GOVERNMENT OF THE PUNJAB



IRRIGATION DEPARTMENT

FLOOD FIGHTING PLAN

OF

KOT ADU CANAL DIVISION

FOR THE YEAR 2026

D. G. KHAN IRRIGATION ZONE D.G. Khan

Muzaffargarh Canal Circle
Multan.

KotAdu Canal Division,
Kot Adu.

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PART A

CHAPTER 01

CHAPTER– 1
SALIENT FEATURES

1.1 LOCATION

The jurisdiction of KotAdu Canal Division KotAdu starts from End of left marginal bund on upstream Taunsa Barrage at Dholewala Head Regulator in district Layyah and extends till Muzaffargarh Canal RD. 206+700.

1.2 GENERAL DESCRIPTION

KotAdu Canal Division provides Irrigation facilities to 425000 acres of valuable agricultural land. An area of about 50000 acres is irrigated through inundation canal system off-taking from Dholewala Regulator. The detail of flood embankments and River Training works is as under: -

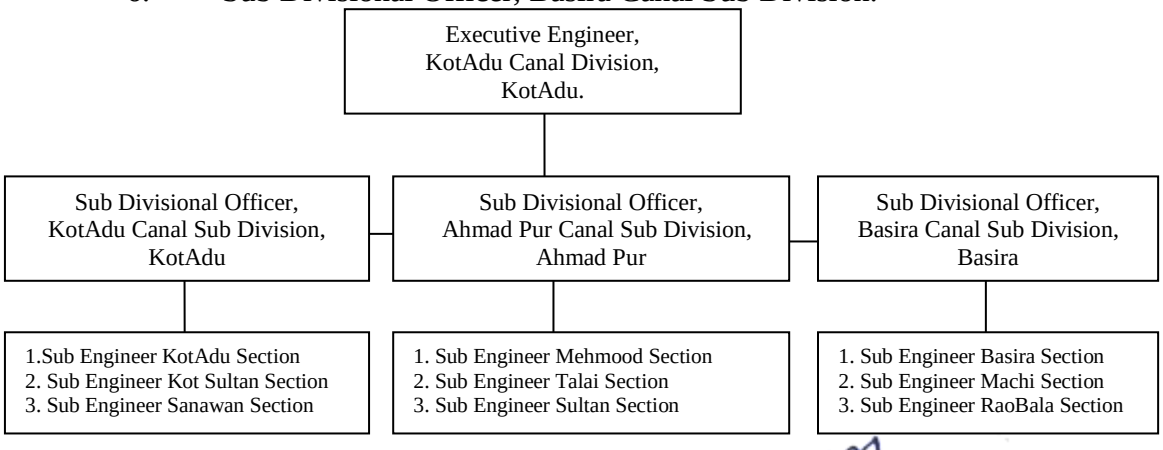
	Structures	**Length (miles)**
		Indus
1.	Flood embankments	53.78
2.	J-Head Spurs (4 Nos)	07.00
	Total: -	**60.78**

These flood works protect 13 lac inhabitants of Muzaffargarh District. Due to installation of Thermal Power Plants, Sugar Mills, PARCO and Textile units, this district has been transformed into Industrial area and its importance / sensitiveness is increasing day by day on the national scenario.

1.3 ADMINISTRATIVE SETUP

The administration setup of Irrigation department is explained below which extends from District Layyah and goes further in Muzaffargarh District.: -

1. Chief Engineer D. G. Khan.
2. Superintending Engineer, M.Garh Canal Circle, Multan
3. Executive Engineer, KotAdu Canal Division, KotAdu.
4. Sub Divisional Officer, KotAdu Canal Sub Division.
5. Sub Divisional Officer, Ahmad PurCanal Sub Division.
6. Sub Divisional Officer, Basira Canal Sub Division.



Executive Engineer,
KotAdu Canal Division,
KotAdu.

CHAPTER 02

CHAPTER – 2

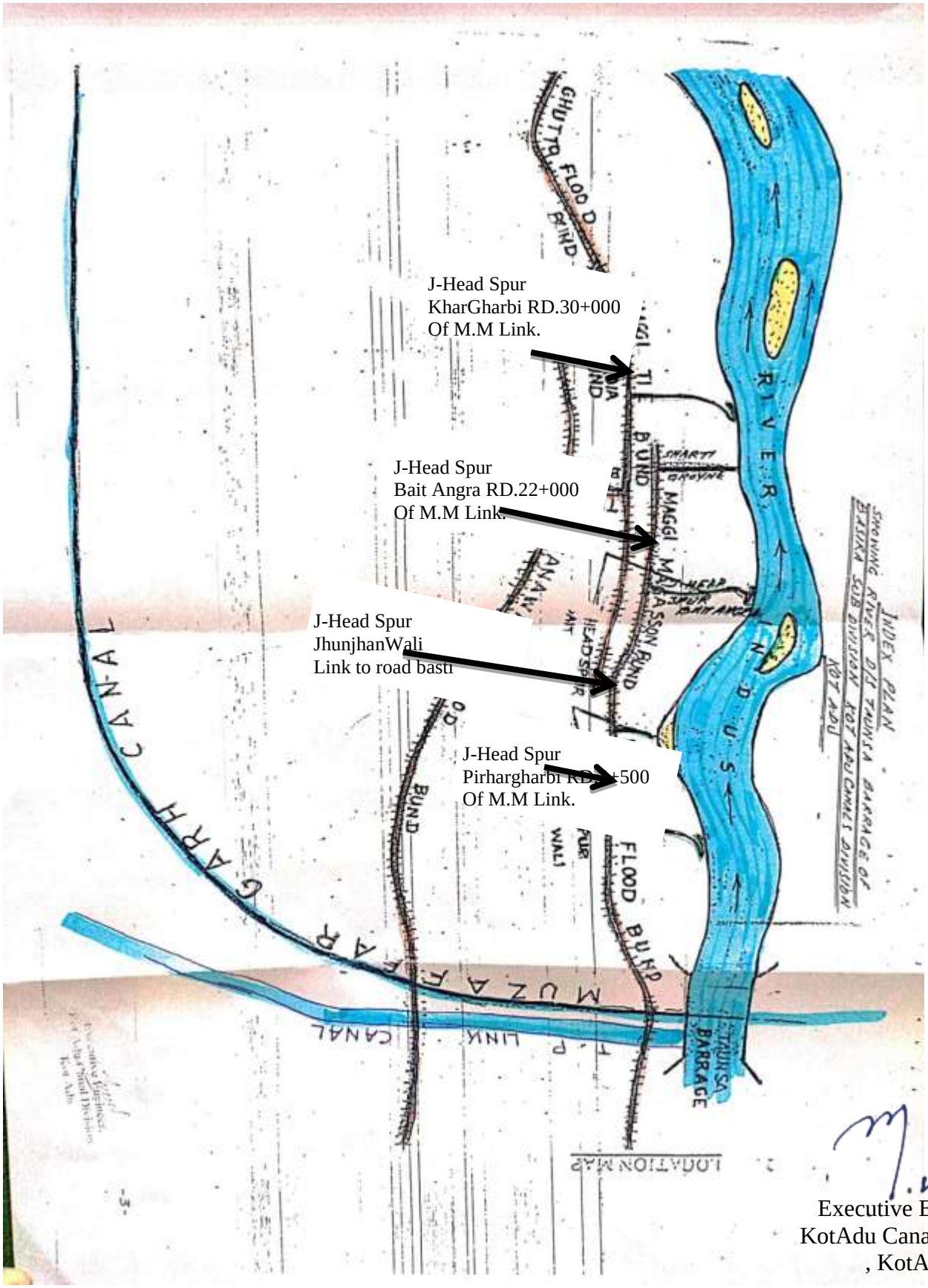
FLOOD PROTECTION AND RIVER TRAINING WORKS.

