

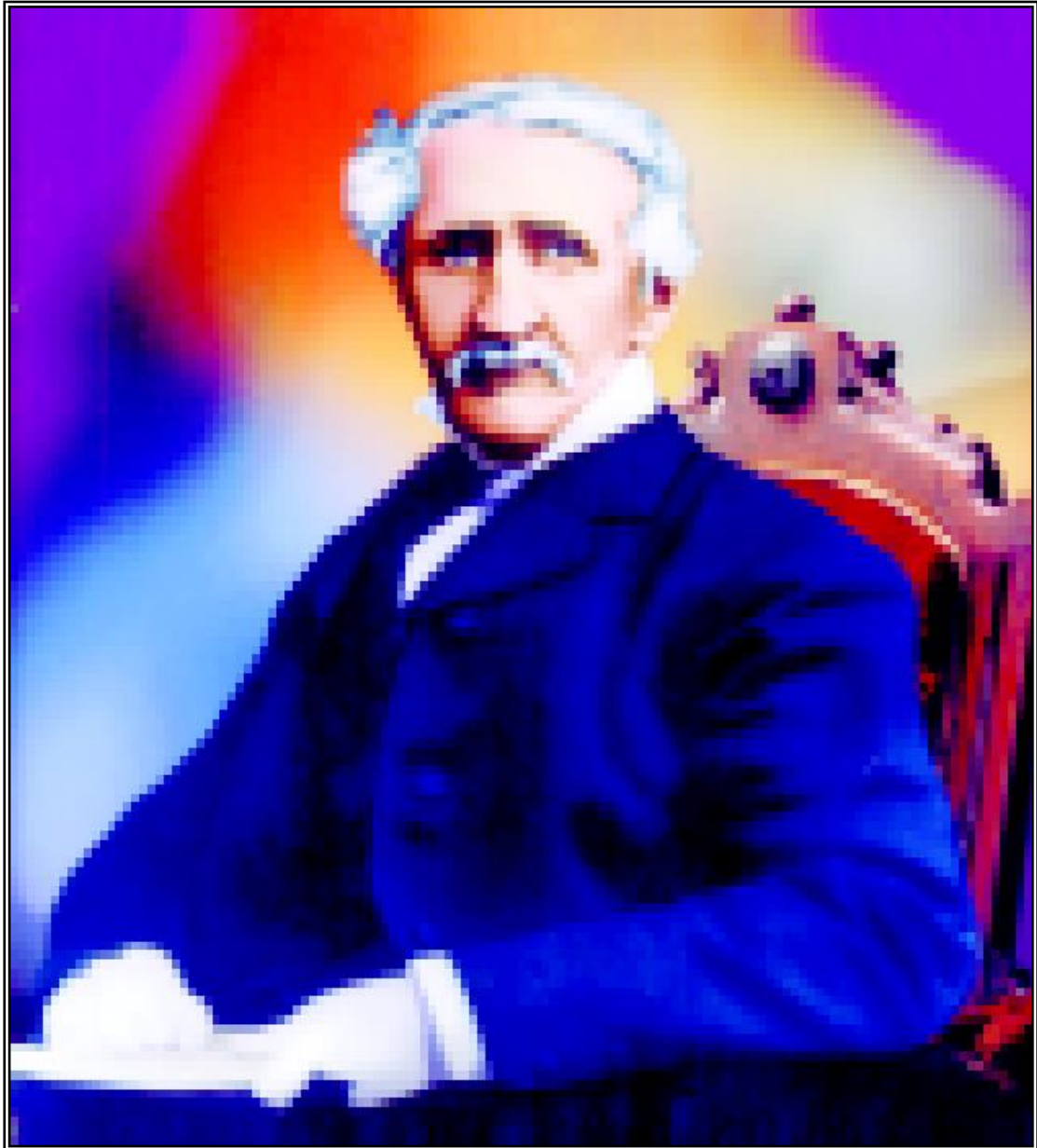


# **GOVERNMENT OF ANDHRA PRADESH WATER RESOURCES DEPARTMENT**



## **FLOOD CONTINGENCY PLAN OF RIVER GODAVARI EAST & WEST GODAVARI DISTRICTS - 2020**

RIVER CONSERVATOR  
AND  
EXECUTIVE ENGINEER  
GODAVARI HEAD WORKS DIVISION  
DOWLAISWARAM



**FATHER OF IRRIGATION**  
**SIR ARTHUR COTTON**

**Date of Birth : 15-05-1803**

**Date of Death : 24-07-1899**

**CHRONOLOGY OF EVENTS IN THE LIFE OF  
GENERAL SIR ARTHUR COTTON**

**YEAR**

**1803 BORN AS 10<sup>TH</sup> SON OF MR. & MRS. HENRY CALVECY COTTON, AMBERMERE ABBEY, ENGLAND. ON MAY FIFTEENTH.**

1818 JOINED AS CADET FOR MILITARY TRAINING IN ADDISCOMBE

1819 APPOINTED AS SECOND LIFUTENANT

1820 SENT FOR ORDINANCE SURVEY IN WALES ENGLAND

**1821 SENT TO INDIA ON APPOINTMENT**

1822 JOINED AS A.E., SOUTHERN DIVISION FOR DEEPENING PAMBAN STRAIT.

**1824 FOUGHT IN BURMA WAR**

1825 WORKED AS S.E., TANKS CIRCLE MADRAS WORKED IN DEEPENING OF PAMBAN STRAIT.

1828 PROMOTED AS CAPTAIN

