## GOVERNMENT OF THE PUNJAB IRRIGATION DEPARTMENT

SARGODHA IRRIGATION ZONE SARGODHA.



# FLOOD FIGHTING PLAN 2024

EXECUTIVE ENGINEER, KIRANA DIVISION LJC, SARGODHA.
LOWER JHELUM CANAL CIRCLE, SARGODHA

xen kirana@irrigation.punjab.gov.pk
Phone 048-9230399, Fax. 048-9230649



To

OFFICE OF THE
CHIEF ENGINEER IRRIGATION
SARGODHA ZONE SARGODHA
email: sw2.irrigation.sargodha@gmail.com

The Superintending Engineer, Lower Jhelum Canal Circle, Sargodha.

No. 4719 /W-II/VI-9

1304.24

Dated 22 /04/2024.

Subject: - FLOOD FIGHTING PLAN FOR THE YEAR 2024.

The flood fighting plan for the year 2024 pertaining to Executive Engineers Kirana Division LJC Sargodha, Sargodha Canal Division Sargodha and Bhalwal Canal Division Bhalwal have been signed by worthy Chief Engineer Sargodha and enclosed herewith.

You are requested to please ensure the submission of Flood Fighting
Plan 2024 to the following concerned quarters:-

- The Secretary, Government of the Punjab, Irrigation Department, Lahore.
- The Secretary, Punjab Flood Commission, Drainage & Flood Zone, Engineers Academy, Thokar Niaz Baig, Lahore.
- The Chief Engineer,
   Drainage & Flood Zone,
   Engineers Academy, Thokar Niaz Baig,
   Lahore.
- 4. The Flood Relief Commissioner, Board of Revenue (Punjab) Lahore.
- The Deputy Director (Hydraulics) HSSEU D&F Zone Lahore.
- The Assistant Director (Technical),
   Relief & Crisis Management Department,
   40/A Lawrence Road, Lahore.

- The Commander. Headquarter Engineers concerned Corps:
- 8. The Commanding Officer, (Rachna warriors ) 29 Radar, Controlled Gun Air Defence Regiment, Sargodha Garrison.
- The Commissioner Concerned.
- 10. The D.C. Concerned.
- 11. The Additional District Collector, Concerned.
- 12. The Director General Provincial Disaster Management Authority, 40/A Lawrence Road, Lahore.

The flood fighting plan 2024 must reach in above offices as well as 02 copies to this office and 04 copies to Chief Engineer D&F Zone Lahore within 02-days positively.

DA/As above.

Executive Engineer (OP), for Chief Engineer Irrigation Zone. Sargodha.

D/Goraya/20/04/2024/Flood Fighting Plan 2024 LJC Bhalwal Sargodha Kirana Approval

(Concessuel (Concessuel )

## OFFICE OF THE CHIEF ENGINEER DRAINAGE & FLOOD ZONE IRRIGATION DEPARTMENT

Government Engineering Academy Punjab, Canal Bank Road
Thokar Niaz Beg, Lahore – 53700, E-mail; cednl@yahoo.com Ph.042-99233551-52

To

The Executive Engineer, Kirana Division LJC, Sragodha,

No.D&F/2024/

/25/76,

Dated 03 104/2024.

SUBJECT: - FLOOD FIGHTING PLANS FOR FLOOD SEASON 2024.

Ref:-

Your office letter No.345/16-R, Dated 26.02.2024.

The Flood Fighting Plan 2024 received from your Division under above reference is hereby vetted and returned.

Therefore, it is requested, to circulate the same copies of Flood Fighting Plan 2024, after approved by the competent authority to all stakeholders as well as 04 copies (soft copy of Flood Fighting Plans through E-mail:cednf@yahoo.com) to this office and 01 copy to Director Hydraulic Structure Safety Evaluation Cell situated at Government Engineering Academy Punjab, Thokar Niaz Baig, Lahore.

DEPUTY DIRECTOR FLOOD
Chief Ergineer Drainage & Flood Zone

Irrigation Department Punjab, Lahore.

C.C.

1. The Chief Engineer Irrigation Sragodha Zone, Sragodha.

The Superintending Engineer Lower Jhelum Canal Circle, Sragodha.

## PART - A

## FLOOD FIGHTING PLAN 2024.

## **Table of Contents**

PART – A		
1. Salient	feature of Kirana Division LJC	1
1.1 Loc	ation	1
1.2 Ger	neral Description	1
1.3 Adr	ninistrative setup	3
2. Floo	d Protection and River Training Works	4
2.1	Design parameter of Training Works.	4
2.2	Location Map.	4
	f history of past flood events	
	ign Data, Historic peak flood data and previous five years flood data of Head Wor	
	rrages and or other control points	
4.1	Flood Limits	
4.2	Time Lags of Floods	
4.3 4.4	Highest Floods  Peak discharges	
(2000) (2000) (400)	d Histogram	
	d Fighting Strategy	
	d Damages Restoration Works	
	d Fighting Watching Arrangement.	
7.1	Pre-Flood Arrangement	
	tching Establishment	
	angement at Sensitive sites	
	atching Material	
	rangement for Sounding & Probing	
	phting Arrangement	
	ition Arrangement	
	O.L. Arrangement for Vehicle	
	ansportation	
	aw and order	
	ledical Arrangement for Labour	
	iaison with other Department	
	Role of the Army	
	uties of Telephone Attendant	
	/ireless Arrangements	
	ail of Encroachment.	
	/ Roster/Flood Fighting Program	
	ergency Telephone Nos.	
	ndard operating procedure (SOP) for Breaching Sections	
11.1	History of the breaching section	
11.2	Location, Design, Quantity and Variety of the explosive required for detonation.	
11.3	Arrangement of explosives and security of explosive stores	
11.3	List of the security staff alongwith detail of their training etc	
11.4		
6.11	Detail of mechanical means as a standby arrangements in case of detonation failure	22
11.6	Duty Roster in case of critical situation	

11.7	Breaching Committee with their action plan	22
11.8	List of the villages likely to be inundated in case of breach	22
11.9	Announcement and detail of evacuation arrangements	
11.10	Details of coordination with Civil/Army Authorities	.22
11.11	Parallel communication arrangements	
11.12	Index Plan	
	3	
	ulnerable sites on Flood Bund/Structures:	
12.1	Apprehended breach sites in Flood Bunds/Structures	
12.2	Operation of breaching sections.	
12.3	Breaches due to rising of flood water, deterioration of flood bunds etc	24
Con	ergency Contingency Plan for vulnerable site (sites) listed above. Emergency tingency Plan must include:	
13.1 F	Plan showing route of Flood Water coming out of the breach supported with levels	
13.2	Detail of villages abadies likely to be affected and this should also be shown on the plan	.25
13.3	Strategy and action taken be explained in detail. This may include	25
13.3	9	
	.2 Establishment of Flood Fighting Camps	
	3 Duties of Officers / Officials and their camp sites	
	4 Departmental Machinery available	
	5 Machinery available from Private Source	
	6 Flood Fighting Material required	
	7 Flood Fighting Material available	28
13.4	Detail of other infrastructure like electric, Sui Gas, Telephone installations, road	00
14 Activ	network, other buildings, canals and drainage network.	
14.1	on Plan	
14.1	Re-shuffling/ recouping plan of reserve stone departmentally.	
14.2	Detail of inlet/outlet crossing along with closing methodology.	
14.4	Deployment of Machinery (Medium to High Flood) River Chenab.	
14.5	Deployment of Machinery (High to Very High Flood) River Chenab.	
14.6	Deployment of Machinery (High to Exceptionally High Flood) River Chenab	
	Police deployment planetail of synthetic bags with capacity of 500 kg and 1000 kg.	
14.7 0		
	Details of polythene sheets of black colour to protect upstream slope against war action and to control seepage through embankments.	35
	k up Divisions (in case of breach)	
	rve stock of stone at Mamola guide wall spur	
	ECTION OF KOT NAJA FLOOD PROTECTION BUND PART - I	
	ECTION OF KOT NAJA FLOOD PROTECTION BUND PART-II	
	of Mamola Guide Wall Spur	
L-Section	of Inverted Hockey Spur	41
	Section of Khadir Disty Flood Bund	
INDEX PI	_AN	43

#### 1. Salient feature of Kirana Division LJC

#### 1.1 Location

Kirana Canal Division Sargodha falls in Chenab-Jhelum Doab areas comprising part of Lower Jhelum Canal Sargodha which off-takes from left flank of river Jhelum having its jurisdiction upto right flank of river Chenab partially in District, Sargodha and Chiniot.

There are three Main Channels in the jurisdiction of this Division which are as under:-

1.	Kirana Disty: RD 0 - 206542 (Tail)	Discharge	440.68 Cs.
2.	Khadir Disty: RD 0 - 273600 (Tail)	Discharge	235 Cs.
3.	Lalian Disty: RD 0 - 184000 (Tail)	Discharge	375 Cs.

These 03 No. Systems irrigate the areas in District Sargodha & Chiniot and are controlled by respective Sub Divisional Officers headed by the Executive Engineer Kirana Division LJC, Sargodha. Names and locations of Sub Divisional Offices are given below.

Sr. #	Name of Sub Division	Location (Head Quarter)
1	Laluwali Sub Division	Laluwali Canal Rest House at RD 60000/L of Lalian Disty
2	Khadir Sub Division	Kot Naja Canal Rest House at RD 33000-34000/R of Khadir Disty
3	Kirana Sub Division	At Katchary Road Sargodha

## 1.2 General Description.

This Division falls in Chenab-Jhelum Doab areas. Detail description of Canal Systems and river reach are as per following.

#### 1. Khadir Irrigation system

This Canal System Khadir Disty off-take at RD 117220/L of Khadir Feeder with designed discharge of 235 Cs. Its jurisdiction starts from tail of Khadir Feeder and ends near village Pipal Bhutta of Tehsil Lalian District Chiniot. It consists of 16 Nos. irrigation channels which traverse along the right bank of river Chenab partially in District Sargodha & District Chiniot.

Khadir Disty system is protected by Kot Naja Flood Bund (Length RD 91440 - 132500)

8.212 Mile & Mamola Guide Wall Spur (Length RD 0-7000) 1.40 Mile. The Flood bund from

RD 0 - 91440 now falls in jurisdiction in Bhalwal Division whereas RD 91440 - 132500 is

controlled by Kirana Division till it meets Khadir Disty at RD 66000-67000 and now it's called

Khadir Disty Flood Bund RD 66+450 to 68+034 (0.317 miles) and L.B.N Drain.

The Bund runs along right bank of the River Chenab with average distance from the river are

about five miles.

Mamola Guide Wall Spur is located near village Muhammad Wala and protects agricultural

land, local abadies and public infrastructure from flood havoc at large.

2. Lalian Disty System

This irrigation System off-takes from tail RD 104300/L of Southern Branch near Ghullapur

Canal Rest House. Its designed discharge is 375 Cs. and consists of 15 No Minor & Sub Minor.

Length of Lalian Disty: is 184000 ft. and ends near Chak 62/SB Tehsil Lalian District Chiniot.

3. Kirana Disty System

This irrigation System off-takes from tail at RD 104300/R of Southern Branch near Ghullapur

Canal Rest House. Designed discharge is 440.68 Cs. It consists of 14 No off-taking channel.

The length of Kirana Disty is 206542 ft. and ends near Tehsil Sillanwali. Its main off-taking

channel is Chokera Disty: having discharge of 118 Cs.