2.1 DESIGN PARAMETER OF TRAINING WORKS

Sr. No.	Name of works	Length in Miles.	Designed free board (Feet)	Designed top width (Feet)	Designed side slope	
01	02	03	04	05	06	07
	FLOOD EMBANKMENT					
	a. ACTIVE EMBANKMENTS.					
01	Magasson flood bund RD. 0-42358.	08.47	5	30	1:3	1:2
02	Maggi Magasson bund RD. 0-25200.	05.04	5	30	1:3	1:2
03	DholewalaGroyne RD. 0-22500.	04.50	5	30	1:3	1:2
	b. ABANDONED/INACTIVE EMBANKMENTS.					
01	ShartiGroyne RD. 0-5500. Damaged during flood 2010.	01.10	5	30	1:3	1:2
02	Maggi Tie bund RD. 0-61000.	12.20	5	30	1:3	1:2
03	Sanawan flood bund RD. 0-105000.	21.00	5	30	1:3	1:2
04	Machi Tie bund RD. 0-2800.	00.56	5	30	1:3	1:2
05	Chorohyawala Tie bund RD. 0-5065.	01.01	5	30	1:3	1:2
	TOTAL	**53.78**				
	J-HEAD SPUR					
01	J-Head Spur Jhunjanwali.	0.357	5	30	1:3	1:2
02	J-Head Spur Bait Angra.	0.357	5	30	1:3	1:2
03	J-Head Spur PirharGharbi.	1.60	7	30	1:3	1:2
04	J-Head Spur KharGharbi.	2.40	7	30	1:3	1:2
	TOTAL	**07.00**				

2.2 LOCATIONMAP

INDEX PLAN
SHOWING RIVER D/S TAUNSA BARRAGE OF BASIRA DIVISION KOT ADU CANAL DIVISION KOT ADU.



Executive Engineer,
KotAdu Canal Division,
, KotAdu.

CHAPTER

03

CHAPTER– 3

BRIEF HISTORY OF PAST FLOOD EVENTS

Inundation Canal System Namely Upper Hazara and Upper Kot Sultan Canals off-take from left bank of river Indus on up stream of Taunsa Barrage at Dhole Wala Regulator. It is about a century old canal. Originally it's A.F.S discharge was 788 Cs and it used to command an area of 190689/161859 G.C.A / C.C.A acres. With the construction of Taunsa Barrage most of its area was switched over to the weir controlled supply and only 43487/41599 G.C.A / C.C.A acres is left over on this system which requires a discharge of 396 Cs only.

Lala Creek departing from the main river Indus from its left arm near Darya Khan acts as a supply Channel from the inundation system. Supplies brought in by this feeder are ponded up by a cross groyne via Dhole WalaGroyne and is regulated by Dhole Wala Regulator.

During super flood 2010, due to the breach of Left Marginal Bund (LMB) of Taunsa Barrage, the flood water of River Indus inundated approximately all the channels of Muzaffargarh Canal System. Due to abnormally high discharge in the channels, super critical velocity was generated. The main canal, distys, and minors breached at numerous points. At different points, due to over flow of the channels and super critical velocity, erosion and sloughing of the banks collapsed the canal system. The Main canal and Magasson Branch have become berm less. Besides the disaster due to flood 2010, the torrential rainfalls in Muzaffargarh Canal System badly affected the banks of the channels creating deep rain cuts shattering the banks especially in Thal area. In Thal area, the soil strata is sandy. The nature of damages is given below: -

- Approximately 600 No. breaches in Main Canal, Distys, and Minors.
- Muzaffargarh Canal breached at 9 No. different points.
- Due to serious erosion and sloughing of the banks, the channels became bermless and collapsed.
- Because of torrential rainfalls in Muzaffargarh Canal System, deep rain cuts have been developed on the banks along the channels especially in Thal area.
- Some critical stone pitched reaches have been damaged along Muzaffargarh Canal.
- Due to passage of exceptionally high discharge and super critical velocity, 04 No. structures washed away.

It is pertinent to mention that 30 No. channels have been restored by the machinery divisions in which: -

(i) Approximately 500 No breaches were filled.

(ii) The scour pit depth of main breaches was 20-50 feet deep.

(iii) The breach length varied from 50 feet to 500 feet.

Day and night efforts were made to achieve the goal for timely completion of these important restoration works and opening the channels. The channels were timely put into operation resulting in the following achievements.

(i) All the system was put into operation in time on 15th of April 2010.

(ii) Muzaffargarh canal is running with a discharge of 8300 Cs which is the record achievement

(iii) All the tails in this Division are receiving AFS discharge which is also a record achievement.

(iv) A green revolutionary change in agriculture in M. Garh Canal command.

(v) Public satisfaction regarding availability of water.

(vi) Not a single abnormal breach on the channels which is due to day & night strict watching, side protections and other precautionary measures.

BRIEF HISTORY OF PAST FLOOD EVENTS 2013

Maximum flood passing Taunsa Barrage during 2013 was recorded as 516017 Cs: resultantly no significant damage was observed during flood season. No major change of river trend was observed during flood 2013. The spell of flood discharges below Taunsa Barrage was recorded as under: -

Sr. No.	Months	Discharge (Cusecs)
01	July 2013	321796
02	August 2013	516017
03	September 2013	218851
04	October 2013	78284

BRIEF HISTORY OF PAST FLOOD EVENTS 2014

Maximum flood Passed in river Indus was recorded 257672 Cs. No significant damages were observed during flood season. No major change of river trend was observed during flood 2014. The spill of flood discharge in River Indus was recorded as under.

Sr. No.	Months	Discharge (Cusecs)
01	July 2014	245473
02	August 2014	257672
03	September 2014	167367
04	October 2014	123413

BRIEF HISTORY OF PAST FLOOD EVENTS 2015

Maximum flood Passed in river Indus was recorded on 03.08.2015 which was 618626 Cs. The damages which occurred in the jurisdiction of KotAdu Canal Division included collapse of spill weir RD. 3+500 of Dhole WalaGroyne which collapsed on 08.08.2015. This spill weir was constructed during 1943 for spilling out surplus water of Lala Creek U/S Head Regulator Dhole Wala. The damage report was sent to High-ups. The Spell of Flood Discharge in river Indus was recorded as under.

Sr. No.	Months	Discharge (Cusecs)
01	July 2015	531596
02	August 2015	618626
03	September 2015	186943
04	October 2015	86037

BRIEF HISTORY OF PAST FLOOD EVENTS 2016

Maximum flood Passed in river Indus was recorded 270721 Cs. No significant damages were observed during flood season. No major change of river trend was observed during flood 2016. The spill of flood discharge in River Indus was recorded as under.

Sr. No.	Months	Discharge (Cusecs)
01	July 2016	230820
02	August 2016	270721
03	September 2016	145868
04	October 2016	107550

BRIEF HISTORY OF PAST FLOOD EVENTS 2017.

