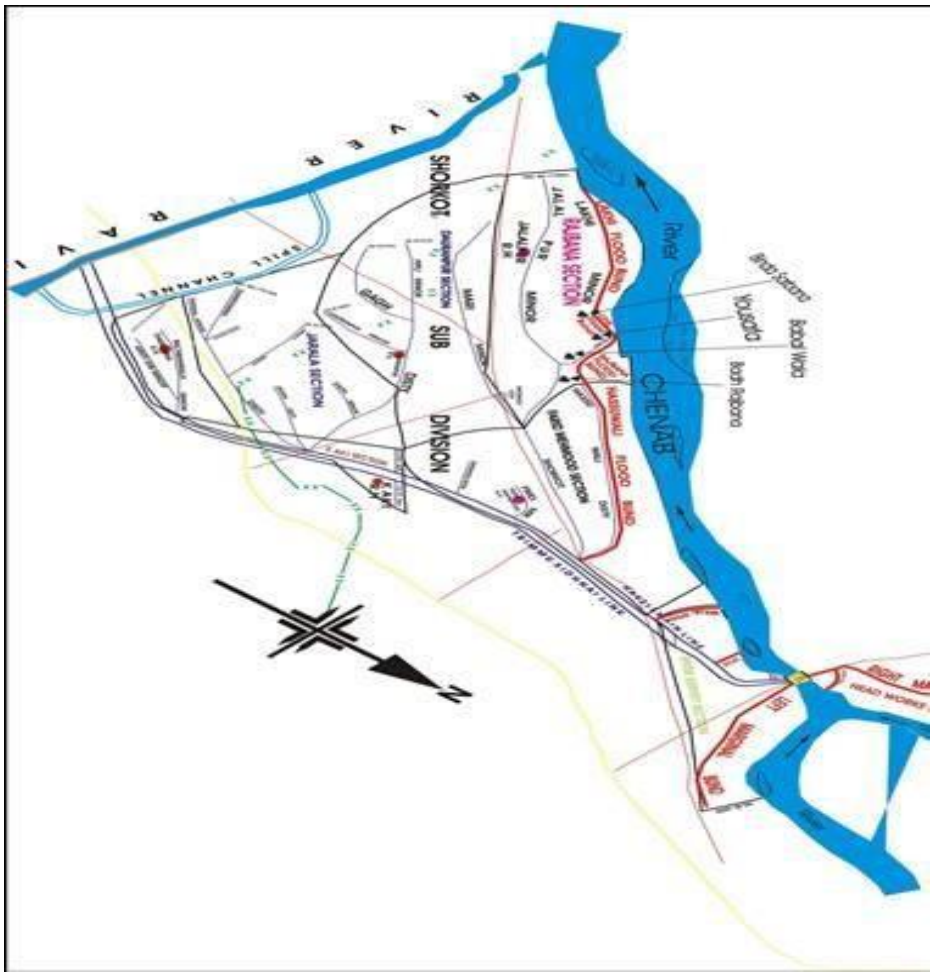
13.3.6 FLOOD FIGHTING MATERIAL REQUIRED

S.#	Description	Total Quantity Required		Total Quantity Available	Deficient Quantity	Remarks
1	Shouldari / Tent	1	NO.	0	1	There is some deficient Flood fighting material.
2	Chairs	6	NO.	3	3	
3	Table	1	NO.	1	0	
4	Generator(2-3 KVA)	1	NO.	1	0	
5	Pedestal Fans	1	NO.	1	0	
6	Charpois	2	NO.	2	0	
7	Symbolic Jackets	50	NO.	-	50	
8	Polythene Sheet	100	KG	-	100	
9	Bamboos (44” dia and 10ft long)	100	NO.	-	100	
10	Water Cooler	1	NO.	-	1	
11	Portable Umbrella	2	NO.	-	2	
12	Life Jackets	5	NO.	3	2	
13	Utensils (10 Person Serving)	1	NO.	-	1	
14	Jute / Plastic Bags	1000	NO.	-	1000	
15	Walke Talke Set	2	Sets	-	2	
16	Raincoats	10	NO.	-	10	
17	LED Flood Light	10	NO.	-	10	
18	Extension Cable (10 ft)	2	NO.	-	2	
19	Rechargeable Torches	20	NO.	8	12	
20	Kassi	20	NO.	12	8	
21	Axes	20	NO.	8	12	
22	GI Buckets	5	NO.	2	3	
23	7/44 Cable	500	Feet	-	500	
24	Sutli	2	Kg	2	0	
25	Sewing Needles	10	No.	10	0	
26	Emergency medical kit	1	No.	-	1	
27	Wire crates (3x3x3) (at only that camp near river action and reserve stock exists)	100	No.	-	100	