The territorial jurisdiction of this Division falls in District, Sargodha & Chiniot. Network of Three

major canals to provide gravity flow perennial irrigation with various intensities viz 75% & 40%

to feed an overall C.C.A comprising 363152 acres in addition to commanding 419609 acres

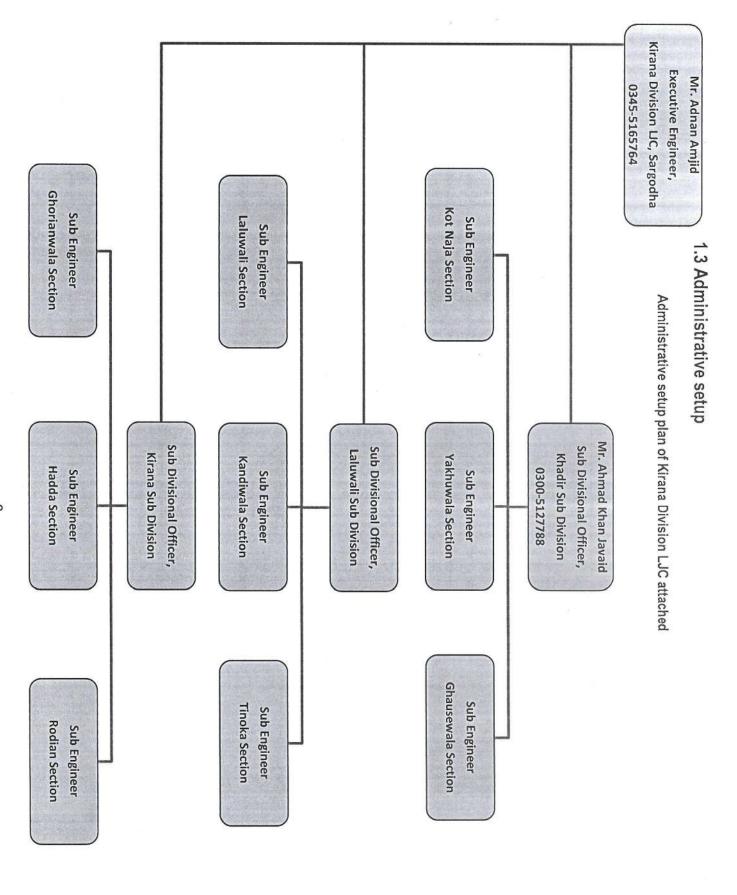
well flourished superb garden areas and orchards through 706 No outlets by utilizing 1074.68

Cs: discharge supplemented by river supplies from Mangla Dam reservoir through Lower

Jhelum Canal, off-taking at Rasul Barrage.

XEN: / KIRANA

2



## 2. Flood Protection and River Training Works

## 2.1 Design parameter of Training Works.

There is one flood protection bund & two river training works in this Division which are as under.

- I- Flood Embankment.
- a) Kot Naja Flood Bund RD: 91+440 RD: 132+500 (8.212 Mile)
- b) Khadir Disty Flood Bund RD: 66+450 68+034 (0.317 Mile)
- II- River Training Work.
- a) Mamola Guide Wall Spur RD: 0+000 7+000 (1.40 Mile) with 16 No. earthen studs = 16 x300'(0.96 Mile)
- b) 8 No. solid stone studs at Darbar Syed Sahib Shah

#### Design Parameters.

I- Flood Embankment.

Description	Length	ength Top Width (ft:)		Side Slope		Year of
Description	(Mile)	RD	Width	R/S	C/S	Construction
	8.212	91440-132500	20.00	3:1	2:1	1905
Kot Naja Flood Bund RD 91+440-132+500			25.00	3:1	2:1	Rehabilitation in 2019 by PIU.
Khadir Disty Flood Bund RD: 66+450 – 68+034	0.317	66450-68034	25.00	3:1	2:1	2023

II River Training Work.

Description	Length	Top Width (ft:)		Top Width (ft:) Side Slope		Year of	
Description	(Mile)	RD	Width	R/S	C/S	Construction	
Mamola Guide Wall Spur RD 0+000-7+000	1.40	0-7000	25.00	3:1	2:1	1997	

Description	Length (ft.)	Top Width (ft:)	Side Slope	Year of Construction
8 No. solid stone stud	s at Darbar Sy	ed Sahib Shah		
Stud No.1	25			
Stud No.2	50			
Stud No.3	60			
Stud No.4	80			2015
Stud No.5	25	15	1:1	
Stud No.6	25			
Stud No.7	50			
Stud No.8	80			2022

## 2.2 Location Map.

Location map attached with page-43.

#### 3. Brief history of past flood events.

During flood of 1995-1996, the spill of river Chenab with 644397 & 853231 Cs. discharge respectively touched Kot Naja flood bund in reaches RD: 63000 to 90000 with no damage occurred,

However, in 1997 the river Chenab with its peak on 28.8.1997 having discharge of 873443 Cs. damaged Mamola spur due to parallel flow action on D/S side.

On 13-14/03/2007 heavy rains in catchment area in the territory of Jammu & Kashmir caused high flood in river Chenab, This unexpected flood was recorded as 289000 Cs: and its effect reached at Mamola guide wall spur site, a significant change in the flow pattern of river at this high discharge intensity was observed. Due to this, the upstream curved portion (Nose) was under direct hit of the river current which caused swirls formation in the vicinity of nose. The eddies generation caused abnormal scouring which resulted launching / washing away of apron in length of 172 ft. The damage was further intensified during the flood 2010 upto 200 ft. length. To restore the structure the work namely: Rehabilitation of Mamola Guide Wall Spur on Right Side of River Chenab was completed before flood season 2014.

During flood of 2014, the spill of river Chenab with 903504 Cs. Discharges also touched Kot Naja flood bund in reach RD 49000 to 71000 and damage occurred in reach RD 70000-71000 which was filled later on. No damage occurred to Guide Walls Flood Bund in 2015 & 2016 against discharges of 161054 Cs. & 405542 Cs. respectively.

During flood season 2017, river regime upstream of Motorway (M-2) Bridge was changed due to obstruction caused by choked bays along left side of the river, resultantly, river flow has been diverted along right bank and created emergent situation posing threat to abadies, Agricultural Land & Imambargah.

## PROTECTION OF ABADIES AND AGRICULTURE LAND OF VILLAGE TALIBWALA DOWNSTREAM MOTORWAY M-2 BRIDGE

A group of people met the Deputy Commissioner, Sargodha on 22-01-2020 who vide his letter No. 100/FRC dated 31-01-2020 informed that their village Tallibwala having population of 5000 people is under direct threat of the River Chenab, which has eroded about 200 Acres of Land. They also submitted that if no protective measures are adopted their agriculture land and houses will be vanished soon.

As there is no Irrigation infrastructure under the threat of River Chenab, according to Flood Policy Notified vide No. SO(Flood)VII-3/2004 dated12-07-2019 being a Chairman of District Disaster Management Committee Deputy Commissioner, Sargodha desired to provide appropriate solution for protection of land under river action. The matter was referred to Departmental Expert Committee for possible solution vide Chief Engineer, letter No. 4844/W-II/238/84 dated 14-03-2020.

#### 3. Brief history of past flood events.

During flood of 1995-1996, the spill of river Chenab with 644397 & 853231 Cs. discharge respectively touched Kot Naja flood bund in reaches RD: 63000 to 90000 with no damage occurred,

However, in 1997 the river Chenab with its peak on 28.8.1997 having discharge of 873443 Cs. damaged Mamola spur due to parallel flow action on D/S side.

On 13-14/03/2007 heavy rains in catchment area in the territory of Jammu & Kashmir caused high flood in river Chenab, This unexpected flood was recorded as 289000 Cs: and its effect reached at Mamola guide wall spur site, a significant change in the flow pattern of river at this high discharge intensity was observed. Due to this, the upstream curved portion (Nose) was under direct hit of the river current which caused swirls formation in the vicinity of nose. The eddies generation caused abnormal scouring which resulted launching / washing away of apron in length of 172 ft. The damage was further intensified during the flood 2010 upto 200 ft. length. To restore the structure the work namely: Rehabilitation of Mamola Guide Wall Spur on Right Side of River Chenab was completed before flood season 2014.

During flood of 2014, the spill of river Chenab with 903504 Cs. Discharges also touched Kot Naja flood bund in reach RD 49000 to 71000 and damage occurred in reach RD 70000-71000 which was filled later on. No damage occurred to Guide Walls Flood Bund in 2015 & 2016 against discharges of 161054 Cs. & 405542 Cs. respectively.

During flood season 2017, river regime upstream of Motorway (M-2) Bridge was changed due to obstruction caused by choked bays along left side of the river, resultantly, river flow has been diverted along right bank and created emergent situation posing threat to abadies, Agricultural Land & Imambargah.

## PROTECTION OF ABADIES AND AGRICULTURE LAND OF VILLAGE TALIBWALA DOWNSTREAM MOTORWAY M-2 BRIDGE

A group of people met the Deputy Commissioner, Sargodha on 22-01-2020 who vide his letter No. 100/FRC dated 31-01-2020 informed that their village Tallibwala having population of 5000 people is under direct threat of the River Chenab, which has eroded about 200 Acres of Land. They also submitted that if no protective measures are adopted their agriculture land and houses will be vanished soon.

As there is no Irrigation infrastructure under the threat of River Chenab, according to Flood Policy Notified vide No. SO(Flood)VII-3/2004 dated12-07-2019 being a Chairman of District Disaster Management Committee Deputy Commissioner, Sargodha desired to provide appropriate solution for protection of land under river action. The matter was referred to Departmental Expert Committee for possible solution vide Chief Engineer, letter No. 4844/W-II/238/84 dated 14-03-2020.

Continuous erosion of agriculture land by current flows downstream Qadirabad Barrage near Village Talibwala. The erosive action will soon erode/inundate the Village Talibwala just 300 ft away from the River bank Talibwala require emergent provision of Flood protection / embankment. In this regard Physical model Study for a long-term technical solution has been completed at Nandipur Research Institute and resultantly PRO Hydraulics vide letter No. 1373/PRO (H)/83-M dated 27.06.2023 shared minutes of meeting of the DEC held on 22.06.2023. The PC-I has been approved by Administrative Department vide No. SO.(Floods)VI-11/2023 dated 20.10.2023 amounting to Rs. 216.947 Millions & construction of Inverted Hockey Spur of work started at site and it will be completed before flood season 2024 due to availability of funds.

4. <u>Design Data, Historic peak flood data and previous five years flood data of Head Works / Barrages and or other control points</u>

#### 4.1 Flood Limits

Floods limits for River Chenab are as below:

			Lac Cs:		
Head Works	Low	Medium	High	Very High	Exceptionally High
Marala	1.00 to 1.50	1.50 to 2.00	2.00 to 4.00	4.00 to 6.00	More than 6.00
Khanki	1.00 to 1.50	1.50 to 2.00	2.00 to 4.00	4.00 to 6.00	More than 6.00
Qadirabad	1.00 to 1.50	1.50 to 2.00	2.00 to 4.00	4.00 to 6.00	More than 6.00
-0	Sour	ce: Federal Floo	od Commission I	slamabad.	

## 4.2 Time Lags of Floods

Following are the time lags for high flood condition in River Chenab.

Location			ag (Hour)		
To (Km)		To (Km) Range Indicative		Remarks	
Khanki	56	10-14	12	i) Indicative average time lags values	
Qadirabad	30	06-10	7	may vary in view of conditions / factors	
Trimmu.	214	60-84	72	prevalent at the time of flood flows.  ii) These values are for high flood	
MainaHazara.	40	-	12	conditions and may be used by the concerned agencies for rescue /	
ChiniotBridge	80	=	24	evacuation purposes.	
	To Khanki Qadirabad Trimmu. MainaHazara.	To (Km)  Khanki 56  Qadirabad 30  Trimmu. 214  MainaHazara. 40	To (Km) Range  Khanki 56 10-14  Qadirabad 30 06-10  Trimmu. 214 60-84  MainaHazara. 40 -	To         (Km)         Range         Indicative Average           Khanki         56         10-14         12           Qadirabad         30         06-10         7           Trimmu.         214         60-84         72           MainaHazara.         40         -         12	

## 4.3 Highest Floods

The highest flood discharges recorded downstream Qadirabad Barrage during last five year are as under:

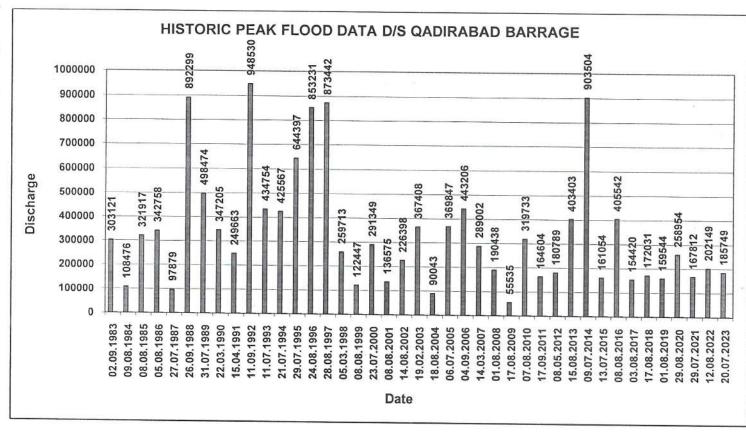
Year	D/S Qadirabad
2018	172031 Cs
2019	159544 Cs
2020	258954 Cs
2021	167812 Cs
2022	202149 Cs
2023	185749 Cs