During 2017, the new J-Head Spurs PirharGharbi and KharGharbi were constructed to check the left ward trend of river opposite RD. 3500 and RD. 30000 of M.M Link. Anew creek d/s J-Head Spur RD. 34+000 Magasson Branch was developed and hit the shark and J. portion of newly constructed J-Head Spur PirharGharbi.

Now the newly constructed J-Head Spur PirharGharbi and KharGharbi are under direct hit of the new creek, which must be taken under serious vigilance during coming flood season. The discharge in River Indus was recorded as under: -

Sr. No.	Months	Discharge (Cusecs)
01	July 2017	253549
02	August 2017	418388
03	September 2017	147587
04	October 2017	73700

BRIEF HISTORY OF PAST FLOOD EVENTS 2018.

Maximum flood Passed in river Indus was recorded 287173 Cs on 17 August 2018. No significant damages were observed during flood season. No major change of river trend was observed during flood 2018.

Sr. No.	Months	Discharge (Cusecs)
01	July 2018	212004
02	August 2018	287173
03	September 2018	171794
04	October 2018	111682

BRIEF HISTORY OF PAST FLOOD EVENTS 2019.

Maximum flood Passed in river Indus was recorded 390394 Cs on 17 August 2019. No significant damages were observed during flood season. No major change of river trend was observed during flood 2019.

Sr. No.	Months	Discharge (Cusecs)
01	July 2019	282282
02	August 2019	390394
03	September 2019	176778
04	October 2019	122716

BRIEF HISTORY OF PAST FLOOD EVENTS 2020.

Maximum flood Passed in river Indus was recorded 379046Cs on 06 September 2020. No significant damages were observed during flood season. No major change of river trend was observed during flood 2020.

Sr. No.	Months	Discharge (Cusecs)
01	July 2020	230597
02	August 2020	269609
03	September 2020	379046
04	October 2020	107328

BRIEF HISTORY OF PAST FLOOD EVENTS 2021.

Maximum flood Passed in river Indus was recorded 327621Cs on 04 August 2021. No significant damages were observed during flood season. No major change of river trend was observed during flood 2021.

Sr. No.	Months	Discharge (Cusecs)
01	July 2021	220170
02	August 2021	327621
03	September 2021	159603
04	October 2021	108529

BRIEF HISTORY OF PAST FLOOD EVENTS 2022.

Maximum flood Passed in river Indus was recorded 580056 Cs on 01st September 2022. No significant damages were observed during flood season. No major change of river trend was observed during flood 2022.

Sr. No.	Months	Discharge (Cusecs)
01	July 2022	258939
02	August 2022	535318
03	September 2022	580056
04	October 2022	85717

BRIEF HISTORY OF PAST FLOOD EVENTS 2023.

Maximum flood Passed in river Indus was recorded 419895 Cs on 28th July 2023. No significant damages were observed during flood season. No major change of river trend was observed during flood 2023.

Sr. No.	Months	Discharge (Cusecs)
01	July 2023	419895
02	August 2023	357457
03	September 2023	158518
04	October 2023	110528

BRIEF HISTORY OF PAST FLOOD EVENTS 2024.

Maximum flood Passed in river Indus was recorded 440296 Cs on 08th August 2024. No significant damages were observed during flood season. No major change of river trend was observed during flood 2024.

Sr. No.	Months	Discharge (Cusecs)
01	July 2024	224841
02	August 2024	440296
03	September 2024	215851
04	October 2024	96367

BRIEF HISTORY OF PAST FLOOD EVENTS 2025.

Maximum flood Passed in river Indus was recorded 509427 Cs on 19th August No significant damages were observed during flood season. No major change of river trend was observed during flood 2025.

Sr. No.	Months	Discharge (Cusecs)
01	July 2025	447936
02	August 2025	509427
03	September 2025	232997
04	October 2025	106816

Executive Engineer,
KotAdu Canal Division,
, KotAdu.

CHAPTER 04

CHAPTER – 4

DESIGN DATA, HISTORIC PEAK FLOOD DATA AND PREVIOUS FIVE YEARS FLOOD DATA OF HEAD WORKS/ BARRAGES AND OR OTHER CONTROL POINTS.

4.1 FLOOD LIMITS

For Taunsa Barrage, the various flood stages of River Indus are as given below: -

Sr. No.	Discharge (Lac Cusecs)	Flood Stages
01	Below 2.50	Normal
02	Above 2.50 but below 3.75	Low
03	Above 3.75 but below 5.00	Medium
04	Above 5.00 but below 6.50	High
05	Above 6.50 but below 8.00	Very high
06	8.00 or above	Exceptionally high

4.2 TIME LAG OF FLOODS

Sr. No.	Name of Head Work.	Distance in KM	Time in Hours
01	Attock to Kala Bagh.	169	24
02	Kala Bagh H/works to Chashma Barrage.	58	12
03	Chashma Barrage to Taunsa Barrage.	237	60
04	Taunsa Barrage to Guddu Barrage.	270	84

4.3 HIGHEST FLOOD

Maximum discharge received at Taunsa Barrage on 02.08.2010 was 1085601 Cusecs.

4.4 PEAK DISCHARGES

Year	Date	Month	Discharge in Cusecs	Flood Limit
1958	21	July	760784	V.H Flood
1959	10	July	518000	H. Flood
1960	21	July	509309	H. Flood
1961	23	July	476374	M. Flood
1962	26	July	330613	L. Flood
1963	18	July	354813	L. Flood
1964	15	July	502340	H. Flood
1965	15	August	438257	M. Flood

Year	Date	Month	Discharge in Cusecs	Flood Limit
1966	07	July	516113	H. Flood
1967	31	July	457053	M. Flood
1968	18	July	431179	M. Flood
1969	30	July	464705	M. Flood
1970	08	July	368304	L. Flood
1971	13	August	392892	M. Flood
1972	02	July	371212	L. Flood
1973	23	July	567623	H. Flood
1974	31	August	368941	L. Flood
1975	26	August	524495	H. Flood
1976	07	August	675233	V.H Flood
1977	21	July	443343	M. Flood
1978	14	July	508422	H. Flood
1979	08	August	388069	H. Flood
1980	13	August	425233	M. Flood
1981	17	August	392091	M. Flood
1982	20	August	375499	M. Flood
1983	10	August	502189	H. Flood
1984	20	August	509694	H. Flood
1985	04	August	306680	L. Flood
1986	10	August	505069	H. Flood
1987	26	August	313204	L. Flood
1988	21	July	560916	H. Flood
1989	05	August	558630	H. Flood
1990	02	August	502152	H. Flood
1991	18	July	422947	M. Flood
1992	14	August	654579	H. Flood
1993	28	August	381302	M. Flood
1994	19	July	574602	H. Flood
1995	30	September	611937	H. Flood
1996	20	July	518208	H. Flood
1997	31	July	534199	H. Flood

Year	Date	Month	Discharge in Cusecs	Flood Limit
1998	18	July	519881	H. Flood
1999	13	August	387720	M. Flood
2000	05	August	209405	L. Flood
2001	27	July	281873	L. Flood
2002	17	August	306150	L. Flood
2003	7	August	421177	M. Flood
2004	21	July	179157	Normal
2005	20	August	531177	H. Flood
2006	11	August	612269	H. Flood
2007	19	August	333220	L. Flood
2008	08	August	263177	L. Flood
2009	21	August	312769	L. Flood
2010	02	August	1085601	V.H Flood
2011	01	September	227689	L. Flood
2012	10	September	235389	L. Flood
2013	17	August	516017	H. Flood
2014	18	August	257672	Normal
2015	03	August	618626	H.Flood
2016	20	July	308601	L.Flood
2017	07	August	424388	M. Flood
2018	17	August	287173	L. Flood
2019	15	August	390394	M.Flood
2020	6	September	379046	M.Flood
2021	04	August	327621	L.Flood
2022	01	September	580056	H.Flood
2023	28	July	419895	M.Flood
2024	08	August	440296	M.Flood
2025	20	August	509427	M.Flood

Executive Engineer,
KotAdu Canal Division,
,KotAdu.