13.4 DETAIL OF OTHER INFRASTRUCTURE LIKE ELECTRIC SUI GAS TELEPHONE INSTALLATION, ROAD NETWORK, OTHER BUILDING, CANAL AND DRAINAGE NETWORK.

- Shorkot-Garh Maharaja Road
- Basic Health Centre
- Union Council
- Vetrinary Hospital.
- Basic Health Unit

XEN (T)


RAVI RIVER
RAVI CHANNEL
SHORKOT
SUB
DIVISION
JHANG
JALAL
JHANG
RAJANA SECTION
JHANG
MINOR
JHANG
MINOR
JHANG
MINOR

PLAN NO. 7

RD 28+000-29+000 & RD 54+500-55+000 Dadal Flood Bund

13.1 PLAN SHOWING ROUTE OF FLOOD WATER COMING OUT OF THE BREACH SUPPORTED WITH LEVELS.

Plan Attached

13.2 DETAIL OF VILLAGES ABADIES LIKELY TO BE AFFECTED AND THIS SHOULD ALSO BE SHOWN ON THE PLAN.

13.3 STRATEGY AND ACTION TAKEN BE EXPLAINED IN DETAIL. THIS MAY INCLUDE.

Strategy has been explained in section 5

13.3.1 ARRANGEMENTS

The necessary arrangements will be made at site and a flood control room will be operational, walkie talkie sets will be connected.

13.3.2 ESTABLISHMENT OF FLOOD FIGHTING CAMPS

Flood fighting camp will be established at RD: RD 28+000 & RD 54+500 Dadal Flood

13.3.3 DUTIES OF OFFICERS / OFFICIALS AND THEIR CAMP SITES

Sub Engineer Dadal Flood **Bund** will be incharge of the camp site.

Sub Engineer Dadal Flood **Bund Mr Muhammad Husnain:** Mobile No. 0304-9092769

13.3.4 DEPARTMENTAL MACHINERY AVAILABLE

Not Available

13.3.5 MACHINERY AVAILABLE FROM PRIVATE SOURCE

Machinery will be made available through private source i.e Government contractors.

Machinery detail is given in chapter 14.

XEN (T)