1829 INVESTIGATION FOR CONVERY SCHEME

1830 PROCEEDED ON LEAVE FOR 2 1/2 YEARS TO ENGLAND

1832 RESUMED WORKING IN CANVERY DELT. BUT RETURN TO ENGLAND AGAIN DUE TO ILL HEALTH

1834 RETURNED TO INDIA VIA EROPE, AFRICA TRAVELLING FOR ONE YEAR

1837 PLANNED FOR DEVELOPMENT OF MADRAS PORT

1840 PROPOSED KRISHNA ANICUT

**1841 MARRIAGE WITH MISS. ELIZABETH ON 29-10-1841**

1843 RETURNED TO INDIA

1844 PREPARED PLANS FOR VISAKHAPATNAM PORT SUBMITTED A REPORT FOR DEVELOPMENT OF GODAVARI DELTA.

**1847 WORK ON GODAVARI ANICUT WAS COMMENCED**

**1847 ADVISED ON FOUNDATION OF KRISHNA ANICUT**

1848 PROCESSED TO AUSTRALIA DUE TO ILL HEALTH, HANDING OVER CHARGE TO CAPTAIN ORR.

1850 RETURNED TO INDIA AND PROMOTED AS COLONNEL

**1852 WORK ON GANNAVARAM ACQUIDUCT WAS COMMENCED**

**1852 WORK ON DOWLAISWARAM ANICUT WAS COMPLETED**

1858 SUGGESTED DROUGHT RELIEF MEASURES IN ORISSA AND INTER LINKING OF CANALS AND RIVERS. THE RULE OF EAST INDIA COMPANY HAS ENDED AND BRITISH GOVERNMENT TOOK OVER.