DISCHARGE TABLE FOR CRITICAL POINTS

Sr. No	Location / Structure	Gauge Level (Feet)/ Discharge (Cusecs)	Action Required
1	DholewalaGroyne U/S	12	Open Escapes at RD. 3500 & 3700
2	DholewalaGroyne U/S	14.0	Prepare for Relief Cut at RD. 9900
3	DholewalaGroyne U/S	14.6	Inform SE and CE
4	DholewalaGroyne U/S	14.96	Inform Civil Administration for evacuation
5	J-Head Spurs	> **500,000** (at Taunsa)	Deploy dozers and extra labour as per Ch. 14.5

EARLY WARNING TRIGGER POINTS (UPSTREAM)

In addition to local gauges at Taunsa Barrage, upstream locations shall serve as advance warning triggers for the KotAdu Canal Division. A significant flood wave at Tarbela Dam serves as the initial alert for the division; given the travel time of approximately 4-5 days to Taunsa Barrage, this trigger initiates pre-emptive actions.

Executive Engineer,
KotAdu Canal Division,
KotAdu

,

CHAPTER

05

CHAPTER – 5

FLOOD FIGHTING STRATEGY

BENCHMARK DISCHARGE TRIGGERS

1. Escapes at DholewalaGroyne at RD. 3500 & RD 3700 are opened when the upstream gauge at Dholewala exceeds 12 feet.
2. Relief cut in DholewalaGroyne at RD. 9900 is made when the upstream gauge at Dholewala exceeds level 14 feet. Once that stage is reached the District Administration of Layyah is informed about it so that a warning can be issue to the public which will be affected by increasing waters.
3. All the high ups of irrigation department are also informed about the situation.
4. Flood camps will be established as per SOPs and regular watching will be ensured at J-Head spurs.
5. Executive Engineer, KotAdu is overall in charge of these steps and safety measures.

5.1 LATEST POSITION OF RESERVE STOCK OF STONE

The reserve stock stone at both the J-Head spurs is not sufficient to meet with any emergency. There is a dire need of procurement of Reserve stock stone in this Division.

Sr. No.	Description	Quantity as per sanction limit (in Lac Cft)	Quantity as per 70% of Sanction Limit (in Lac Cft)	Quantity available at site (in Lac Cft)	Balance Quantity as per 70% (in Lac Cft)	Remarks
01	J-Head Spur Bait Angra.	1.50	1.05	0.3734	0.6765	64% Required
02	J-Head Spur Jhunjanwali	1.50	1.05	0.3437	0.7062	67% Required
03	J- Head Spur PirharGharbi	1.50	1.05	0.6441	0.4058	39% Required
04	J- Head Spur KharGharbi	1.50	1.05	0.0501	0.9998	95% Required

Executive Engineer,
KotAdu Canal Division,
KotAdu.

CHAPTER 06

CHAPTER – 6

FLOOD DAMAGED RESTORATION WORKS.

Sr.#	Name of Work	Cost (Rs. In Millions)	Remarks / Status
No restoration works for the year 2025-26 in KotAdu Canal Division.			

Executive Engineer,
KotAdu Canal Division,
KotAdu.

CHAPTER 07

CHAPTER – 7

FLOOD FIGHTING WATCHING ARRANGEMENT.

7.1 PRE-FLOOD ARRANGEMENT

Following pre-flood arrangement will be made,

1. Procurement of machinery, flood fighting material and outsourced labor shall be completed by1st June each year.
2. During the month of May-June, the watching establishment will work for making pre-flood arrangements till the river spills out.
3. For flood Bunds in second defense line, the same pre-flood arrangements will continue throughout the flood season unless any of these bunds comes under action.
4. Flood watching material will be arranged in sample quantities. Care will be taken to ensure that adequate quantity of the required material is distributed and placed at all the watching huts especially at all critical sites. All the articles and material should be in good condition.

Circle / Division	Name of Structure	Location RD. Where Stone is Lying	Sanctioned Reserve Stock Limit (in lac Cft)	Available quantity	Balance Qty of Stone required 70 %	Remarks
Muzaffargarh/ KotAdu	J-Head Spur Bait Angra	J-Head	1.50	0.3734	0.6765	The balance quantity will be procured before coming a Flood 2026.
Muzaffargarh/ KotAdu	J-Head Spur Jhunjhanwali	J-Head	1.50	0.3437	0.7062	
Muzaffargarh/ KotAdu	J-Head Spur PirharGharbi	J-Head	1.50	0.6441	0.4058	
Muzaffargarh/ KotAdu	J-Head Spur KharGharbi	J-Head	1.50	0.0501	0.9998	
Total			6.0	1.4113	2.78	

7.2 WATCHING ESTABLISHMENT

Total manpower requirement for watching and maintenance of flood embankment during the flood season from 15th June to 15th October (the entire flood season) as per the following criteria.

Normal Flood season 1person/2 mile (1Shift)

Low Flood 1 person / Mile (1Shift)

Medium / High flood 2 person / mile /shift (2Shift)

Very High / Exceptionally High 5 person / mile /shift (3 Shift)

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	Magasson flood bund RD. 0-42358.	8.47	4	1	8	1	16	2	40	3
2	Maggi Magasson bund RD. 0-25200.	5.04	3		5		10		25	
3	DholewalaGroyne RD. 0-22500.	4.5	3		5		9		23	
4	J-Head Spur Jhunjanwali.	0.357	-		-		-		-	
5	J-Head Spur Bait Angra.	0.357	-		-		-		-	
6	J-Head Spur PirharGharbi.	1.6	1		2		4		8	
7	J-Head Spur KharGharbi.	2.4	1		2		4		10	
TOTAL Per Shift :-			**12**		**22**		**33**		**106**	
Total			**12**		**22**		**66**		**318**	
No. of Mates			**1**		**2**		**5**		**26**	

7.3 ARRANGEMENT AT SENSITIVE SITES

In case of any emergency, gang of 5 men per mile will be employed when the river rises beyond low flood mark and maintains till the end of the season. This strength will be sufficient for medium and high flood stages. In case of very high and exceptionally high floods, this scale may be increased wherever necessary by the executive Engineer, KotAdu Canal Division in consultation with Superintending engineer, Muzaffargarh Canal Circle Multan.

In case where it is difficult to get labor at the time of high discharge, it will be arranged through the civil authorities or contractors. It is advisable to keep a group of tractors with blade or dozers and dumpers with excavators as a standby arrangement for use in emergency during high floods.