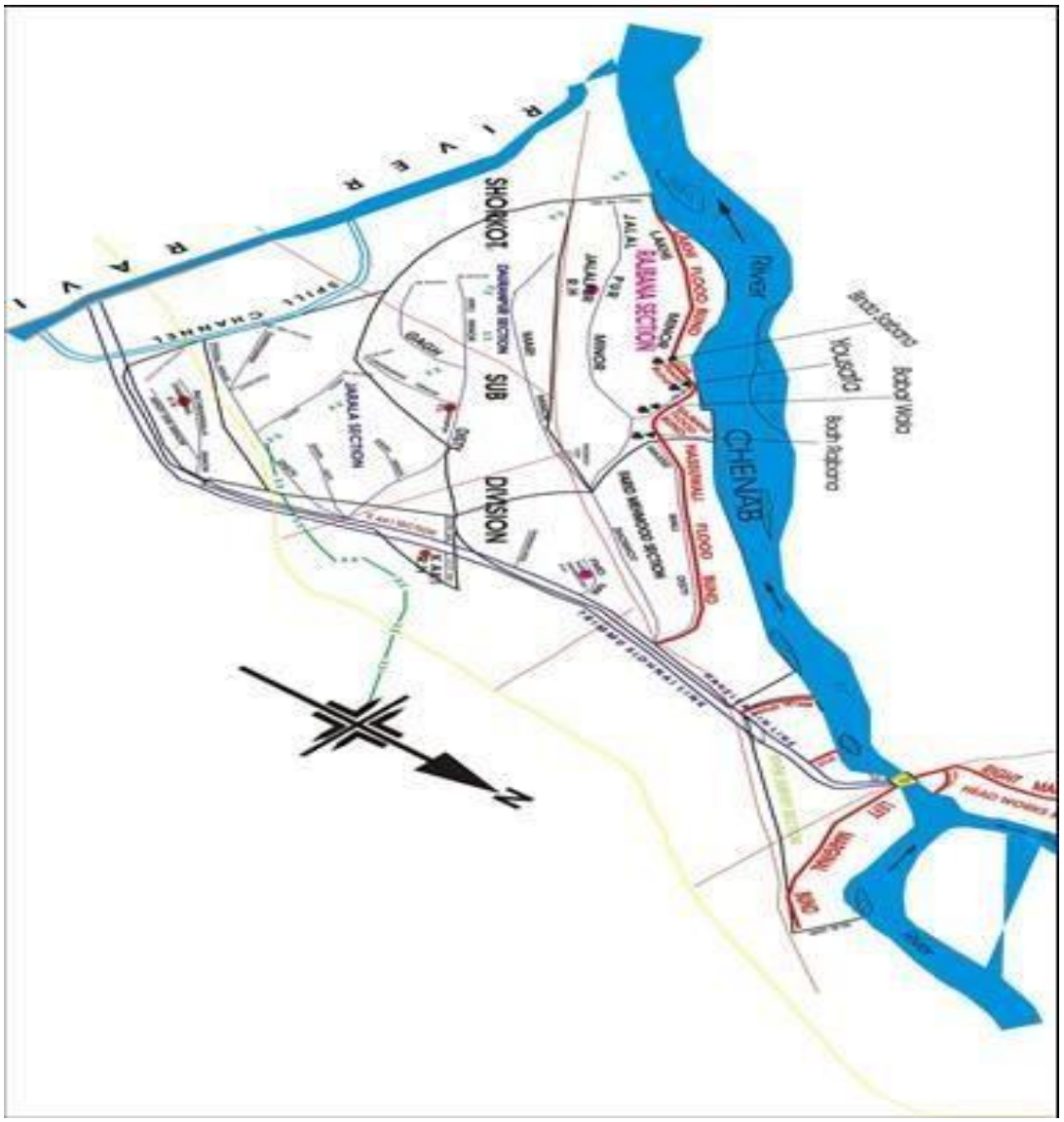
13.3.6 FLOOD FIGHTING MATERIAL REQUIRED

S.#	Description	Total Quantity Required		Total Quantity Available	Deficient Quantity	Remarks
1	Shouldari / Tent	2	NO.	1	1	There is some deficient Flood fighting material.
2	Chairs	12	NO.	3	9	
3	Table	2	NO.	1	1	
4	Generator(2-3 KVA)	2	NO.	1	1	
5	Pedestal Fans	2	NO.	1	1	
6	Charpois	4	NO.	2	2	
7	Symbolic Jackets	100	NO.	-	100	
8	Polythene Sheet	200	KG	-	200	
9	Bamboos (44” dia and 10ft long)	200	NO.	-	200	
10	Water Cooler	2	NO.	-	2	
11	Portable Umbrella	4	NO.	-	4	
12	Life Jackets	10	NO.	3	7	
13	Utensils (10 Person Serving)	2	NO.	-	2	
14	Jute / Plastic Bags	2000	NO.	-	2000	
15	Walke Talke Set	4	Sets	-	4	
16	Raincoats	20	NO.	-	20	
17	LED Flood Light	20	NO.	-	20	
18	Extension Cable (10 ft)	4	NO.	-	4	
19	Rechargeable Torches	40	NO.	15	24	
20	Kassi	40	NO.	20	22	
21	Axes	40	NO.	10	21	
22	GI Buckets	10	NO.	4	5	
23	7/44 Cable	1000	Feet	-	1000	
24	Sutli	4	Kg	2	2	
25	Sewing Needles	20	No.	10	10	
26	Emergency medical kit	2	No.	-	2	
27	Wire crates (3x3x3) (at only that camp near river action and reserve stock exists)	200	No.	-	200	