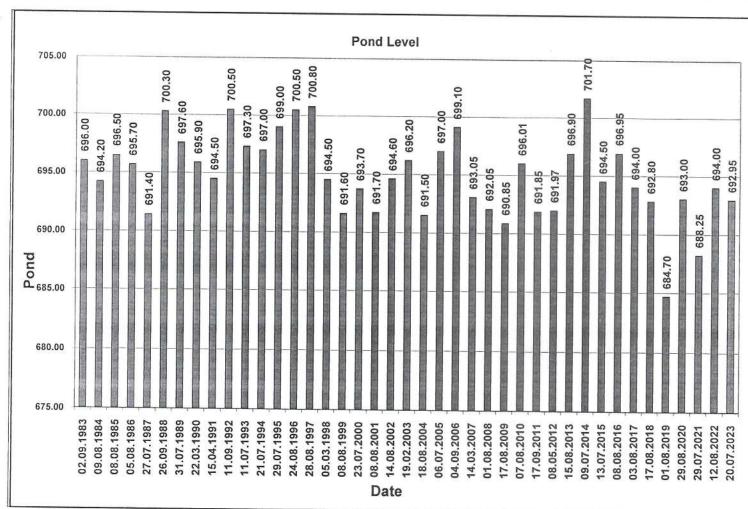
4.4 Peak discharges

Date	Discharge (Cs)	Pond Level (ft.)
Down	nstream Qadirabad Ba	arrage
02.09.1983	303121	696.00
09.08.1984	108476	694.20
08.08.1985	321917	696.50
05.08.1986	342758	695.70
27.07.1987	97879	691.40
26.09.1988	892299	700.30
31.07.1989	498474	697.60
22.03.1990	347205	695.90
15.04.1991	249663	694.50
11.09.1992	948530	700.50
11.07.1993	434754	697.30
21.07.1994	425567	697.00
29.07.1995	644397	699.00
24.08.1996	853231	700.50
28.08.1997	873442	700.80
05.03.1998	259713	694.50
08.08.1999	122447	691.60
23.07.2000	291349	693.70
08.08.2001	136575	691.70
14.08.2002	226398	694.60
19.02.2003	367408	696.20
18.08.2004	90043	691.50
06.07.2005	369847	697.00
04.09.2006	443206	699.10
14.03.2007	289002	693.05
01.08.2008	190438	692.05
17.08.2009	55535	690.85
07.08-2010	319733	696.01
17-09-2011	164604	691.85
05-08-2012	180789	691.97
15-08-2013	403403	696.90
07-09-2014	903504	701.70
13-07-2015	161054	694.50
08-08-2016	405542	696.95
03-08-2017	154420	694.00
14-08-2018	172031	692.80
01-08-2019	159544	684.70
29-08-2020	258954	693.00
29-07-2021	167812	688.25
12-08-2022	202149	694.00
20-07-2023	185749	692.95

Jan .

## 5. Flood Histogram





#### 5. Flood Fighting Strategy

In view of the experience of past year's floods history, constant watch is required during the flood season, great care and caution will be required for fixation of appropriate relief spots for flood fighting on different canals, flood bund and spur.

#### Canal System.

Khadir system runs parallel to river Chenab and up to RD 67+500 is protected from the spill of river by Kot Naja flood bund. The remaining part of Khadir Disty RD95000 to 273600-Tail and its allied channels on left side always remain under threat of river spill and require continuous watching. The Khadir Disty System comprises of following canals.

Canal System	Canal	Length (mile)	Discharge (Cs)
<del></del>	Khadir Disty.	54.72	235.00
	Ahmad Nagar Minor.	3.35	8.00
	Pillowal Minor.	5.94	11.00
	Khai Branch Disty.	6.67	19.00
Khadir Disty System.	Jabana Minor	1.58	4.50
System.	Walla Minor	3.67	13.00
	Pir Punja Minor.	4.01	7.00
	Vijhulke Minor.	2.30	3.50
	Kalri Minor.	2.39	3.00

#### Camp / Sites.

The Department has proposed to install camp stations for protection of irrigation canals on Kot Naja Flood Bund, Mamola Guide wall spur and 8 No. solid stone studs at Darbar Syed Sahib Shah.

#### On Canals.

Canals	Reach RD	Length (mile)	Battle Camp Station
KhadirDisty.	95000-180000	17.00	Yakhuwala Rest House.
KhadirDisty.	180000-273000-T	18.60	Ghausewala Rest House.
Ahmad Nagar Mr.	0 – Tail	3.35	Yakhuwala Rest House.
Pillowal Mr.	0 – Tail	5.90	Yakhuwala Rest House.
Khai Branch Disty.	0 – Tail	6.67	Yakhuwala Rest House.
Jabana Mr.	0 – Tail	1.58	Yakhuwala Rest House.
Walla Mr.	0 – Tail	3.67	Ghausewala Rest House.
PirPunja Mr.	0 – Tail	4.01	Ghausewala Rest House.
Vijhulke Mr.	0 – Tail	2.30	Ghausewala Rest House.
Kalri Mr.	0 – Tail	2.40	Ghausewala Rest House.

#### On Bund, Spur& river training work.

Description	Reach RD	Length (mile)	Battle Camp Station	
Kot Naja Flood Bund.	91440-132500	8.212	RD 93750	
Mamola Guide Wall Spur.	0-7000	1.40	RD 0+000	
8 No solid stone studs	At Darbar Syed Sahib Shah			

The Sub Divisional Officer, Khadir Sub Division will be the overall in-charge for operation of Kot Naja Flood bund, channels on Khadir system, Mamola Guide Wall spur and 8 No solid stone studs.

- Above mentioned camps will be installed on sites for supervision of the protection activities during emergency. For all spots sufficient articles of stock items will be available in all these camps.
- There are provisions for engagement of work charge establishment to supplement the efforts of regular establishments.
- Sub Divisional Officer, Kirana Sub Division will remain in touch with Flood Control Office, during Flood
  period after receiving warning that the river is in high flood, he will immediately shift his headquarter to Kot
  Naja Flood bund at RD 93750 and assist Sub Divisional Officer, Khadir in flood fighting operation.
- Sub Divisional Officer, Laluwali will shift his headquarter to Yakhuwala Rest House to supervise and provide guidance to Sub Engineer Yakhuwala till the danger is over and the flood water subsides.
- Executive Engineer Kirana Canal Division is fully competent to change duty of any officer / official.

Following channels are directly affected by the RIVER Chenab spills. The channels function as flood embankment and protection to the towns (like Mahiwal, Yakhuwala), abadies, crops and other infrastructure, against the flood. The reaches of channels which are affected by river spills and where the channels function as flood bunds are:-

Sr. #	Channel	Reach	Length (mile)	
1.	Khadir Disty:	RD: 0-67500.	13.50	
2.	Ahmad Nagar Mr.	RD: 0-16730- Tail	3.35	
3. Pillowal Minor.		RD: 0-29715- Tail	9.43	
		Total	26.28	

Join!

In view of vulnerable location of channels, being in the flood plain, it is essential to take up flood preparedness activities like strengthening weak and ghat sites, clearance of jungle, shrubs from banks and slopes and making them fit to face the ensuing floods. Therefore a gang of one man per mile is employed from 1st June to 30<sup>TH</sup> September for preparedness of the upcoming flood, in addition to existing establishment of one beldar in six miles length of canal.

#### i. <u>LOW FLOOD DISCHARGE 100000 – 150000 Cs.</u>

No extra labour will be employed. The labour arranged for preparedness will continue as such.

#### ii. MEDIUM FLOOD DISCHARGE 150000 – 200000 Cs

In medium flood the scale will be two men / mile / shift for three shift in a day and arranged through the external contractor.

#### HIGH FLOOD DISCHARGE 200000 – 400000 Cs.

The flood water spills out and inundates the low lying areas and touches the flood bund. The watching is necessary to be arranged. Therefore, three men for day & night per mile are employed, including the existing gang as arranged by the external contractor.

#### VERY HIGH FLOOD DISCHARGE 400000 – 600000 Cs.

All activities will remain as such. The watching establishment will be raised to two men per mile on channels and four men per mile for three shifts on Kot Naja Flood Bund as arranged by the external contractor.

#### EXCEPTIONALLY HIGH FLOOD ABOVE 600000 Cs.

This stage warrants alarming situation. The watching labour will be raised to three men per mile per shift on channels and six men per mile per shift for three shifts on bund. On receipt of exceptionally high flood warning, Deputy Collector, Kirana along with concerned Zilladars and Canal Patwaries will shift their camp at Yakhuwala Rest House.

XEN: / KIRANA

#### 6. Flood Damages Restoration Works.

Overall condition of flood protection infrastructure was satisfactory. However, no any damages to houses / lives have been reported. River erosive action was observed near Darbar Syed Sahib Shah Village Talibwala along right Bank of River Chenab Downstream Motorway M-2 Bridge. There is no structure damage during the flood season 2023 and hence, no flood restoration work is pending in Kirana Canal Division. However Construction of Inverted Hockey Spur as proposed by the Director Hydraulics Irrigation Research Institute Lahore is under progress at site along-with it is planned to rehabilitate the Mamola Guide Wall Spur before flood season 2024. The necessary estimate is sanctioned and Job order is requested to Executive Engineer, Machinery Division Lahore and it may rehabilitate depending upon availability of funds alongwith repairing/ maintenance of Kot Naja Flood Bund through filling rain cuts & gharas etc.

## 7. Flood Fighting Watching Arrangement.

7.1 Pre-Flood Arrangement

Sr. No.	Activity	Newly Progress	Compliance Report
l.	Preparation of Flood Fighting Plan.		
	<ul> <li>a) Submission of Draft Divisional Plans by Zonal Chiefs to Chief Engineer Drainage and Flood(after scrutiny by SEs/CEs).</li> </ul>	01-03-2024	Submitted
	b) Review by Chief Engineer D&F.	31-03-2024	
	c) Final submission of Flood Fighting Plans.	15-04-2024	
II.	Inspection of Flood Infrastructure.		1
	By XENs	15-03-2024	
	By SEs /CEs)	31-03-2024	
	By Departmental& Army Teams	31-03-2024	
III.	Identification of encroachments on bunds and spurs to the civil administration.	31-03-2024	No encroachment on flood bund / spur
IV.	Painting gauges, RD Marks, data boards and repair to flood bunds etc.	31-05-2024	Will be completed within target date
٧.	Replenishment of reserve stock of stone and floor	d fighting materials.	
	a) Identification of needs.	28-02-2024	Sanctioned = 2.497 (0.50+1.997) Lac. Cft Available = 0.130 Lac. Cft Balance = 2.367 Lac. Cft
	b) Funding /Procurement Arrangements.	15-03-2024	Estimate Sanctioned & tender called but no tender received.
	c) Procurement, stacking, prescribed field checks.	31-05-2024	-
VI.	Installation of wireless sets	15-06-2024	Will be installed within target date
VII.	Opening of zonal flood cells		
	a) Duty rosters.	01-06-2024	Will be issued up to target date
	b) Operative.	15-06-2024	Will be operative within target date

## Structure wise Detail of Reserve stock of stone

	Sanctioned	Available	Balance	Remarks
1	(Mamola Guide Wall Spur) 0.50 Lac. Cft	0.13 Lac. Cft	0.37 Lac. Cft	Estimate Sanctioned & tender
2	(8 No Solid Stone Studs) 1.997 Lac. Cft	0	1.997 Lac. Cft	called but no tender received.

## Consolidated Status of reserve stock of stone

	Status of Re	serve Stock of Stone (L	ac. Cft)
Sanctioned Reserve Stock limit	Available quantity	Balance quantity	Status of procurement of balance quantity
2.497	0.13	2.367	Estimate Sanctioned & tender called but no tender received.

#### 7.2 Watching Establishment

#### Labour.

Manpower will be engaged during the flood season on work charge basis through advertisement and external contractor for watching and general maintenance of channel and flood bunds.

- A) During normal flood stage, one man per mile / shift for two shift in a day. (No extra labour will be employed. The labour arranged for preparedness will continue as such)
- B) During low flood stage, the scale of establishment is one man / mile / shift for two shifts in a day. (The flood water flows within river bank. No extra labour will be employed)
- C) In medium flood the scale will be two men / mile / shift for three shift in a day.
- D) During high flood four men/ mile / shift for three shifts per day will be employed.
- E) During very high flood stage of 6.00 Lac Cusecs discharge, the 6 men / mile / shift in three shifts will be employed.
  - After every three miles there will be a Mate and for every five miles there will be a Mistry in addition to Mate to supervise the work of Beldars.