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	Magasson flood bund RD. 0-42358.	8.47	**-**	**-**	**-**	1	-
2	Maggi Magasson bund RD. 0-25200.	5.04	**-**	**-**	**-**	-	1
3	DholewalaGroyne RD. 0-22500.	4.5	**-**	**-**	**-**	-	1
4	J-Head Spur Jhunjanwali.	0.357	**-**	-	**-**	-	-
5	J-Head Spur Bait Angra.	0.357	**-**	-	**-**	-	-
6	J-Head Spur Pirhar Gharbi.	1.6	**-**	1	**-**	-	-
7	J-Head Spur KharGharbi.	2.4	**-**	-	**-**	-	-
Total				**1**		**1**	**2**

7.4 FLOOD FIGHTING METERIAL

Flood fighting material should be purchased on the basis of the worst case scenario i.e for exceptionally high flood. The minimum requirement is as follows.

7.4(a) Minimum requirement of Flood Fighting Materials for permanent Camp(15 miles)

Sr. No.	Items	Unit	Total Required Qty	Available Qty.	Balance / Required Qty.	Remarks
01	Chouldari / Tent	No	01	Nil	01	Balance Quantity shall be procured before the start of flood season 2026
02	Chairs	No	06	Nil	06	
03	Table	No	01	Nil	01	
04	Generator(2-3 KVA)	No	01	Nil	01	
05	Pedestal Fan	No	01	Nil	01	
06	Charpois	No	02	Nil	02	
07	Symbolic Jacket	No	50	Nil	50	
08	Polyethene Sheet	Kg	100	Nil	100	
09	Bamboos (4ftdia & 10ft long)	No	100	Nil	100	
10	Water Cooler	No	01	Nil	01	
11	Portable Umbrella	No	02	Nil	02	
12	Life Jackets	No	05	Nil	05	
13	Utensils(10 person serving)	No	01	Nil	01	
14	Jet /Plastic bag	No	1000	Nil	1000	
15	Walike talkie set	Seats	02	Nil	02	
16	Raincoats	No	10	Nil	10	
17	Led Flood light	No	10	Nil	10	
18	Extension Cable 10ft	No	02	Nil	02	
19	Rechargeable torches	No	20	Nil	20	
20	Kassi	No	20	Nil	20	
21	Axes	No	20	Nil	20	
22	G.I Buckets	NO	05	Nil	05	
23	7/44 cable	Feet	500	Nil	500	
24	Sutli	Kg	02	Nil	02	
25	Sewing Needles	No	10	Nil	10	
26	Emergency Medical Kit	No	01	Nil	01	
27	Wire Creates (3 x3x x3)/ at only those camps near river action and Reserve Stock exists	No	100	Nil	100	

7.4(b) Minimum requirement of Flood Fighting Materials for Temporary Camp (7 or 5 miles during medium exceptionally high flood to outsource)

Sr. No.	Items	Unit	Total Required Qty	SR.#	ITEM	UNIT	Total Required Qty
01	Chouldari / Tent	No	01	02	Walike talkie set	Seats	01
03	Chairs	No	06	04	Raincoats	No	10
05	Table	No	01	06	Led Flood light	No	10
07	Generator(2-3 KVA)	No	01	08	Extension Cable 10ft	No	02
09	Pedestal Fan	No	01	10	Rechargeable torches	No	20
11	Charpois	No	02	12	Kassi	No	20
13	Symbolic Jacket	No	50	14	Axes	No	20
15	Water Cooler	No	01	16	G.I Buckets	NO	05
17	Portable Umbrella	No	02	18	7/44 cable	Feet	500
19	Utensils(10 person serving)	No	01	20	Sutli	Kg	02
21	Jet /Plastic bag	No	500	22	Sewing Needles	No	10

7.4(c) Modernization of Flood Fighting Material

All outdated and obsolete tools and equipment at flood watching camps shall be replaced with modern equipment prior to the flood season. This shall include, but not be limited to, advanced portable lighting, high-capacity rechargeable batteries, emergency communication sets and GPS-enabled devices wherever feasible to enhance operational efficiency and response time.

7.5 ARRANGEMENT FOR SOUNDING AND PROBING.

For every spur site, following arrangements will be made for probing.

Sr. No.	Item	Period.
01	01. Large Boat with boatman	01.06.2026 to 15.09.2026
02	01 Small boat with boatman	01.06.2026 to 15.09.2026
03	02 helpers to boatman	01.06.2026 to 15.09.2026
04	02 sounders per boat.	01.06.2026 to 15.09.2026

7.6 LIGHT ARRANGEMENT.

Mobile Generators and sufficient stock of dry cell, torches, lanterns and patromax, etc will be kept available in the emergency stores as per detail given on 7.4 Sub Engineers, mechanical assistant and electrician will be responsible to keep these in working order.

7.7 RATION ARRANGEMENTS.

District Administrators Layyah and Muzaffargarh will be requested in case of worst situation to ensure supply of ration to the public shifted at the flood bunds.

7.8 P.O.L ARRANGEMENTS FOR VEHICLE.

Reserve stocks of P.O.L for vehicles shall will be kept at Machi Rest House and Dholewala Head Regulator on the following scale.

1.	Petrol	2500 Liters
2.	Diesel	1500 Liters
3.	K. Oil	1000 Liters

7.9 TRANSPORTAION.

This Division has 02 No. jeep, 02 No. double cabin pickups, During the emergency 02 No. jeep 2 No. pickups can be made available from another Department. This arrangement will be sufficient. During emergency, concerned D.C, concerned T.M.O and concerned Deputy Superintendent Police will be requested to arrange vehicles.

7.10 LAW AND ORDER

Usually, the Law-and-Order situation is normal. However, in case of any emergency to maintain Law and Order situation, concerned D.C and D.P.O will be requested for police help

7.11 MEDICAL ARRANGEMENT FOR LABOR

There is no such facility, so the mobile dispensary is utmost necessary. Medicine required for protection /relief and against snack bites, accidents and break out of epidemic will be arranged and made available. This arrangement will be sufficient for our normal establishment but in case of emergency, the more labors and the mobile dispensary will be arranged through canal authorities and District Health Officer on the request of the Executive Engineer, KotAdu Canal Division, KotAdu.

7.12 LIAISON WITH OTHER DEPARTMENT

Executive Engineer, KotAdu Canal Division, and Sub Divisional Officers, KotAdu, and Basira Sub Division will be in close liaison with their counterpart in other departments. Higher authorities of other departments will be approached if needed through Superintending Engineer, M.Garh Canal circle, Multan and Chief Engineer, D.G.Khan Irrigation, Zone D.G. Khan. At site, Sub Engineers will conduct inspections with visiting officers of civil and army if no higher officer is available at the spot.

7.13 ROLE OF THE ARMY.

There is no doubt about the fact that during emergency, the armed forces produce better result in comparatively shorter period than the undisciplined masses of casual labor. It is therefore imperative to have at least 100 army jawans available when the discharge exceeds 07.50 Lac cusecs.

7.14 DUTIES OF TELEPHONE ATTENDENT.

Telephone is in the canal colony KotAdu and as well as TaunsaBarrrage Colony and Taunsa Head works. Telegraph office is telephonically connected with Taunsa Head works. Telephone attendants will be appointed on both these situations to perform duties around the clock and keep the officers informed about the flood situations. This year, facility of trunk telephone is being made available in canal telegraph office, KotAdu and Sub Divisional Offices KotAdu and Basira.