**1860 COTTON RETIRED FROM SERVICE AND WAS KNIGHTED**

1863 VISITED INDIA AND ADVISED FOR PROJECTS IN SOME RIVER VALLEY

1877 HONOURED WITH K.C.S.I.

**1899 DIED DUE TO ILL HEALTH**

**1899** COTTON LIVED FOR 96 YEARS 2 MONTHS. BUT HE IS IMMORTAL.

# INDEX

Sl. No.	DESCRIPTION	Page. No.
01	PREAMBLE AND HISTORY OF RIVER	<b>1-2</b>
02	LENGTH OF FLOOD BANKS AND FLOOD MANAGEMENT	<b>3-4</b>
03	RIVER CONSERVATOR G.O.,	<b>5-7</b>
04	FLOOD WARNINGS, TRAFFIC RULES	<b>8-10</b>
05	DUTIES OF FLOOD DUTY OFFICERS & PROTECTION OF TOWNS	<b>11-19</b>
06	POLICE BANDOBUST & EVACUATION ARRANGEMENTS	<b>20</b>
07	RELIEF & REHABILITATION & CONTROL ROOMS	<b>21</b>
08	MAXIMUM FLOOD LEVELS	<b>22</b>
09	APPENDIX - A (List of officers to whom flood messages will be sent)	<b>23 - 25</b>
10	APPENDIX - B (List of Officers Revenue Departments, ZP & P.S. sent flood messages)	<b>26 - 27</b>
11	APPENDIX - C (Flood message sent when flood is 4.20m (13.75ft) over Barrage)	<b>28</b>
12	APPENDIX - D (List of Flood Stores)	<b>29 - 30</b>
13	LIST OF TELEPHONE NOS/MOBILE NOS OF FLOOD DUTY OFFICERS	<b>31 - 33</b>
14	APPENDIX - E (Jurisdiction of Flood Duty Officers)	<b>34 - 41</b>
15	APPENDIX - F (Direction of Erosions, Breaches, Rat Holes)	<b>42 - 43</b>
16	LIST OF OUT FALL SLUICES IN GODAVARI DELTA SYSTEM	<b>44 - 46</b>
17	APPENDIX - G (Vulnerable Points)	<b>47 - 51</b>
18	APPENDIX - H (Detail of Boats/Launches)	<b>52</b>
19	APPENDIX - I (List of Villages liable for submersion in Flood East & West Godavari)	<b>53 - 57</b>
20	APPENDIX - J (List of Ferry points East & West Godavari Districts)	<b>58</b>
21	HIGHEST GODAVARI FLOODS FROM 1861 TO 2015	<b>59 - 62</b>
22	Godavari River Flood Mitigation on up Stream of Polavaram due to partial completion of coffer dam.	<b>63-65</b>
23	Observed maximum Flood level (Upper Gauges including copper dam)	<b>66</b>

24	Upstream Affected Villages coming under submerged from 3 Lakhs Cusec to 28 Lakh Cusecs of Flood water.	<b>67-81</b>
25	PLANS - 3 Nos.	<b>82 - 84</b>

# **FLOOD CONTINGENCY PLAN FOR RIVER GODAVARI FOR THE YEAR 2020**

## **1. PREAMBLE :**

The Godavari River is the second largest in the Indian Union. The total catchment area is 3,14,685 Sq. Km. (about a tenth of India's geographical area) The Rainfall gets collected into the river through its tributaries and flows into the sea. The river originates at Nasik in Maharastra and traverses through the Deccan Plateau for a length of nearly 1500 km. The main tributaries for the river are Pranahita, Indravati, Sabari, Manjeera etc., The boundaries for the river are Western Ghats on the West, Ajanta and Mahadeo mountain ranges on the North, and Maikal range on the East. The river enters into Delta at Polavaram. The average Rainfall in the area is 1143 MM.

About 70% of the rainfall in the catchment falls in the SW monsoon (June-Sept) and 30% in the NE monsoon (Oct-Dec) during the active phase of SW monsoon i.e., in the second and third weeks of August major floods are found to occur. Bulk of the flood is found to be from Pranahita and Indravati tributaries. The major portion of the rainfall has to flow as floods into the sea. The interesting feature in the river in the delta region is it runs at a higher level than adjacent lands ranging from 3.0 to 8.0 meters height during floods. Due to this reason the entire length of 535 km. of flood bank needs continuous monitoring round the clock during the flood period, to maintain flow the flood within the flood banks and to safeguard the adjacent inhabitants and crops.