#### Labour During Emergency.

- Manpower will be arranged by the respective Deputy Commissioner in case of emergency to meet with situation or through external contractor.
- 4 Nos dozers and 6 Nos tractor trollies with P.O.L will be arranged by the Agricultural Department through concerned Deputy Commissioner in District Sargodha & Chiniot.
- S.H.O of concerned police station will assist Irrigation Department.

Site of Watching (RD)	Longth/mile)	Canal / River Works	Labour	
one of watching (ND)	Length(mile)	Canal / River Works	Mate	Beldar
95000-273600	35.72	Khadir Disty.	3	20
0-16730	3.35	Ahmad Nagar Minor.	1	4
0-29715	5.90	Pillowal Minor.	1	6
0-33362	6.67	Khai Branch Disty.	1	7
0-7908	1.58	Jabana Minor.	-	1
0-18356	3.67	Walla Minor.	1	4
0-20050	4.01	Pir Punja Minor.	1	4
0-11500	2.30	Vijhulke Minor.	1	3
0-11976	2.40	Kalri Minor.	-	3
91440-132500	8.212	Kot Naja Flood Bund.	3	9
0-7000	1.40	Mamola Guide Wall Spur	1	9

		STATE OF				Floor	d Limits				
Site	LENGTH	Normal Flood Stage 1 Man per mile per shift		Stage  1 Man per mile per shift		Medium Flood Stage  2 Men per mile per shift		High Flood Stage 4 Men per mile per shift		Very High Flood Stage 6 Men per mile per shift	
	The state of the s	Man	Shift	Man	Shift	Man	Shift	Man	Shift	Man	Shift
Kot Naja Flood 91440 -132500 & Khadir Disty Flood Bund RD: 66450 – 68034	8.212 (Mile) 0.317 (Mile) Total 8.529			The flood water flows		63	3 Shift	117	3 Shift	171	3 Shift
8 No. solid stone studs at Darbar Syed Sahib Shah	(8 Suds) Say = 1	No extra labour will be employed.	within river bank. No	9	3 Shift	15	3 Shift	21	3 Shift		
Mamola Guide Wall Spur	1.40+0.96 = 2.36 (Mile) Say = 2.5	emp	ioyea.	extra labour will be employed.	18	3 Shift	33	3 Shift	51	3 Shift	
	Total					90	3 Shift per day	165	3 Shift per day	243	3 Shift per day

## 7.3 Arrangement at Sensitive sites

Following are the main spots where watching camps will be established on temporary basis.

- 1) Kot Naja Flood Bund. RD 93760.
- 2) Mamola Guide Wall Spur. RD 0+000.
- 3) 8 No. Solid stone stud. At Darbar Syed Sahib Shah.

## 7.4 Watching Material

Following materials shall be kept at each watching hut (The material will be shifted to watching huts as soon as the intimation of Medium / High Flood limit is received).

Sr. No.	S soon as the intimation of Mediu  Name of item	Unit	Total quantity required for 3 No watching hut	Available quantity for 3 No. Watching huts	Balance quantity required For 3 No. Watching huts	Status of arranging / purchasing balance quantity
1	Axes (Large)	No.	15	6	9	Subject to availability of funds, the materials
2	Bamboos 8' to 10' (for Lighting arrangements)	No.	60	3	57	shall be purchased before start of flood
3	Baskets (Medium)	No.	60	5	55	season 2024
4	Buckets Plastic (Medium)	No.	15	2	13	
5	Torches (Medium) Rechargeable	No.	9	0	9	
6	Chouldaries (Medium)	No.	3	0	3	
7	E.G. Bags (50 Kg)	No.	3000	590	2410	
8	Energy Savers (50 Watt)	No.	75	0	75	
9	Folding Chair	No.	18	14	4	
10	Folding Table	No.	3	2	1	
11	Funnels	No.	6	2	4	
12	G.I. Buckets (Large)	No.	15	6	9	
13	Generator (3500 Watt)	No.	3	3	0	
14	Hand Saws	No.	6	1	5	
15	Handle for Kassi / Axes	No.	30	0	30	
16	Holder for Lamp	No.	90	0	90	
17	Kassi with Handles	No.	15	6	9	
18	Kerosene Oil	Liter	90	0	90	
19	Killas	No.	300	0	300	
20	Life Jacket	No.	15	9	6	
21	M. Oil	Liter	12	0	12	
22	Manila Rope	Per Kg	6	2	4	
23	Match Boxes	No.	30	0	30	
24	Munj / Patha / Trungers	No.	300	0	300	
25	Needles	No.	6	2	4	
26	Oil Extractors	No.	3	3	0	
27	Petrol	Liter	150	0	150	
28	Rain Coats (XXL size)	No.	15	4	11	
29	Steel Charpoy	No.	9	4	5	
30	Sutli	Per Kg	30	10	20	
31	Switch / Plugs	No.	36	0	36	
32	Umbrella (Large)	No.	15	0	15	
33	Wires 7/29	Meter	300	0	300	
34	Wooden Boards 10' x 12'	No.	6	1	5	
35	Wooden Hammers (diameter 4")	No.	6	0	6	
36	Gl. Wire (16 SWG)	Per Kg	300	0	300	
37	Gl. Wire (18 SWG)	Per Kg	300	0		
31	Gi. Wile (18 SWG)	rerry	300	0	300 A	

### 7.5 Arrangement for Sounding & Probing

This item relates to Barrage / Head Works Canal Division.

### 7.6 Lighting Arrangement

Lighting arrangements will be made available.

### 7.7 Ration Arrangement

The establishment and supervisory staff will make their own food arrangements. However in the event of dearth of commodities, the Civil Authorities will be approached to store sufficient ration.

### 7.8 P.O.L. Arrangement for Vehicle

Respective Deputy District Officer, (Revenue) will be requested by the Sub Divisional Officer in-charge to provide help some reserve at the nearest petrol pumps to keep the vehicles on. Any obstruction found there will be pointed out by the Sub Divisional Officer.

### 7.9 Transportation

In general civil authorities have never been able to spare any vehicle for us, but we have no other cushion available to depend upon. It is therefore urged that the Deputy Commissioner, concerned may please ensure availability of dependable vehicle from the pool of the District.

#### 7.10 Law and order

Kot Naja Flood bund falls within the administrative jurisdiction of District Sargodha & Chiniot proportionately, Mamola Guide wall spur and 8 No Solid Stone Studs fall in District Chiniot. In case of observing any sort of law and order situation from the public sides, it shall immediately be contacted by the Sub Divisional Officer, concerned with the respective authority of civil administration to maintain the situation at site to avoid any mishap.

## 7.11 Medical Arrangement for Labour

It is the responsibility of District Government to provide medical facilities in flood areas where required.

## 7.12 Liaison with other Department

Executive Engineer, Kirana Canal Division will keep liaison with the Civil and Army Authorities and will keep the Superintending Engineer L.J.C, Sargodha fully apprised of the flood situation.

## 7.13 Role of the Army

Role of the Army is very important in case of any emergent situation arising due to high floods. A continuous liaison with the Army Authorities will be maintained during floods and if required necessary help will be sought.

XEN: / KIRANA

## 7.14 Duties of Telephone Attendant

Phone and cell No of all officers / officials have been given in Flood Fighting Plan 2024 to make immediate contact at any emergency during flood.

			Time		
Sr. No.	Name of officer / official	Period	From	To	
1	Adnan Amjid (Executive Engineer) 0345-5165764	neer) During flood Season 2024.		24 Hours	
2	Ahmad Khan Javaid (Sub Divisional Officer) 0300-5127788	During flood Season 2024.		Hours	
3	Telegraph Office Sargodha 048-9230408	During flood Season 2024.	24 1	Hours	

## 7.15 Wireless Arrangements

Wireless system will be installed w.e.f. 15-06-2024 in the vehicle of Executive Engineer, Kirana Toyota HILUX No. GBA 429 and Sub Divisional Officer, Khadir Jeep No. SGF 8645.

## 8. Detail of Encroachment.

A.	Sr. No.	Total Encroachment	Removed	Remaining	Remarks	8
				Nil		

## B. Detail of Critical Encroachment.

Sr. No.	Total Encroachment	Removed	Remaining	Remarks
		1	Vil	٨

CHAPTER-9

9. Duty Roster/Flood Fighting Program

	STAGE-IV DISCHARGE EXCEEDING 8 LAC Cs.			Establishment will be deputed as per stage-III	ş 5		
	ED	BAILDAR	162	8	48	243	
	ESTABLISHMENT TO BE DEPUTED (PER SHIEFT)	MATE	o .	м	6		
		SUB ENGINEER	Sub Engineer Kot Naja Sedion Intazar Hussain (0300-6005812)	Sub Engineer Yakhuwala Section Babar Rasheed (0343-7868557	Sub Engineer Ghausewala Section Haroon Shahzad (0345-8678646)	3 Shift per day	
		SDO	(88	Ahmad Khan Javaid TYS73-0050 Tenoisivid d	nS)	Total	
SON 2024	LABOUR REQUIRED		Six men per mile per shift for three shifts on bund. On receipt of exceptionally high flood warning, Deputy Collector, Kirana along with concerned Zilladars and Canal Patwaries will shift their camp at Yakhuwala Rest House.				
OOD SEA	STAGE-III DISCHAR GE		6.0 lac Cs. To 8.0 lac Cs.				
RING FL	LABOUR FOR WATCHING BE DEPUTED (PER SHIFT)	BELDAR	108	12	30	165	
VAL DU		MATE	o	rs	е е	16	
EY PERSON	LABOUR REQUIRED		Four men per mile per shift for Three shifts per day				
DUTY ROSTER OF KEY PERSONAL DURING FLOOD SEASON 2024	STAGE-II DISCHARGE		4.0 lac Cs to 6.0 lac Cs.				
DUTY RO	LABOUR FOR WATCHING BE DEPUTED (PER SHIFT)	BELDAR	54	ω	15	06	
		MATE	თ	ю	က		
	LABOUR REQUIRED		Two men per mile per shift for Three shifts per day & night				
	STAGE-I DISCHARGE		2.0 lac Cs to 4.0 lac Cs.				
	LENGTH		8.212 (Mile) + 0.317 (Mile) Total 8.529	Stud No. 1 = 25 Stud No. 2 = 50 Stud No. 3 = 60 Stud No. 4 = 80 Stud No. 5 = 25 Stud No. 6 = 25 Stud No. 7 = 50 Stud No. 7 = 50 Stud No. 8 = 80 Total = 3956 ft. 8 No. Studs Say = 1	(1.40 + 0.96) 2.36 (Mile) Say = 2.5		
	SITE		Kot Naja Flood Bund RD 91440- 132500 & Khadir Disty Flood Bund RD: 66450 – 68034	8 No. solid stone studs at Darbar Syed Sahib Shah	Mamola Guide Wall Spur		