Sr No.	Name of Official	Period	Time	
			From	To
1	Telephone Operator-I	15.06.2026 to 15.10.2026	6:00 AM	02:00 PM
2	Telephone Operator-II	15.06.2026 to 15.10.2026	02:00 PM	10:00 PM
3	Telephone Operator-III	15.06.2026 to 15.10.2026	10:00 PM	6:00 AM

7.15 WIRELESS ARRANGMENTS.

The department has arranged a long range 20 H.P wireless base set in telegraph office at KotAdu and Kaloo regulator RD. 206700 Muzaffargarh Canal. Wireless communication sets (Walkie-talkies/mobile sets) shall be installed in all vehicles of Sub Divisional Officers, Executive Engineers, Superintending Engineers, and Chief Engineers before the onset of the flood season (by 1st June) to ensure robust communication at flood embankments The flood warning, flood gauges, discharges and other information regarding floods are received and transmitted by the base station to the flood emergency at D.G. Khan. The mobile units will help the touring officers to keep in constant touch with flood situations.

Executive Engineer,
KotAdu Canal Division,
KotAdu.

CHAPTER 08

CHAPTER - 8

DETAIL OF ENCROACHMENTS

There is no permanent encroachment of the embankment in this Division.

STATUS OF ENCROACHMENT

Sr.#	Total Encroachment	Name of Encroachment	No of Encroachment Removed	Balance	Remarks
1	- NIL-				

Executive Engineer,
KotAdu Canal Division,
KotAdu.

CHAPTER 09

CHAPTER - 09

DUTY ROSTER/ FLOOD FIGHTING PROGRAME.

DUTY ROSTER FOR REGULAR STAFF

1. Sub Engineer KotAdu will shift his camp at DholewalaGroyne when gauge tends to rise above 12.0 ft.
2. Sub Engineer Kot Sultan will shift Dholewala Regulator when discharge exceeds 2.25 Lac and remain in touch with overall condition of bunds.
3. When the gauge goes above 4.0 Sub–Divisional Officer KotAdu Sub Division with one of his Sub Engineer will move DholewalaGroyne. Deputy Collector KotAdu Canal Division along with 02 Zilladars and 5 Canal Patwari will be ready to shift to Groyne on receipt of flood warning.
4. When the gauge touches 14.0 ft, Executive Engineer KotAdu Canal Division KotAdu will inspect Groyne daily.
5. When the gauge is 14.6 ft or above, the Superintending Engineer Muzaffargarh Canal Circle Multan and Chief Engineer Irrigation DeraGhzai Khan will be kept informed about the behavior of flood and action being taken.
6. When the gauge rises above 14.96ft, Civil Administration will be simultaneously informed about further development and relief cuts.
7. Sub Engineer Machi will shift his camp at J-Head Spur opposite Bait Angra while Sub Engineer RaoBela will watch the J-Head Spur opposite village Jhunjanwali.

DUTY ROSTER FOR OUTSOURCED AND BACK DIVISION STAFF

Flood Level	**Camp Location (as per Ch.14)**	**Regular Staff (from Ch. 9.1)**	**Outsourced Labor (from Ch. 7.2)**	**Backup Staff (KhangarhBarrage Div)**	**Camp In-charge (Sub Engineer or above)**
Medium/High	Dhole WalaGroyne (RD. 9000)	Sub Engineer Kot Sultan	2 Beldars per mile (2 shifts)	-	Sub Engineer Kot Sultan
Very High	Dhole WalaGroyne (RD. 9000)	Sub Engineer Kot Sultan + SDO	5 Beldars per mile (3 shifts)	1 Sub Engineer + 3Beldars	SDO KotAdu

Flood Level	Camp Location (as per Ch.14)	Regular Staff (from Ch. 9.1)	Outsourced Labor (from Ch. 7.2)	Backup Staff (KhangarhBarrage Div)	Camp In-charge (Sub Engineer or above)
		KotAdu			
Exceptionally High	Dhole WalaGroyne (RD. 9000)	SDO KotAdu + SDO Ahmadpur+ 2 Sub Engineer	5 Beldars per mile (3 shifts)	1 SDO + 2 Sub Engineer + 5Beldars	SDO KotAdu
Medium/High	J-Head Spur PirharGharbi	Sub Engineer Machi Section	2 Beldars per mile (2 shifts)	-	Sub Engineer Machi Section
Very High	Dhole WalaGroyne (RD. 9000)	Sub Engineer Machi Section + SDO Basira	5 Beldars per mile (3 shifts)	1 Sub Engineer + 3Beldars	SDO Basira
Exceptionally High	Dhole WalaGroyne (RD. 9000)	SDO Basira + SDO Ahmadpur+ 2 Sub Engineer	5 Beldars per Mile (3 shifts)	1 SDO + 2 Sub Engineer + 5 Beldars	SDO Basira

Executive Engineer,
KotAdu Canal Division,
KotAdu.

CHAPTER 10

CHAPTER - 10

EMERGENCY TELEPHONE NUMBERS.

Sr. No.	Name of officers	Telephone numbers	
		Office	Residence
	A- LAHORE.		
01	Secretary Irrigation Department Lahore.	042-99212117-18	
02	Chief Engineer, Drainage & Flood Zone.	042-99230602	
03	Additional Secretary Technical.	042-99212128	
04	Director hydrology.	042-9230368	
05	Director floods.	042-99231614	
06	Director Regulation.	042-99212147 – 49	
07	Deputy Secretary Development.	042-99212128	
	B- LOCAL & CIVIL AUTHORITIES.		
01	Chief Engineer, Irrigation D.G. Khan.	064-9260245	064-9260246
02	Superintending Engineer, M.Garh Canal Circle, Multan.	061-9200090 Fax 061-9200088	
03	Executive Engineer, KotAdu Canal Division, KotAdu.	Fax 066-2242926	0300-4436614
04	Executive Engineer Taunsa Barrage Division, KotAdu.	066-2242796 066-2240296	0332-6063218
05	Sub Divisional Officer Head Works Taunsa Barrage KotAdu.	066-2242657	
06	Telegraph office KotAdu Canal Division.	066-2243398	
07	Sub Divisional Officer Basira.		03337051451
08	District Coordination Officer M.Garh.	066-9200251-52	
09	Deputy Commissioner Officer Layyah.	060-6413703-4	
10	Assistant Commissioner KotAdu.	066-2242691	066-2242965
11	Assistant Commissioner Layyah.	060-2413718	060-2413719
12	Zonal flood warning centre D.G. Khan.	064-9260251	
13	District Police Officer M. Garh.	066-9200311	
14	District food controller M.Garh.	066-9200033	
15	Deputy Officer Roads M. Garh.	066-2422459	
16	Deputy Superintendent Police KotAdu.	066-2243452	
17	Military Officer Headquarter Engineers 2-corps Multan cantt.	061-53135179 061-53132364	
18	Sub Divisional Officer, KotAdu.		03337051451
19	Sub Divisional Officer, Ahmad PurKotAdu.		0334-6108666
20	Tehsil Municipal Officer, KotAdu.	066-2243117	

Executive Engineer,
KotAdu Canal Division,
KotAdu.