13.4 DETAIL OF OTHER INFRASTRUCTURE LIKE ELECTRIC SUI GAS TELEPHONE INSTALLATION, ROAD NETWORK, OTHER BUILDING, CANAL AND DRAINAGE NETWORK.

- Local Roads
- Basic Health Centre
- Union Council
- Vetrinary Hospital.
- Basic Health Unit

XEN (T)


RAVI
RAVI
SHORKOT
SUB
DIVISION
CHENAB
River
Bhalot Wala
Bodh Rabona
Chiniot
Ghulam Rabona
JARIALA SECTION
RABWAH SECTION
N

XEN (T)

CHAPTER – 14
ADDITIONAL INFORMATION
ACTION PLAN

CONSOLIDATED STATUS OF RESERVE STOCK OF STONE

Sr. No.	Sanctioned Reserve stock Limit (Lac Cft)	Available Quantity (Lac Cft)	Balance required with respect to Sanctioned limit (Lac Cft)	Minimum Quantity Available (Lac Cft)	Remarks
1	**23**	**16.85**	**6.15**	**16.10**	**-**

14.1 – Re-Shifting / Recouping Plan of Reserve Stone Departmentally

Sr. No.	Name of Structure	Sanctioned Reserve stock Limit (Lac Cft)	Available Quantity (Lac Cft)	Balance required (Lac Cft)	Remarks
1	2	3	4	5	6
1	LGB U/S AND D/S	5	4.87	0.13	Deficient quantity will be procuring before start of flood season. Work orders already awarded to the contractors.
2	RGB U/S AND D/S	5	4.76	0.24	
3	J-HEAD SPUR RD 4597 OF RMB	1.5	1.57	0	
4	SLOPING SPUR ALONG COLONY RING BUND	1	0.32	0.68	
5	T-1 SPUR ALONG COLONY RING BUND	1.5	0.81	0.69	
6	T-2 SPUR D/S TRIMMU BARRAGE	1.5	0.79	0.71	
7	J-HEAD SPUR MAKORI	1.5	0.90	0.6	
8	DAB KALAN (relates to SDO Shorkot)	1.25	0.50	0.75	
9	GUID WALL NO.1 ALONG LMB	1.5	0.76	0.74	
10	GUID WALL NO.2 ALONG LMB	1.5	0.76	0.74	
11	GUID WALL NO.3 ALONG COLONY RING BUND	1.5	0.60	0.9	
12	X-SPUR RD 23590 OF RMB	0.25	0.21	0.04	
TOTAL		**23**	**16.85**	**6.15**	

Note:- However, in case of emergency and as per necessity of the quantity of stone in accordance with the requirement will be fulfilled by re-shuffling plan at vulnerable site likely to be affected.

14.2 – <u>Detail of inlet / outlet crossing along with closing methodology.</u>

There is no inlet / outlet crossing in flood bunds i.e Right Marginal Bund, Left Marginal Bund and Colony Ring Bund in the jurisdiction of Trimmu Headworks Division. The Inlet / Outlet crossing are on Hassuwali, Rajbana, Lakhi, Dadal Flood Bund.