## 10. Emergency Telephone Nos.

Sr. No.	Name of Post & Designation	Telephone / Cell. No.		
JI. 140.	Name of Post & Designation	Office	Residence	
1	Minister Irrigation & Power Department, Punjab Lahore	042-99212809 042-99211761	-	
		Fax 042-99212810	-	
		042-99212117	042-99200286	
2	Secretary Irrigation Department, Punjab Lahore	042-99212118		
		Fax 042-99212116		
3	Chief Engineer Cornelle Imiration 7-10 County	048-9230445	0322-4486727	
3	Chief Engineer, Sargodha Irrigation Zone, Sargodha.	Fax 048-9230414	048-9230451	
4	Flood Emergency Officer Sargodha Irrigation Zone Sargodha.	048-9230446	0300-6363739	
7	Flood Emergency Officer Sargouna Imgation Zone Sargouna.	Fax 048-9230414		
5	Chief Engineer, Drainage and Flood Zone Lahore.	042-99233551	0202 7712202	
	officer Engineer, Brainage and Flood Zone Earlore.	Fax 042-99230731	0303-7713303	
6	Director Flood, Drainage and Flood Zone Lahore.	042-99233552	0300-6999490	
7	Flood Warning Center Jail Road Lahore.	042-99205371		
-	3	Fax 042-99205372	1	
8	Superintending Engineer Lower Jhelum Canal Circle Sargodha.	048-9230413	048-9230463	
	- apolitical surface and a surface of the surface o	Fax 048-9230832	0300-7743313	
9	Superintending Engineer Drainage Circle Sargodha.	048-9230450	0345-8100407	
10	Evocutive Engineer Correctles Division L. I.C. Correctles	048-9230409	0200 0147400	
10	Executive Engineer, Sargodha Division L.J.C, Sargodha.	Fax 048-9230918	0300-0147499	
11	Evocutivo Engineer Virgna Division L. L.C. Correction	048-9230399	0245 5465764	
11:	Executive Engineer, Kirana Division L.J.C, Sargodha.	Fax 048-9230649	0345-5165764	
12	Everytive Engineer Chehour Philippe L. L.C. Committee	048-9230447	0200 0005000	
12	Executive Engineer, Shahpur Division L.J.C, Sargodha.	Fax 048-9230836	0300-6025902	
13	Executive Engineer, Bhalwal Division L.J.C, At Sargodha.	048-9230406	0300-6363739	
14	Executive Engineer, Rasul Division L.J.C, Rasul.	0546-553211	0308-3262291	
15	Executive Engineer, Drainage Division Sargodha.	048-9230453	0333-8899931	
16	Executive Engineer, Drainage Division Bhalwal.		0300-8199708	
		048-9230025	048-9230046	
17	Deputy Commissioner, Sargodha.	048-9230026		
18	Deputy Commissioner, Chiniot.	047-9210111-14	-	
19	In-charge Vigilance Cell Irrigation & Power Department Punjab Lahore. 042-92131		-	
20	Telegraph Office Sargodha (Flood Emergency Center Sargodha)	048-9230408	-	
21	Sub Divisional Officer, Khadir Sub Division.	=	0300-5127788	
22	Sub Divisional Officer, Laluwali Sub Division.	-	0333-8760466	
23	Sub Divisional Officer, Kirana Sub Division.	048-3741259	0300-6021565	

- 11. Standard operating procedure (SOP) for Breaching Sections
- 11.1 History of the breaching section
  No breaching section in Kirana Canal Division Sargodha.
- 11.2 Location, Design, Quantity and Variety of the explosive required for detonation.
  Does not relate.
- 11.3 Arrangement of explosives and security of explosive stores Does not relate.
- 11.4 List of the security staff alongwith detail of their training etc Does not relate.
- 11.5 Detail of mechanical means as a standby arrangements in case of detonation failure

  Does not relate.
- 11.6 Duty Roster in case of critical situation Does not relate.
- 11.7 Breaching Committee with their action plan Does not relate.
- 11.8 List of the villages likely to be inundated in case of breach Does not relate.
- 11.9 Announcement and detail of evacuation arrangements

  Does not relate.
- 11.10 Details of coordination with Civil/Army Authorities

  Does not relate.
- 11.11 Parallel communication arrangements
  Does not relate.

11.12 Index Plan

Does not relate.

Sub/Divisional Officer, Khadir Sub Division L.J.C, At Kot Naja Rest House.

Executive Engineer, Krana Division L.J.C,

Sargodha.

Superintending Engineer, Lower Jhelum Canal Circle,

Sargodha

Chief Engineer,

Sargodha Irrigation Zone,

Sargodha.

## PART - B

- 12. Vulnerable sites on Flood Bund/Structures:
- 12.1 Apprehended breach sites in Flood Bunds/Structures

There is no vulnerable site along flood bund in jurisdiction of Kirana Canal Division LJC Sargodha.

12.2 Operation of breaching sections.

There is no breaching section in Kirana Division.

12.3 Breaches due to rising of flood water, deterioration of flood bunds etc.

No such

- 13. Emergency Contingency Plan for vulnerable site (sites) listed above. Emergency Contingency Plan must include:-
- 13.1 Plan showing route of Flood Water coming out of the breach supported with levels.

There is no vulnerable site along flood bund in jurisdiction of Kirana Canal Division LJC Sargodha.

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

No such

13.3 Strategy and action taken be explained in detail. This may include

#### 13.3.1 Arrangements

There is no vulunerable site on existing Flood Bunds / Structures; however, spilled water will inundate areas on right side of River as flood water will spread up in height of ranging 2 ft: damaging crops, kacha houses. The spilled water will again fall in the River Chenab once the flood subsides.

The in-charge Sub Divisional Officer, Khadir Canal Sub Division and Deputy Collector, Kirana Division LJC Sargodha taking the cognizance of situation will make liaison with the civil administration and Police Department to arrange:

- i. Proclamation on loudspeakers etc. for evacuation of abadies inside the route of flood water.
- ii. Prepare maps for the area inundated and carry out immediate survey for damages to crops and other properties.
- iii. Establish Flood Camp at RD 93760 Kot Naja Flood Bund to monitor the emergent flood situation. If any obstruction is found in way of flood water, it will be removed by deploying establishment and machines such like tractors, excavator machine and bulldozers as per situation prevailing at site. Efforts would be made that flood water may not stand in crops as well as abadies, to minimize the losses / damages and ultimately will fall again the same way in River Chenab within the shortest possible time.
- iv. Keep a close liaison with Civil Administration, Public Representatives. Army authorities and the Executive Engineer Sargodha Canal Division Sargodha. List of phone numbers of above authorities have been mentioned in this flood fighting plan (Chapter No. 10).

## 13.3.2 Establishment of Flood Fighting Camps.

Bund / Spur	Location of Camps
Kot Naja Flood Bund.	RD 93750
Mamola Guide Wall Spur.	RD 0+000
8 No. solid stone studs	At Darbar Syed Sahib Shah

## 13.3.3 Duties of Officers / Officials and their camp sites

Camp No.	Location	Officer's ( Name + Designation + Mobile No )	Officials ( Name + Designation + Mobile No )
1	Kot Naja Flood Bund at RD 93750	Adnan Amjid (Executive Engineer) 0345-5165764 Ahmad Khan Javaid	Intazar Hussain Sub Engineer Kot Naja. (0300-6005812)
2	8 No. solid stone studs At Darbar Syed Sahib Shah (Yakewala)	(Sub Divisional Officer) 0300-5127788	Babar Rasheed Sub Engineer Yakhuwala. (0343-7868557)
3	Mamola Guide Wall Spur at RD 0+000		Haroon Shahzad Sub Engineer Ghausewala (0345-8678646)

## 13.3.4 Departmental Machinery available

1 No. tractor trolley with front & rare blade in working condition is in control of Kirana Division LJC Sargodha. However in case of any emergency during flood season, Government machinery / bulldozers of Agricultural Engineering Department Punjab will be arranged.

## 13.3.5 Machinery available from Private Source

If needed it will be arranged / hired from private source. Machinery can be hired in case of emergency as following Points have been identified for hiring of Machinery:-

Sr. No.	Site Location	Machinery Available				
1	Kalowal	i) Excavator.  ii) Tractor Trolley.  iii) Front Blade Tractor.				
2	Kot Qazi	i) Excavator. ii) Tractor Trolley. iii) Front Blade Tractor.				

## 13.3.6 Flood Fighting Material required

Sr. No	ltem	Unit	Total Required Quantity	Available Quantity	Balance Quantity	Remarks	
1	Axes (Large)	No.				Material	
2	Bamboos 8' to 10' (for Lighting arrangements)	No.	60	3	57	required at sites	
3	Baskets (Medium)	No.	60	5	55		
4	Buckets Plastic (Medium)	No.	15	2	13	1. Kot Naja Rest	
5	Torches (Medium) Rechargeable	No.	9	0	9	House RD	
6	Chouldaries (Medium)	No.	3	0	3	32000/R Khadir	
7 8	E.G. Bags (50 Kg) Energy Savers (50 Watt)	No.	3000	590	2410	Disty:	
9	Folding Chair	No.	75 18	0 14	75 4	2. Yakuwala	
10	Folding Table	No.	3	2	1	Rest House RD	
11	Funnels	No.	6	2	4	122000/L Khadir	
12	G.I. Buckets (Large)	No.	15	6	9	Disty:	
13	Generator (3500 Watt)	No.	3	3	0		
14	Hand Saws	No.	6	1	5	3. Ghausewala	
15	Handle for Kassi / Axes	No.	30	0	30	Rest House RD	
16	Holder for Lamp	No.	90	0	90	236000/R Khadir Disty:	
17	Kassi with Handles	No.	15	6	9		
18	Kerosene Oil	Liter	90	0	90	Cubicatta	
19	Killas	No.	300	0	300	<ul> <li>Subject to availability of</li> </ul>	
20	Life Jacket	No.	15	9	6	funds, the	
21	M. Oil	Liter	12	0	12	materials shall	
22	Manila Rope	Per Kg	6	2	4	be purchased before start of	
23	Match Boxes	Packet	30	0	30	flood season	
24	Munj / Patha / Trungers	No.	300	0	300	2024	
25	Needles	No.	6	2	4		
26	Oil Extractors	No.	3	3	0		
27	Petrol	Liter	150	0	150		
28	Rain Coats (XXL size)	No.	15	4	11		
29	Steel Charpoy	No.	9	4	5		
30	Sutli	Per Kg	30	10	20		
31	Switch / Plugs	No.	36	0	36		
32	Umbrella (Large)	No.	15	0	15		
33	Wires 7/29	Meter	300	0	300		
34	Wooden Boards 10' x 12'	No.	6	1	5		
35	Wooden Hammers (diameter 4")	No.	6	0	6		
36	GI. Wire (16 SWG)	Per Kg	300	0	300		
37	GI. Wire (18 SWG)	Per Kg	300	0	300		

## 13.3.7 Flood Fighting Material available

Detail of flood fighting material available and stored at Kot Naja Rest House At RD 32000/R, Yakuwala Rest House At RD 122000/L & Ghausewala Rest House At RD 236000/R of Khadir Disty: is given as page No. 31 (Sr # 13.3.6)

13.4 Detail of other infrastructure like electric, Sui Gas, Telephone installations, road network, other buildings, canals and drainage network.

No such installation like Sui Gas, Telephone etc.: exists in the route of flood water from breach site.

# **CHAPTER-14**

# 14. Action Plan

# 14.1 Re-shuffling/ recouping plan of reserve stone departmentally.

Reshuffling of stone is not required. Recouping of reserved stone will be done before start of flood season 2024.

# 14.2 Detail of inlet/outlet crossing along with closing methodology.

Following are the water course crossing on Kot Naja Flood Bund in Kirana Canal Division.

Sr. No	RD of Water course crossing	Sr. No	RD of Water course crossing	Closing Methodology.
1	RD 95500	8	RD 111721	
2	RD 97600	9	RD 112980	
3	RD 99200	10	RD 114010	Water course crossing will be
4	RD 101400	11	RD 117505	plugged through earth filled
5	RD 105919	12	RD 120952	gunny bags when required.
6	RD 106520	13	RD 124300	
7	RD 107120			

14.3 Deployment of Machinery (Medium to High Flood) River Chenab.

	Availability of Stone (Lac Cft)	12		Not Required	Not	0.13	0.13
	<u>Labour</u> Beldar + Mate	11		54+9=63 3 Shift per day	6+3=9 3 Shiff per day	15+3=18 3 Shift per day	06
	Tractor with front blade	10	DHA	-	i	-	2
Machinery Deployed	Trolleys/ Dumpers	6	JC SARGO	2	1	2	4
Machinery	Dozer	8	AL DIVISION L	× .	ì	1	
	Excavator	7	KIRANA CANA	-	1	-	2
	Site Incharge by name & Cell No.	9	FLOOD BUNDALONG RIVER CHENAB IN KIRANA CANAL DIVISION LJC SARGODHA	Sub Engineer Kot Naja Section Intazar Hussain (0300-6005812)	Sub Engineer Yakhuwala Section Babar Rasheed (0343-7868557)	Sub Engineer Ghausewala Section Haroon Shahzad (0345-8678646)	
	Camp Location	5	BUNDALONG	RD: 93760	8 No. Studs at Darbar Syed Sahib Shah Village Yakewala	RD: 0	
	Vuinerable Reach	4	FLOOD	Nii	8 No. Studs	RD: 0-7000	Total
	Length in Mile	3		8.529	8 No. Studs	2.36 (1.40+0.96)	
	Name of structure	2		Kot Naja Flood Bund RD 91440- 132500 & Khadir Disty Flood Bund RD: 66450 – 68034	8 No. solid stone studs	Mamola Guide Wall Spur	
	Sr. No.	1		~	2	м	

\* Payment for machinery & work charge employees subject to verification by TPM/Consultants.