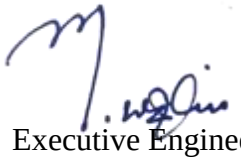
CHAPTER 11

CHAPTER - 11

STANDARD OPERATING PROCEDURE (SOP) FOR BREACHING SECTIONS

There is no breaching section in this division.

11.1	History of the breaching section.	- Nil -
11.2	Location, Design, Quality and variety of the explosive required for detonation.	Nil -
11.3	Arrangement of explosives and security of explosive stores.	- Nil -
11.4	List of security staff along with detail of their training.	- Nil -
11.5	Detail of Mechanical means as a stand by arrangements in case of detonation failure.	- Nil -
11.6	Duty roster in case of critical situation.	- Nil -
11.7	Breaching committee with their action plan.	- Nil -
11.8	List of the villages likely to be inundated in case of breach.	- Nil -
11.9	Announcement and detail of evacuation arrangements.	- Nil -
11.10	Detail of coordination civil/army authorities.	- Nil -
11.11	Parallel communication arrangements.	- Nil -
11.12	Index plan	Not relates.



Executive Engineer,
KotAdu Canal Division,
KotAdu.

PART B

CHAPTER

12

VENERABLE SITES ON FLOOD BUND STRUCTURES.

12.1 APPREHENDED BREACHES IN FLOOD BUNDS /STRUCTURES.

No vulnerable site / reach in this Division.

12.2 OPERATION OF BREACHING SECTIONS

Nil

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

Nil

Executive Engineer,
KotAdu Canal Division,
KotAdu.

CHAPTER 13

EMERGENCY CONTINGENCY PLAN FOR VULNERABLE SITE (SITES)

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

No vulnerable site / reach in this Division, however, two location Dholeywala Groyne and Pirhar Gharbi have been identified as critical and require continuous monitoring.

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

During the high flood the following villages likely will be affected (which structure hit them)

1. ChahKhokharWala (DholeyWalagroyne)
2. ChahLasharaiWala (DholeyWalagroyne)
3. BastiGishkori (DholeyWalagroyne)
4. Khan Walaetc (DholeyWalagroyne)
5. BastiDarkhan (PirharGharbi)
6. BastiPachani (PirharGharbi)
7. BastiSakhani (PirharGharbi)
8. BastiJhunjhianWali (PirharGharbi)

13.3 STRATEGY AND ACTION TAKEN IN CASE OF FLOOD EMERGENCY

In case of high flood emergency, the breaching section strategy and action taken will be as under. In case of great emergency, scattered abadies will be evacuated before time. When flood water touches DholewalaGroynwe and will rise up to level 465.0, this groyne will be breached between RD. 9+000-10+000, as all houses of nearby abadies U/S and D/S of DholewalaGroyne will be damaged if breaching action not activated at this place. For any complexity District Administration Layyah and Irrigation authorities will visit jointly for need full action.

13.3.1 ARRANGEMENTS.

The flood fighting camp will be established at RD.9-10 Bridge Dhole Wala Groyne and J-Head spur PirharGharbi with flood fighting material along labour for the emergency.

13.3.2 ESTABLISHMENT OF FLOOD FIGHTING CAMPS.

The flood fighting camp will be established at RD.9-10 Dhole Wala Groyne and J-Head Spur Pirhar Gharbi with flood fighting material along labor for the emergency.

13.3.3 DUTIES OF OFFICERS/OFFICIALS AND THEIR CAMP SITES.

The Sub Divisional Officer KotAddu Canal Sub Division will camp at Head Regulator Dhole Wala and Sub Engineer Kot Sultan shall also remain at his duty. SDO kotadu will be camp in-charge.

Furthermore, each Flood Fighting Camp shall be placed under the charge of an officer not below the rank of Sub Engineer, who shall be responsible for overall camp management, manpower deployment, material availability and coordination with civil administration.

13.3.4 DEPARTMENTAL MACHINERY AVAILABLE.

In case of flood emergency, Govt. departmental machinery from Machinery Division, DG Khan and Multan will be hired, if available.

13.3.5 MACHINERY AVAILABLE FROM PRIVATE SOURCE.

In case of non-availability of govt. departmental machinery, machinery will be hired through Govt. Contractor in case of emergency.

13.3.6 MINIMUM FLOOD FIGHTING MATERIAL REQUIRED

13.3.7 MINIMUM FLOOD FIGHTING MATERIAL AVAILABLE

Sr. No.	Items	Unit	Total Required Qty	Available Qty.	Balance / Required Qty.	Remarks
01	Chouldari / Tent	No	01	Nil	01	Balance Quantity shall be procured before the start of flood season 2026
02	Chairs	No	06	Nil	06	
03	Table	No	01	Nil	01	
04	Generator(2-3 KVA)	No	01	Nil	01	
05	Pedestal Fan	No	01	Nil	01	
06	Charpois	No	02	Nil	02	
07	Symbolic Jacket	No	50	Nil	50	
08	Polyethene Sheet	Kg	100	Nil	100	
09	Bamboos (4ftdia & 10ft long)	No	100	Nil	100	
10	Water Cooler	No	01	Nil	01	
11	Portable Umbrella	No	02	Nil	02	
12	Life Jackets	No	05	Nil	05	
13	Utensils(10 person serving)	No	01	Nil	01	
14	Jet /Plastic bag	No	1000	Nil	1000	
15	Walike talkie set	Seats	02	Nil	02	
16	Raincoats	No	10	Nil	10	
17	Led Flood light	No	10	Nil	10	

Sr. No.	Items	Unit	Total Required Qty	Available Qty.	Balance / Required Qty.	Remarks
18	Extension Cable 10ft	No	02	Nil	02	
19	Rechargeable torches	No	20	Nil	20	
20	Kassi	No	20	Nil	20	
21	Axes	No	20	Nil	20	
22	G.I Buckets	NO	05	Nil	05	
23	7/44 cable	Feet	500	Nil	500	
24	Sutli	Kg	02	Nil	02	
25	Sewing Needles	No	10	Nil	10	
26	Emergency Medical Kit	No	01	Nil	01	
27	Wire Creates (3 x3x x3)/ at only those camps near river action and Reserve Stock exists	No	100	Nil	100	

Note: The required quantity will be purchased before Flood season 2026.

13.4 DETAIL OF OTHER INFRASTRUCTURE LIKE ELECTRIC, SUI GAS, TELEPHONE INSTALLATIONS, ROAD NETWORK, OTHER BUILDINGS, CANALS AND DRAINAGE NETWORK LIKELY TO BE AFFECTED

1. Roads Dhole Wala Head to Shah WalaGroyne.
2. Head Regulator Dhole Wala
3. Inundation Canal System

Executive Engineer,
KotAdu Canal Division,
KotAdu.