XEN (T)

14.3 – DEPLOYMENT MACHINERY (NORMAL TO LOW FLOOD)

Sr. No.	Structure Name	Length (Miles)	Excavators	Trolleys	Dumpers	Tractor with Front blade (1 per 15 mile)
1	LMB	14.72	S.E shall allow deputation of one (1) excavator & four (4) Trolleys during low flood at camps/vulnerable points & LMB / RMB.		-	1
2	RMB	15.36			-	1
3	Hassuwali Flood Bund	14.4				1
4	Rangpur Flood	16.22				1
5	Dadal Flood	14.98				1
Total					**-**	**5**

14.4 – DEPLOYMENT MACHINERY (MEDIUM TO HIGH FLOOD)

Deployment of Machinery (Medium to High Flood)						
Sr. No.	**Structure Name**	**Length (Miles)**	**Excavators**	**Trolleys**	**Dumpers**	**Tractor with Front blade**
			1 per 7 mile	**4 per 7 mile**	**2 per 7 mile**	**1 per 7 mile**
1	Left Marginal Bund RD 0-46000, Including 11 No. X-Spurs, Makori Spur, Guide Wall No.I & II	14.72	2	8	4	**2**
2	Right Marginal Bund RD 0-57765, Including X-Spur 2 No., Left Guide Bund, Right Guide Bund , J-Head Spur RD 4597	15.36	2	8	4	**2**
3	Colony Ring Bund RD 0-9600, T-Headed Spur No.1, T-Headed Spur No.2, T-Cum Hockey sloping Spur, Guide Wall No.III	5.04	1	3	2	**1**

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Sr. No.	Structure Name	Length (Miles)	Excavators	Trolleys	Dumpers	**Tractor with Front blade**
			1 per 7 mile	4 per 7 mile	2 per 7 mile	**1 per 7 mile**
4	Hassuwali Flood Bund along Haveli Main Line Flood Bund	14.4	2	8	4	**2**
5	Rajbana Flood Bund, Connecting tail Rajbana Flood Bund with lakhi Flood Bund RD 0-11400,	6.83	1	4	2	**1**
6	Rangpur Flood Embankment along left bank of Rangpur Canal RD 260-308 & 308-318 (Tiba) Range),left bank of escape channel RD 0-3850	16.22	2	8	4	**2**
7	Dadal Flood Embankment Right bank of River Chenab 0+000 to 69+629	14.98	2	8	4	**2**
	TOTAL	**82.64**	**12**	**47**	**24**	**12**

XEN (T)

14.5 – Deployment of Machinery (Very High to Exceptionally High Flood)

Sr. No.	Structure Name	Length (Miles)	Excavators		Trolleys	Dumpers	Tractor with Front blade	
			Very High Flood	Exp. High Flood	4 per 5 mile	2 per 5 mile	Very High Flood	Exp. High Flood
			1 per 5 mile	2 per 5 mile			1 per 5 mile	2 per 5 mile
1	Left Marginal Bund RD 0-46000, Including 11 No. X-Spurs, Makori Spur, Guide Wall No.I & II	14.72	3	6	12	6	3	6
2	Right Marginal Bund RD 0-57765, Including X-Spur 2 No., Left Guide Bund, Right Guide Bund , J-Head Spur RD 4597	15.36	3	6	12	6	3	6
3	Colony Ring Bund RD 0-9600, T-Headed Spur No.1, T-Headed Spur No.2, T-Cum Hockey sloping Spur, Guide Wall No.III	5.04	1	2	4	2	1	2
4	Hassuwali Flood Bund along Haveli Main Line Flood Bund	14.4	3	6	12	6	3	6
5	Rajbana Flood Bund, Connecting tail Rajbana Flood Bund with lakhi Flood Bund RD 0-11400,	6.83	1	3	5	3	1	3
6	Rangpur Flood Embankment along left bank of Rangpur Canal RD 260-308 & 308-318 (Tiba) Range),left bank of escape channel RD 0-3850	16.22	3	6	12	6	3	6
7	Dadal Flood Embankment Right bank of River Chenab 0+000 to 69+629	14.98	3	6	12	6	3	6
	TOTAL	**84.79**	**17**	**35**	**69**	**35**	**17**	**35**

Note: - Superintending Engineer shall approve additional resources above the approved FFP on the recommendations of Executive Engineer based on site necessity with copy to TPM and respective Chief Engineer but must mentioned the reach and justify the reasons for additional resources in approval.