14.4 Deployment of Machinery (High to Very High Flood) River Chenab.

St.   Name of   Length   Vulnerable   Camp   Site Incharge by structure   In Mills   Reach   Location   Location   Reach   Reach   Reach   Location   Reach   Re								
Name of   Length   Vulnerable   Camp   Site Incharge by   Stre Incharge by   Stre Incharge by   Structure   In Mile   Reach   Location   Name & Cell No.   Excavator   Dozer   Dumpers   Tronleys    Tractor with   Trolleys    Tractor with   Trolleys    Tractor with   Trolleys    Tractor with   Trolleys    Tractor with		Availability of Stone (Lac Cft)	12		Not Required	Not Required	0.13	0.13
Name of   Length   Vulnerable   Camp   Site Incharge by structure   in Mile   Reach   Location   name & Cell No.   Excavator   Dozer   Dumpers		<u>Labour</u> Beldar + Mate	11		108+9=117 3 Shift per day	12+3=15 3 Shift per day	30+3=33 3 Shift per day	165
Name of Length Vuln Structure in Mile Rot Naja Flood Bund RD 91440-13250 8 Khadir Disty Flood Bund RD: 66450 – 68034 8 No. Studs 8 No. Stu		Tractor with front blade	10	DHA	-	-	1	င
Name of Length Vuln Structure in Mile Rot Naja Flood Bund RD 91440-13250 8 Khadir Disty Flood Bund RD: 66450 – 68034 8 No. Studs 8 No. Stu	, Deployed	Trolleys/ Dumpers	6	LJC SARGO	2	2	2	9
Name of Length Vuln Structure in Mile Rot Naja Flood Bund RD 91440-13250 8 Khadir Disty Flood Bund RD: 66450 – 68034 8 No. Studs 8 No. Stu	Machinery	Dozer	8	AL DIVISION I	· · · ·	ì	ji i	1
Name of Length Vuln Structure in Mile Rot Naja Flood Bund RD 91440-13250 8 Khadir Disty Flood Bund RD: 66450 – 68034 8 No. Studs 8 No. Stu		Excavator	7	KIRANA CAN	-	-	٠,	က
Name of Length Vuln Structure in Mile Rot Naja Flood Bund RD 91440-13250 8 Khadir Disty Flood Bund RD: 66450 – 68034 8 No. Studs 8 No. Stu		Site Incharge by name & Cell No.	9	S RIVER CHENAB IN	Sub Engineer Kot Naja Section Intazar Hussain (0300-6005812)	Sub Engineer Yakhuwala Section Babar Rasheed (0343-7868557)	Sub Engineer Ghausewala Section Haroon Shahzad (0345-8678646)	
Name of Length Vuln Structure in Mile Rot Naja Flood Bund RD 91440-13250 8 Khadir Disty Flood Bund RD: 66450 – 68034 8 No. Studs 8 No. Stu		Camp	2	BUND ALONG	RD: 93760	8 No. Studs at Darbar Syed Sahib Shah Village Yakewala	RD: 0	
Name of structure structure  Kot Naja Flood Bund RD 91440-132500 & Khadir Disty Flood Bund RD: 66450 – 68034  8 No. solid stone studs  Mamola Guide Wall Spur		Vulnerable Reach	4	FLOOD	N	8 No. Studs	RD: 0-7000	Total
		Length in Mile	က		8.529	8 No. Studs	2.36 (1.40+0.96)	
2 S C C C C C C C C C C C C C C C C C C		Name of structure	2		Kot Naja Flood Bund RD 91440- 132500 & Khadir Disty Flood Bund RD: 66450 – 68034	8 No. solid stone studs	Mamola Guide Wall Spur	¥
		S	-		-	8	ю	

\* Payment for machinery & work charge employees subject to verification by TPM/Consultants.

5-5

14.5 Deployment of Machinery (High to Exceptionally High Flood) River Chenab.

Avoilability of	Stone (Lac Cft)	12		Not Required	Not Required	0.13	0.13
- Apoli	Beldar + Mate	11		162+9=171 3 Shift per day	18+3=21 3 Shiff per day	48+3=45 3 Shiff per day	243
	Tractor with front blade	10	4A	2	-	2	9
Machinery Deployed	Trolleys/ Dumpers	9	JC SARGODE	9	ю	ю	15
Machin	Dozer	80	/ISION L	1	ı	ī	
	Excavator	7	A CANAL DIV	2	-	-	r.
	Site Incharge by name & Cell No.	9	FLOOD BUND ALONG RIVER CHENAB IN KIRANA CANAL DIVISION LJC SARGODHA	Sub Engineer Kot Naja Section Intazar Hussain (0300-6005812)	Sub Engineer Yakhuwala Section Babar Rasheed (0343-7868557)	Sub Engineer Ghausewala Section Haroon Shahzad (0345-8678646)	
	Camp Location	5	UND ALONG RIVER	RD: 93760	8 No. Studs at Darbar Syed Sahib Shah Village Yakewala	RD: 0	
	Vulnerable Reach	4	FLOOD B	ΪŻ	8 No. Studs	RD: 0-7000	Total
	Length in Mile	က		8.529	8 No. Studs	2.36 (1.40+0.96)	
	Name of structure	2		Kot Naja Flood Bund RD 91440-132500 & Khadir Disty Flood Bund RD: 66450 – 68034	8 No. solid stone studs	Mamola Guide Wall Spur	
	Sr.No.	1		-	2	ю	

\* Payment for machinery & work charge employees subject to verification by TPM/Consultants.

32

14.6 Police deployment plan.

3									
91/01/1000	anal Concerned Police Station & District.  & District.  Inspector/SI/ASI Constables.	T.							
o be deployed.	nel to be o		3 Nos.						
Police personnel t	Inspector/SI/ASI				ASI = INO.				
Concerned Police Station	oncerned Police Station & District.		Kandiwal & Distt: Chiniot.						
Concerned Canal	Division.			Kirana					
Vulnerable sites for illegal cuts	Vulnerable sites for illegal cuts during floods.		Canal Division.	In emergency High Flood	Protection of Kot Naja Flood Bund	At RD: 91440 - 132500			
r.	Sr.No. Vulne			•					

8-

14.7 Detail of synthetic bags with capacity of 500 kg and 1000 kg.

	Remarks	10		Not available at stock and will be	procured in emergency.
	1000 Kg	_		əldslisvA	Ē
No. of Synthetic bags	1000	80		Benired	100
No. of Synt	500 Kg	7	рна	əldslisvA	Ē
	200	1	JC SARGO	рəліпрэЯ	200
	Site Incharge by name & Cell No.	9	KIRANA CANAL DIVISION LJC SARGODHA		Sub Engineer Kot Naja Section Intazar Hussain (0300-6005812)
	Camp Location	5	2110		RD: 93760
	Vulnerable Reach	4	FLOOD BUNDS ALONG RIVER CHENAB IN	©	Z
	Length in Mile	3	SONDE OF		8.212
	Name of Structure	2	FLOO		Kot Naja Flood Bund RD 91440- 132500.
	Sr. No.	-			~

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

·				
Remarks	10		Not available at stock and will be	procured in emergency.
Plastic Sheet(Sft)	6		əldslisvA	Z
Plastic S	0,		Required	3000
Site Incharge by name & Cell No.	9			Sub Engineer Kot Naja Section Intazar Hussain (0300-6005812)
Camp Location	5	SION LJC SARGODHA		RD: 93760
Vulnerable Reach	4	ANA CANAL DIVE		Ē
Length in Mile	3	ENAB IN KIR		8.212
Name of Structure	2	FLOOD BUNDS ALONG RIVER CHENAB IN KIRANA CANAL DIVISION LJC SARGODHA		Kot Naja Flood Bund RD 91440- 132500.
Sr. No.	-	FLOO		~

# **CHAPTER-15**

### 15. Back up Divisions (in case of breach).

In case of breach or during emergency, Shahpur Canal Division LJC, Sargodha and his field staff will act as sister Division.

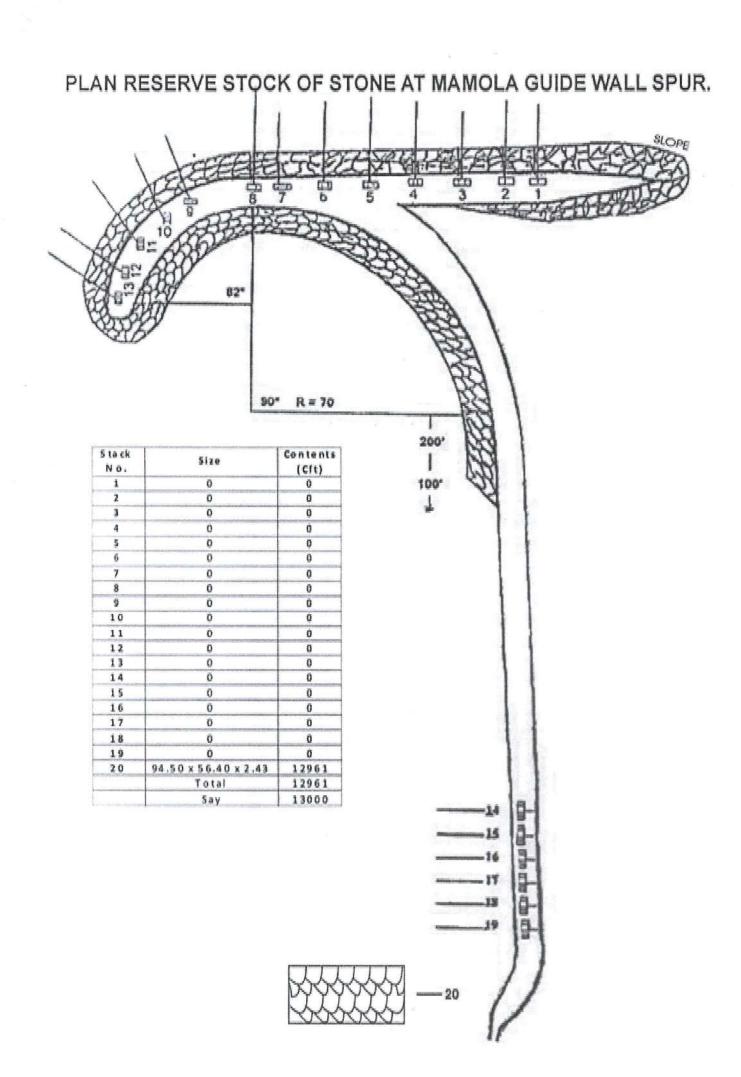
Sub Divisional Officer, Khadir Sub Division L.J.C, At Kot Naja Rest House.

Executive Engineer, Kirana Division L.J.C, Sargodha.

Superintending Engineer, Lower Jhelum Canal Circle,

Chief Engineer, Sargodha Irrigation Zone, Sargodha.

num



LONG SECTION OF KOT NAJA FLOOD PROTECTION BUND PART-1

# RD 0-132500-(TAIL)

	PROPO SED DATA		11100 1000	ISTING DATA	D	LAST ESIGNED DATA				
RD OF W/C -XING	TOP WIDTH / SIDE SLOPE	TOP LEVELS WITH 6' FB ABOVE HFL 1973	TOP WIDTH	TOP LEVELS	SLOPE	TOP WIDTH HIGHT OF BANK ABOVE H.F.L	TOP R.L OF BANK	RL. OF HIGH FLOOD 1973	NATURAL SURFACE LEVELS	RD
		54.20	15'	651.20			651.2 0	648.2 0	649.40	0
		52.70	15'	49.70			49.70	46.70	44.80	5000
RD 8975		51.40	15'	48.30			48.40	45.40	45.30	10000
		49.90	15'	46.90			46.90	43.90	42.60	15000
		48.60	15'	45.50	-		45.60	42.60	42.20	20000
RD 24765	<del></del>	47.00	15'	43.95	SIDE 2:1		44.00	41.00	42.50	25000
RD 29145 RD 28500 RD 27450 RD 26185	IVER SIDE 3:1	45.80	15'	42.72	COUNTRY		42.80	39.80	38.40	30000
RD 32875 RD 31500	RIVER	44.60	15'	41.50		°0.0	41.60	38.60	38.30	35000
RD 38875 RD 38000	- '	43.60	15'	40.50		3.0,	40.60	37.60	38.40	40000
RD 42400	20' (RD 0-85250)	42.50	14'	39.50	SIDE 3:1		39.50	36.50	37.40	45000
RD 46300	20,	41.50	14'	38.40	1 1		38.50	35.50	33.80	50000
		40.90	14'	37.70	RIVER		37.90	34.90	36.40	55000
		40.20	14'	37.00			37.20	34.20	33.80	60000
RD 64300 RD 63700		39.90	14'	36.70			36.90	33.90	32.60	65000
00700		39.60	14'	36.50			36.60	33.60	31.70	70000
RD74600 RD71600		38.30	14'	35.00			35.30	32.30	32.00	75000