CHAPTER 14

CHAPTER–14

14.1 RESHUFFLING / RECOUPING PLAN OF RESERVE STOCK OF STONE ON KOT ADU CANAL DIVISION KOT ADU

Circle / Division	Name of Structure	Location RD. Where Stone is Lying	Sanctioned Reserve Stock Limit (in lac Cft)	Available quantity	Balance Qty of Stone required	Remarks
Muzaffargarh/ KotAdu	J-Head Spur Bait Angra	J-Head	1.50	0.3734	0.6765	64% Required
Muzaffargarh/ KotAdu	J-Head Spur Jhunjhanwali	J-Head	1.50	0.3437	0.7062	67% Required
Muzaffargarh/ KotAdu	J-Head Spur PirharGharbi	J-Head	1.50	0.6441	0.4058	39% Required
Muzaffargarh/ KotAdu	J-Head Spur KharGharbi	J-Head	1.50	0.0501	0.9998	95% Required
Total			6.0	1.41	2.78	

Note: In case of emergency stone will be recouped through resourceful Government contractor.

14.2 DETAIL OF INLET / OUTLET CROSSING ALONG WITH CLOSINGMETHODOLOGY ON KOT ADU CANAL DIVISION KOT ADU

Sr. No.	Type of Crossing	Location (RD)	Structure Name	Benchmark Water Level / Discharge for Closure	Closing Methodology / Material Required
1	Inlet	RD. 9810 Dholewala Groyne	Lala Creek Inlet	Gauge > 14.0 ft	Sandbags / Stop Logs etc.

14.3 DEPLOYMENT OF MACHINERY (NORMAL TO LOW FLOOD)

Sr. No.	Structure Name	Length (Miles)	Excavators	Trolleys	Dumpers	Tractor with Front blade (1 per 15 mile)
1	Magasson flood bund RD. 0-42358.	8.47	S.E shall allow deputation of one (1) excavator & four (4) Trolleys during low flood at camps/vulnerable points & LMB / RMB.		-	-
2	Maggi Magasson bund RD. 0-25200.	5.04			-	-
3	DholewalaGroyne RD. 0-22500.	4.5			-	-
4	J-Head Spur Jhunjanwali.	0.357			-	-
5	J-Head Spur Bait Angra.	0.357			-	-
6	J-Head Spur PirharGharbi.	1.6			-	-
7	J-Head Spur KharGharbi.	2.4			-	-
Total					-	-

14.4 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	Magasson flood bund RD. 0-42358.	8.47	1	4	2	1
2	Maggi Magasson bund RD. 0-25200.	5.04	2	8	4	2
3	DholewalaGroyne RD. 0-22500.	4.5				
4	J-Head Spur Jhunjanwali.	0.357				
5	J-Head Spur Bait Angra.	0.357				
6	J-Head Spur PirharGharbi.	1.6				
7	J-Head Spur KharGharbi.	2.4				
Total			3	12	6	3

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	Magasson flood bund RD. 0-42358.	8.47	2	4	7	4	2	4
2	Maggi Magasson bund RD. 0-25200.	5.04	1	2	4	2	1	2
3	DholewalaGroyne RD. 0-22500.	4.5	1	2	4	2	1	2
4	J-Head Spur Jhunjanwali.	0.357	1	2	4	2	1	2
5	J-Head Spur Bait Angra.	0.357						
6	J-Head Spur PirharGharbi.	1.6						
7	J-Head Spur KharGharbi.	2.4						
Total			**5**	**10**	**19**	**10**	**5**	**10**

14.6 POLICE DEPLOYMENT PLAN

SR.#	NO OF DEPLOYMENT		HEAD REGULATOR DHOLE WALA	RD. 9-10 DHOLEWALA GROYNE	J-Head Spur PirharGharbi
1	A.S.I	3	1	1	1
2	Constable	12	4	4	4

14.7 DETAIL OF SYNTHETIC BAGS WITH CAPACITY OF 50KG AND 100KG

Sr. No.	Name of Item	Unit	Available	Required	Status
1	Synthetic Bags capacity 50 Kg	No.	NIL	500	Balance quantity will be procured before flood season 2026
2	Synthetic Bags capacity 100 Kg	No.	NIL	200	
14.8	**DETAIL OF POLYTHINE SHEETS OF BLACK COLOR TO PROTECT UPSTREAMS SLOPE AGAINST WAVE ACTION AND TO CONTROL SEEPAGE THROUGH EMBANKMENTS**				
3	Polythene Sheets of Black Color	Sft	NIL	10000	

14.9 RECOMMENDATIONS FOR OPERATION DURING FLOOD

Recommendations for Operation During Flood

i. The Superintending Engineer (SE) will notify all vulnerable points on the recommendations of Executive Engineer (XEN) and if the vulnerable site falls within 15 miles of embankment, then camp will be established at vulnerable site.

ii. Superintending Engineer shall allow deputation of one (1) excavator and four (4) Trolleys during low flood at Camps/ vulnerable points and LMB/RMB.

iii. The Superintending Engineer (SE) shall approve one additional shift during low to high flood based on necessity of site but he shall clearly mention the reach where additional shift is allowed.

iv. For emergent situation when very high flood levels are attained at lower flood discharges, additional camps may also be established with the approval of Superintending Engineer.

v. The concerned division shall procure flood fighting material as per requirement of seasonal flood fighting camps.

vi. Jackets with official emblem of the PID should be purchased by the concerned Division, to be used during the worst-case scenario, i.e., for exceptionally high flood.

vii. All others camps and supplies along with establishment i.e. Beldars and mates shall be outsourced before the flood season for operational efficiency during the flood fighting activities.

viii. The above mentioned yard stick of human resource is inclusive of 100% of regular flood establishment of the division at normal and low flood and for medium and above flood situation 50% of total regular establishment of the division and backup division in Flood Fighting Plan.

ix. The **Trigger Point** upstream of a Canal Division for commencing preparations shall be mentioned in the flood fighting plan and it shall be such point upstream with lag time of 3 days / 72 hours. The division shall initiate preparation corresponding to discharge magnitude expected to receive at their jurisdiction with respect to discharge at trigger point with 2025 flood data.

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SE MBN

x. Superintending Engineers 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 reason for additional resources in approval.

xi. Executive Engineers (XEN) shall decide the location and relocation of flood camps.

xii. The machinery mentioned above should be hired to remain standby for 24/7 to fight any extreme situation. The working of deployed machinery during normal situation shall be with prior approval of Superintending Engineer.

xiii. Communication means must be arranged through the Government. It is recommended to allocate a unique frequency for irrigation department.

xiv. In the event that water levels reach the 'High Flood' threshold even if the recorded discharge remains below established benchmarks, all field preparations and personnel deployments must immediately escalate to Critical Level protocols.

(Zeeshan Ali)
Member/ SE, Project Circle DG Khan

(Abdul Qayyum Qadume)
Member / SE, Mailsi Canal Circle, Multan

(Mohib Ullah Ali)
Member / SE, Sukhrawa Canal Circle, Sahiwal

(Imtiaz Hussain)
Member / SE, Bahawalpur Canal Circle

(Sammar Iqbal)
Member / SE, LCC(West) Canal Circle, Faisalabad

(Hafiz Ijaz Ahmed)
Member / SE, Mandi Bahauddin Canal Circle

(Mudassar Rehan)
Member / SE Link Circle, Lahore

(Khurram Amin)
Convener / Chief Engineer, Drainage & Flood Zone, Lahore.

Executive Engineer,
KotAdu Canal Division,
KotAdu.

CHAPTER 15

CHAPTER-15

BACKUP DIVISIONS (IN CASE OF BREACH)

In case of breaching KhangarhCanal Division will work as backup Division.

Executive Engineer,
KotAdu Canal Division,
KotAdu.