XEN (T)

14.6 – POLICE DEPLOYMENT PLAN

TRIMMU BARRAGE DIVISION, TRIMMU

DUTY ROASTER FOR POLICE AND RANGER DURING FLOOD SEASON

1.

Sr No.	Site of breaching section	Concerned Canal Division	Concerned Police Station & District	Police Persons Deployed Inspector			Remarks
				Sub Inspector	A.S.I	Constable	
1	RD 16-18 Right Marginal Bund	Trimmu Barrage Division	Police Station 18-Hazari District Jhang	1	-	4	

2.

Sr No.	Site of breaching section	Concerned Canal Division	Concerned Police Station & District	Police Persons Deployed Inspector			Remarks
				Sub Inspector	A.S.I	Constable	
1	RD 19 -20 Left Marginal Bund	Trimmu Barrage Division	Jhang Sadar- District Jhang	1	-	4	
2	RD 303-304 Rangpur Flood Bund		Rangpur Dsitrict Muzaffar Garh	-	1	3	

3.

Sr No.	Site of breaching section	Concerned Canal Division	Concerned Police Station & District	Police Persons Deployed Inspector			Remarks
				Sub Inspector	A.S.I	Constable	
1	Trimmu Barrage	Trimmu Barrage Division	Police Station 18-Hazari District Jhang	-	2	6	

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

Sr No.	Site of breaching section	Concerned Canal Division	Concerned Police Station & District	Police Persons Deployed Inspector			Remarks
				Sub Inspector	A.S.I	Constable	
1	Trimmu Barrage	Trimmu Barrage Division	Police Station 18-Hazari District Jhang	-	2	8	

XEN (T)

14.7 – Detail Of Synthetic Bags with Capacity Of 50kg and 100 Kg

Sr#	Name of Bund	Synthetic bags(50 Kg)	Synthetic bags (100 Kg)	Quantity Required	Quantity Available	Balance Quantity required
1	Left Marginal Bund	1000	500	1500	-	1500
2	Right Marginal Bund	1000	500	1500	-	1500
TOTAL		**2000**	**1000**	**3000**	**-**	**3000**

The deficient quantity of Synthetic Bags with capacity of 50 Kg and 100 Kg will be purchased before the start of Flood season.

14.8 – Details of polythene sheets of black color to protect upstream slope against wave action and to control seepage through embankments.

Sr#	Name of Bund	Polythene sheets	Quantity Required	Quantity Available	Balance Quantity required
1	Left Marginal Bund	40000 Ft	40000 Ft	-	40000 Ft
2	Right Marginal Bund	45000 Ft	45000 Ft	-	45000 Ft
TOTAL		**85000 Ft**	**85000 Ft**	**-**	**85000 Ft**

The deficient quantity of Polythene sheets will be purchased before the start of Flood season.

14.9 Any other details as per SOPs approved by the Administration Department.

SOPs shared vide No. SO(FLOODS)VII-22/2017 dated 26.12.2025 shall be strictly followed.

XEN (T)

CHAPTER NO. 15

BACK UP DIVISION (In case of Breach)

In case of breach, the staff of Executive Engineer, Sidhnai Headworks Division will provide backup to Trimmu Headworks Division Trimmu and in case of any flood emergency, the local contractors may also be engaged.

Executive Engineer
Trimmu Headworks Division
Trimmu

Superintending Engineer
Trimmu Canal Circle,
Trimmu

Chief Engineer,
Irrigation Multan Zone
Multan

XEN (T)