# 39

# LONG SECTION OF KOT NAJA FLOOD PROTECTION BUND PART-11

# RD 0-132500-(TAIL)

		OSED		ISTIN DATA		L	AST D	ESIGNE	D DAT	Ą
RD OF W/C -XING	TOP WIDTH / SIDE SLOPE	TOP LEVELS WITH 6' FB ABOVE HFL 1973	TOP WIDTH	TOP LEVELS	SLOPE	TOP WIDTH HIGHT OF BANK ABOVE H.F.L	TOP R.L. OF BANK	RL, OF HIGH FLOOD 1973	NATURAL SURFACE LEVELS	RD
		36.80	14'	33.70			33.80	30.80	30.83	80000
RD 99200 RD 97600	39' 43' 44' 26'	35.50 34.56	14'	32.50 31.50	2:1		31.56 32.50	28.56 29.50	27.02	85000 85250 85500 85750 86000 90000
RD 95500		32.80	15'	29.80	Y SIDE		29.80	26.80	26.12	95000
RD 101400	23.7	31.40	15'	28.40	COUNTRY SIDE		28.40	25.40	22.43	100000
RD 107120 RD 106520 RD 105519	SIDE	30.00	15'	27.00	8	15.0'	27.00	24.00	19.94	105000
RD 114010 RD 112980 RD 111721	/ RIVER SIDE :	28.45	15'	25.45	3:1	- 07	25.45	22.45	20.22	110000
RD 117505	0-TAIL	26.90	15'	23.90	RIVER SIDE		23.90	20.90	18.73	115000
RD 120952	20'( RD 86000-132500-TAIL) /	25.25	15'	22.45	RIVER		22.25	19.25	18.05	120000
RD 124300	386000	23.60	14'	20.60			20.60	17.60	15.93	125000
	20'( RI	21.69 20.70	14' 15'	18.68 17.70			18.69 17.70	15.69 14.70	13.85 13.83	130000 132500

# L-Section of Mamola Guide Wall Spur

/ 🐧							12	32			
N. 1								4+	h	1	- L
1 ++- + +		1						21	1	M. A. KE	SEL JE NO 10390/1250
	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	11:11	THE	TILL	TITT	11111		1.0	of the art	17-11-2	
		11111									181
		11111	1111								
		1 - 1 - 1 -			1111		111	Klima Di	VISION	636 1	TRACE W
	1 00	1-60	AT 160		1111			LONGTEDINAL	Carren		ANCEA.
	LUP	GSE	S-119	PNH	JE M	MOLA		TO ARTHURANT	200,130	NOF Zas	note Govert wall
					1			TAXING OFF AT	R.D.	- OF .	- 4000
+ 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		le min	6076		Was and						
		DUIL	1000	-11	PUR						20
		2 1 7 2					+	SCALE Box			
		PD	OT	074	man		11	4		1 male / 2 " = 1 au	Ai .
		D. P.	hal 1	7 // 3	309			Vers	k# 1750	J.J. 184	
				1 7 1			11	Sepremental value-	- Latter	Pros Lite	aud -
-111			411	HAT	1111			1 Lord Book			1
TTILLE				MIH	7:11		$\mathbf{H}$	Pages 13			
7 11 11 1											
								D. Sterving Bea			100
			P		1111		3			F brong	
			1970	W CA.	+++4			(0) gape.			
								131 Chang Ben			
							11 1	(a) Location			
				111				(0) Value			-
							71	19 Sweep (a) di			MUHAMMAD RIAZ.
			7111		14.1				(4) 5 E		
				3.1	144	7 1 1 1 1	11	(b) Cless	hed by (%	D 0)	Larjan Good of
			1111	11				F Pleased by			the dock owner too, Im.
		11111	1111					VI Parting class	hed by -		20 g to Gardel 500
				111				VII Prepared dat	e plusted	by	Buhammed Ring Sa.
; + + + + + + + + + + + + + + + + + + +		1111		1	1111		F		cked by -		La flat localat / 44
	11:11:11	1111	TILL			11111	11 -				7
1 1 1 1 1	4211111		1111	1	1411	11111	t		-	BATAL	OF PARENT CHANNEL
		11111	1111	1111	1111	11111	1 1)	ATUM LI	NE		SOFDFFTAKE
				1111	1111		+ 1				
+	1-1-1-1		-	and and and		4 444		Wall LAR			Hiller P., S., Diepsis
	+ + + + + + +		1	1	+ - + -	* + +			_		Carres of a
	1 1 1		1	1		+-+-	PIECE	loar# (PSL -Bank L	2.5	PATAD	FREGULATING WORK
100 V 1 C					-			lear'd (Liming)	1	AR	B . D
	1-1-1-1	- 1 - 1	de - 1 .		A			District	1	CH1	H =
							Skde N	tope (Lining)			
1	1 . + - 1 - 1		1		1			Skyr is feet 0 / 60		5.F	5 , F. =
	-					1 - 1 - 1 -		of "N"/ Valuetty	1.		
F-F-7 4	+-1 - 1	-1						" T" or "C.V.B"	Date		
							1.0.000				
		003	TOTAL SID	6 1 3	11.1-	+					
			triation	Sut 1	di. 1.	+ + + + + + +	f-6-4	ingent SIDE SLOP			
	+ +		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Sut 1	1		dente de			Ea	courie langineer
1	1 - 1 - 1		1 . 1 . 30	1	1 - 1 -	+ + + + + -	the dead with the F.	umb SIDE SLOP		Ea	Division'
1 .	1 - 1 - 1	• + + 1 ,	1 . 1 . 30	Sut 1	1 - 1 -	+ + + + + + +	dente de	umb SIDE SLOP			Division'
	1 - 1 - 1	. 1 - 1 ,	1 . 1 . 30	1	1 - + -		the dead with the F.	umb SIDE SLOP		Es	Server States
-	1		561	1	1		H. F.	Legist SIDE SIOP was TOP WIDTH		Es Kin	Divason'  Jensi
No.			561	1 00	1		H. F.	Legist SIDE SIOP was TOP WIDTH		Es Kin	Divason' Caral  Caral  and arteinth L. G  SARGODHA
No.			561	1 00	1		H. F.	HONE SIDE STOP		Es Kin	Divason'  Jensi
N-7 - 1 - 1 - 1 - 1			561	1 00	1		Brok No.  H. F.  To P  Bed Le	And Service of the se		Es Kar	Divason' [ara] [ar
No.			561	1 00	1		Broken Level	topes 5:D\$ 5:LOP  wen ToP w:DTss  zest  col  portions  prefixed and zest		Es Ku L	Division of Section of
No.			561	1 00	1		Broken H. F. To P Beet Lc  Dischar Control Larry's	topic SIDE SIOP  wen Top width  and  points  "I" or "CVII"		Es No.	Division of Section 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
No.			561	1 00	1		To P Duchar (maru) Larry's W S S	topes 5:D\$ SLOP  wen ToP w:DTs  arel  yel  jo ar Hess2 and L1  putnia  "I" or "C.V.M"  Supa as feet 8:402		Es Kri	Divason' for all of the second
No.			561	1	1		Broken H. F. To P Beet Lc  Dischar Control Larry's	topes 5:D\$ SLOP  wen ToP w:DTs  arel  yel  jo ar Hess2 and L1  putnia  "I" or "C.V.M"  Supa as feet 8:402	Property	Es Air	Division of States, and affecting Elegand, and affecting Elegand, and affecting Elegand and affecting Elegand and affecting Elegand and all and a second and a se
No.			561	1	1		Bed Me  H. F.  TO P  Bed Let  Dischar  Control  Larry's  W. S. S.	topes 5:D\$ SLOP  wen ToP w:DTs  arel  yel  jo ar Hess2 and L1  putnia  "I" or "C.V.M"  Supa as feet 8:402	Date	Es Air	Divason' for all of the second
No.			561	1	1		Bed Me  H. F.  TO P  Bed Let  Dischar  Control  Larry's  W. S. S.	topes 5:08 5:00 Poses To Poses 5:00 Poses 5:	Date	Es Air	Division of States, and affecting Elegand, and affecting Elegand, and affecting Elegand and affecting Elegand and affecting Elegand and all and a second and a se
No.			561	1	1		Bed Me  H. F.  TO P  Bed Let  Dischar  Control  Larry's  W. S. S.	topes 5:08 5:00 Power Top will be a selected and if persons or Top will be a selected by the s	Date	Es Air	Division of States, and affecting Elegand, and affecting Elegand, and affecting Elegand and affecting Elegand and affecting Elegand and all and a second and a se
No.			561	1	1		To P beet Let Dischar (mitted Larry's W S S W S E	topes 5:08 5:00 Power Top will be a selected and if persons or Top will be a selected by the s	Property	Es Air	Division of States, and affecting Elegand, and affecting Elegand, and affecting Elegand and affecting Elegand and affecting Elegand and all and a second and a se
No.		3300	5/0	00	1 - 1 - 1 - 1 - 1 - 1 - 1		To P bed Let Control Larry's W S S W S Let Washington	topes 5:08 5:00 Power Top will be a selected and if persons or Top will be a selected by the s	Date	Es Air	Division of States, and affecting Elegand, and affecting Elegand, and affecting Elegand and affecting Elegand and affecting Elegand and all and a second and a se
No.	% (a	76	570	00	10	24	Bed As I Bed	well to the store well as a thread until a purnia as feet the del pu	Date	Es Air	Division of States, and affecting L. G. B. A. G.
No.		3300	570-	1	16.69	24	To P bed Let Control Larry's W S S W S Let Washington	well to the store well as a thread until a purnia as feet the del pu	Date	Es Air	Division of States, and affecting L. G. B. A. G.
	56: 90	69.70	5/0-	00	10		Bed As I Bed	well to the store well as a thread until a purnia as feet the del pu	Date	Es Au	Division Consultation of Consu
No.	56: 90	269 7m	5/0-	1	16.69	24	To P bed Let University W S S W S L	well to the store well as a thread until a purnia as feet the del pu	Date	Es din	Division Consultation of the consultation of t
	56: 90	369 78	570-	1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	16.69	24	To P bed Let Visit I Was a Larry's W S S W S I Was a Larry by W S S W S I Was a Larry by W S S W S I Was a Larry by W S S W S I Was a Larry by W S S W S I Was a Larry by W S S W S I Was a Larry by W S S I W S I W S I W S I W S I W S	topic SIDE SIOP  wen ToP WIDTH  avel  por Hence and of points  "I" or "C.V.R"  loops as feet Birth  loops for WIDTH  aves  en come	Date	Es de la companya de	Division Contact and Associated Participated and Astronomy L. 1 G SANGODHA TO THE COUNTY OF THE SANGODHANGE PROPERTY OF THE SANGODHANGE PROPER
	56. 50. 25. 36. 57.	30-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1	5/0-5/0-5/0-5/0-5/0-5/0-5/0-5/0-5/0-5/0-	00 00 00 00 00 00 00 00 00 00 00 00 00	16.69	24	To P bed Let V S S V S V S S V	topic SIDE SIOP  wen ToP WIDTH  arel  yel  jo ar Hend und Li  putnia  putnia  "I" or "C.V.M"  Sope in Feet B+00  begith  ween ToP WIDTH  area  he + area  for B-00  Drucharge	Date	Es de la companya de	Division Consultation of the consultation of t
	56: 90	1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -	5/0-5/0-5/0-5/0-5/0-5/0-5/0-5/0-5/0-5/0-	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	16.69	569.76	To P bed Let V S S V S V S S V	topic SIDE SIOP  wen ToP WIDTH  avel  por Hence and of points  "I" or "C.V.R"  loops as feet Birth  loops for WIDTH  aves  en come	Date	Son I	Divason' for all of the state o
	56. 50. 25. 36. 57.	30-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1	5/0-5/0-5/0-5/0-5/0-5/0-5/0-5/0-5/0-5/0-	00 00 00 00 00 00 00 00 00 00 00 00 00	26.91	569.76	To P bed Let Dischar Control Larry's W S S W S Let To P Stope to A . F S Pedictors	topic SIDE SIOP  wen ToP WIDTH  arel  yel  jo ar Hend und Li  putnia  putnia  "I" or "C.V.M"  Sope in Feet B+00  begith  ween ToP WIDTH  area  he + area  for B-00  Drucharge	Date	San	Division of Control of
	56. 50. 25. 36. 57.	30-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1	5/0-5/0-5/0-5/0-5/0-5/0-5/0-5/0-5/0-5/0-	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	26.91	569.76	Bed As- Bed As	topic SIDE SIOP  and Top width  and  points  p	De a Exacting Date Proposed	San	Division of Control of
	56. 50. 25. 36. 57.	30-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1	5/0-5/0-5/0-5/0-5/0-5/0-5/0-5/0-5/0-5/0-	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	26.91	569.76	To P bed Let Control Larry's W S S W S I W S S S I W S S S I W S S S I W S S S I W S S S S	topic SIDE SIOP  wen Top width  yet  yet  yet  yet  yet  yet  yet  y	and Dura. Exacting Date: Proposed	Sin Contract Chapter	Division of Satisfacts and Artist
	2 1 1 1 2 5 6 10 23 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	30-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1	5/0-5/0-5/0-5/0-5/0-5/0-5/0-5/0-5/0-5/0-	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	26.91	569.76	Bed As- Bed As	topic SIDE SIOP  wen Top width  yet  yet  yet  yet  yet  yet  yet  y	and Dura. Exacting Date: Proposed	See	Division of Control of
	2 1 1 1 2 5 6 10 23 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	30-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1	5/0-5/0-5/0-5/0-5/0-5/0-5/0-5/0-5/0-5/0-	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	26.91	569.76	To P bed Let Control Larry's W S S W S Let Strong the Strong to A . F . S Indicating the Strong the	topic SIDE SIOP  wen Top width  yet  yet  yet  yet  yet  yet  yet  y	Designed for a Exacting Date Proposed	See	Division of Satisfacts and Artist
	2 1 1 1 2 5 6 10 23 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	30-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1	5/0 5/0 5/0 5/0 8 5/0 8 5/0 2 5 5/0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	26.91	569.76	Top	topic SiDS SiOP  well  por Pheno and if pornis  "I" or "C.V.M"  longs an feet the do  lepth  read  for 5/00  Drucharge  to 5/00 SidnPS  to 5/00 WithTh  TOP WithTh  end	Designed for a Exacting Date Proposed	Sold Sold Sold Sold Sold Sold Sold Sold	Division of the same of the same action of the same of
	2 1 1 1 2 5 6 10 23 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	30-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1	5/0 5/0 5/0 5/0 8 5/0 8 5/0 2 5 5/0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	26.91	569.76	To P bed Let Control Larry's W S S W S Let Strong the Control Larry's W S S Man and Ma	topic SiDS SiOP  well  por Pheno and if pornis  "I" or "C.V.M"  longs an feet the do  lepth  read  for 5/00  Drucharge  to 5/00 SidnPS  to 5/00 WithTh  TOP WithTh  end	and Dura. Exacting Date: Proposed	Establishment and the state of	Division of Sections of Sectio
	2 1 1 1 2 5 6 10 23 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	30-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1	5/0 5/0 5/0 5/0 8 5/0 8 5/0 2 5 5/0	4.00	700000000000000000000000000000000000000	569.76	Top	topic SiDS SiOP  well  por Pheno and if pornis  "I" or "C.V.M"  longs an feet the do  lepth  read  for 5/00  Drucharge  to 5/00 SidePS  to 5/00 Without  TOP Without  and	Designed for a Exacting Date Proposed	State of the state	Division of Salar
	25 4 4 56. 80 25	The state of the s	5/0 5/0 5/0 5/0 5/0 5/0 5/0 5/0 5/0 5/0	94 4 9 4 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	267 91	569.70	W. S. L.  To P  ded Le  Unchar  Control  Larry's  W. S. L.  W. S. L.  To P  To P  To P  To P  To P  ded Length	topic SiDS SiOP  wen To P wild in  yet  yet  yet  yet  yet  yet  yet  ye	Designed for a Exacting Date Proposed	State of the state	Division of Louised and association of the second association of Louised and association of the second of the seco
	56. 50	E C C UNIT RY	5/0 5/0 5/0 5/0 8 5/0 8 5/0 25 5/0 5/0 5/0	4.00	5 Mala.	55,000	Top	topic SiDS SiOP  wen To P wild in  yet  yet  yet  yet  yet  yet  yet  ye	Designed for a Exacting Date Proposed	State of the state	Division of the same of the same action of the same of
	556.25 + 561.81 25.	E C C S S S S S S S S S S S S S S S S S	5/0-5/0-5/0-5/0-5/0-5/0-5/0-5/0-5/0-5/0-	1 e o o o o o o o o o o o o o o o o o o	267 91	569.70	W. S. L.  To P  ded Le  Unchar  Control  Larry's  W. S. L.  W. S. L.  To P  To P  To P  To P  To P  ded Length	topic SiDS SiOP  wen To P wild in  yet  yet  yet  yet  yet  yet  yet  ye	Designed for a Exacting Date Proposed	State of the state	Division of Control of
	556.25	DIVE	5/0-5/0-5/0-5/0-5/0-5/0-5/0-5/0-5/0-5/0-	1 e o o o o o o o o o o o o o o o o o o	5 Mala.	55,000	W. S. L.  To P  ded Le  Unchar  Control  Larry's  W. S. L.  W. S. L.  To P  To P  To P  To P  To P  ded Length	topic SiDS SiOP  wen To P wild in  yet  yet  yet  yet  yet  yet  yet  ye	Designed for a Exacting Date Proposed	State of the state	Division of Louised and articipal of the sense of the se

			_
		<	1
	-	2	2
		7	_
		_	-
	•	-	
	- 1	<	1
	1	-	-
	1	1	
	(	. 1	7
			ŕ
		7	1
	_		Ī
	-	101	-
	188	-	P
	L	Y	4
	4		Ç
	1	ī	ì
	=	5	μ
	ati		
	£	7	_
	-	-	)
	0	1	
	(	1	)
	1	?	,
	L	ī	4
	-	×	-
	(	_	)
ŀ	(		
١	* *	I	-
١			
Ì	1 9	,	-
	1		
The second			_
Secretary Control of the last			
The Assessment of the Party of			
A STATE OF THE PERSON NAMED IN COLUMN NAMED IN	1		
The second secon	1		
The second secon	1		
The second secon	1	CULCULCULCULCULCULCULCULCULCULCULCULCULC	
The second secon	1		
The state of the s	L	CH LANGE	
The state of the s	L		
The state of the s	L		
The state of the s	TO TO		
The state of the s	TO TO		
The state of the s	TO TO		
The state of the s	TO TO		
The state of the s	TO TO		
The state of the s	TO TO		
The state of the s	TO TO		
The state of the s	TO TO		
	THE LO HOLLOTO		
	THE LO HOLLOLO		
	THE LO HOLLOTO		
	THE LO HOLLOTO		
The state of the s	THE LO HOLLOTO		
	THE LO HOLLOTO		

2	Level Book No. 861 Page No. 26-29	Starting Bench Mark Location TOP LEVEL OF	Value = 627,75 Closing Bench Mark	STUD #8 Value = 627.75	Survey Done By Baber Rasheed & Intarar Hussam Checked By	Ploted By Baber Rasheed	de kritakar Platenairi			Swer Jackum Canal Cicle	Executive Engineer Kirana Division L.J.C.	- Charles and	Sub Dernstonal Officer Khadir Sub Dernston Luc At Kot Naja Reat House	Sub Engreen	Takunala Sotton
	5,7						1+404	608.87	Solid		2:1	-25'		TI CAKED	(1 to 1 to
+ i			1	* 11 1 1 1	i		1+320	609.07				-			
1		≈ 611.00	LEVEL	1 - r - 1	!		1+200	608.67							L S
		- 41	BED	1 1			1+100	608.87							UCTUR
1 68 2		APRON LEVEL	RIVER	1 - 1 -1			1+020	609.27			1				D STR
H.F.1 = 629.68	ODD SEASON 2023	A A	1	AVG108 04/08/2023			0+900	608.37			Under Water	1			OP LEVEL OF ALLIED STRUCTURES
r - x	/EL = 6			40,	!		0+800	612.77	¥	2	nder	igle road)-	0	00	EVEL 0
	TOP LEVEL = 627.75			4 -41	L		0+700	611.74	Shank	627.75	-	ingle	611.00	629,68	1 1-
t 1	DESIGN TOP	-,					0+600	616.52	Protected		3:1 (5:	5' Shin			) AS PER
	DE L	1	-/-	1 7 1 1	[		0+500	616.10	Prot		C.S	(i/c 1			OPOSE
							0+400	616.52			. 2:1,	_25			TOP LEVEL PROPOSED
					1		0+300	617.00			S.S.				-TOP LE
	IVE BO	21 21 21 21 21	i 1	1	!		0+200	617.08							
		1			1		0+100	616.17							
							0+020 D/S 0+020 U/S 0+000	616.44 625.98 625.98							
630	620	610	600	280	(3) (40) (40)	570	S. C.	AVG. NSL / River Bed Level	STRUCTURE TYPE	TOP LEVEL	S H C S	тор МІБТН.	PRON RLLLW.L	H. F.L. 2014	B BOARD

--- S / 6 Cusees 'T' =- 2. 76 DATA OF RECHLATING WORK AR R. D. S. A. & C. O. S. B. Bed Width. S. . B. Depth . L. DATA OF PARENT CHANNEL KHAN JAXAID Sub Divisional Officer, Sub Engineer, per blegs Section. U/SOFOFFTAKE HUSSMIN A Linear TAKING OFF AT R.D. 1134232 OF KHADIR FEEDER NAME LONGITUDINAL SECTION OF KHADIL DISTY CIRCLE Survey (a) done by (i) S E N \_IMIGAMA. AHMAR Dated (b) Checked by (S. D. O). BILLS and LAS AND LA CILL = smile ¢ 5 1. A. 10 Annage. RP. LL. 1 mile / 1" " 1 E JOSEPH -4.0.B. CAG M. I. S. Haldadon, L. Heidenfel, Surgraften. DIVISION LJC Vertical 1/50/1/100 Proposed data plotted by Last Designed Bata Letter No med general 13.6 staff berequit Starting Bench Mark (a) Location ZSL SL Closing Beach Mark Harizontal 2" Plotting checked by DATUM LINE Kiraria Di Seecus Control points (C.V.R.) 423 Free Board (FSL -Bank.L) いばんべんがい W . S . Slope in feet 0 / 00 Level Book No. W. S. Slope in feet 0 / 00 Value of "N" / Velocity Plutted by A.F.S. Discharge (b) Value (b) Value Free Board (Lining) Slope in feet 0 / 00 Side Slope (Lhung) Sab. ... Bank Width L&R Sanctioned vide Sitted Bed Level Lanny's- 1 1 ... ur KIRANA F. S. Discharge S. Width S. Depth . S . Level S. Level S . Level F. S. Depth Bed Width F. S. Depth SCALE Level. F.S. Level Bed Width Bed Level > > 5 5 5 NI NI ES. d Bed 3 3 2 z ž 019 Burd 14:519 19-119 57 52 117 8£-119 18.59 81-119 8.49 17.719 19-119 11-119 46-119 89-119 81-319 40-219 00 14.719 et-519 05:49 37:119 8T-119 86-219 10-519 84-119 65:47 种柳 動物 8E - 119 11.4 2.3 99-909 19 S 严州3 5149 28-119 18-419 68-909 65-69 93 80119 78419 71/119 69-419 62.69 79.909 £5:419 81-119 al-419 ££.809 钟99 20119 19:119 和机 13-019 60.119 89-019 17-119 拙 78.419 36-017 d. O Pase D 199 4 28.0 ect の外・時 14.019 THE 24.43 61419 88-0/9 88.019 8:15 a sao 经 Long 81.013 92-019 43.019 3-60 3-60 35-73 05.96 6 Ž 85609 16-819 89-019 24.809 45-49 18 64909 85-019 £3 509 16-117 St 1.5 78 879 38-019 20-609 睡. 舒护 世 [19 84-019 02.909 71.47 1269 22019 58409 88.09 ek-Tiff 46 609 JA- E19 67.013 45-219 11/1/2 41/19 08.909 609.49 81-019 ED 1/09 Ja:89 ET-519 Stelps 98.903 18.809 02119 (Qo-019 TE-519 7949 91 609 11-819 184.909 44499 10.019 89.519 EE. 809 28.603 44-609 44.813 96-09 £ 109 04.609 21-609 44-119 18-719 88.409 14.900 89.609 42-019 13.00) 15.219 82.900 19.719 66-909 2.603 B 88-900