Above Barrage the river is called as Akhanda Godavari. Below barrage the river gets divided into Gowthami and Vasista branches. The Gowthami branch flows in a South-Eastern directions. After dividing into two branches called Vrudha Gowthami and Gowthami River, joins the sea near Yanam. Gowthami River at Yanam again divided into two branches called Gowthami River and Coringa River. Coringa River joints the Bay of Bengal near to Kakinada. The Vasista branch of the river after a travel of about 47 km. from the barrage gets divided into Vynatheyam and Vasista, and joins the sea Bay of Bengal near Narasapuram.

## **BRIEF HISTORY OF FLOOD BANKS IN GODAVARI DELTA SYSTEM**

Prior to 1953 flood banks to the River Godavari were formed in different stages to with stand maximum flood discharge of about 15 lakhs cusecs, recorded during the flood of 1891.

During the flood of 1953, fourteen major breaches were occurred, caused great havoc to the Irrigation system in addition to inundation of several villages, resulted with great loss to the properties and lives especially to the central Delta Area. The flood banks were improved systematically during 1960-62 to suit the observed maximum flood discharge of 30,03,100 cusecs in the year August, 1953.

Again in the year August 1986 the River Godavari received unprecedented flood touching peak discharge of 35,06,388 cusecs, resulted several breaches and heavy damages to the public properties. The total loss was estimated about Rs.1500 Crores in addition to the loss of life's, which received national attention.

The highest flood reading ever to be recorded over the sill (+35'.00" (or) + 10.67 Meters) of the S.A.C. Barrage at Dowlaiswaram was 7.48 Mts. (24.55 Ft) (ie) flood level is +59.55' (or) + 18.15M. The maximum flood discharge occurred on 16.08.1986 at S.A.C. Barrage, Dowlaiswaram by including the discharge through the upper breaches was estimated as 35,77,723 cusecs (or) say 36 Lakhs cusecs.

The total length of flood banks to River Godavari in East and West Godavari Districts is about 535 K.Ms formed on upstream side & downstream after the floods of 1953. Out of which a length of K.M. 83.73 of flood banks situated on upstream side of S.A.C. Barrage and 40.60 Km PIP flood banks and 5.10 KM length on downstream side of S.A.C. Barrage were raised to 1986 standards during 1987-89 by keeping 2.00 Mts. free board over the O.M.F.L. of 1986 floods. The remaining non improved flood banks for a length of about KM 405.00 in East and West Godavari Districts were remained to 1953 flood standards.

Further during the August 2006, the River received peak discharge of 28,50,664 cusecs. There are no significant damages except two breaches formed on the downstream of S.A.C. Barrage caused inundation in 50 villages of 9 Mandals in East Godavari District. Over toping of flood water was noticed at many places of the flood bank on Downstream of S.A.C. Barrage.

The Government of Andhra Pradesh has sanctioned of Rs.548.32 Crores for raising and winding of all the flood banks to 1986 standards including necessary protection works to the eroded and slipped River margins. Vide G.O.Ms.No.4, Dt:03.01.2007.

After completion of the above works the present vulnerable points on the flood banks are completely brought to standards except at set works and gates of the outfall sluices, which requires continuous attention and maintenance for the future further floods.

## **2. LENGTH OF RIVER**

a) Akhanda Godavari	:	41.80 K.M.
b) Gowthami	:	63.40 K.M.
c) Vrudha Gowthami	:	21.70 K.M.
d) Coringa	:	15.00 K.M.
e) Vasistha	:	90.60 K.M.
f) Vynatheyam	:	28.30 K.M.
<b>Total</b>	<b>:</b>	<b>260.80 K.M.</b>



**Flood Banks** : To safeguard the crops and human lives under Eastern, Central and Western deltas, covering both in East and West Godavari Districts, the river has been embanked for the lengths mentioned below.

**ABOVE BARRAGE :**

**AKHANDA GODAVARI RIVER :**

i) Akhanda Godavari right bank (from Vijjeswaram to Polavarm) in West Godavari District.	40.20 K.M.	} 83.73 K.M.
ii) Akhanda Godavari left bank (from Dowlaiswaram to Purushothapatnam) in East Godavari District.	41.60 K.M.	
iii) Angaluru flood bank 0.00 to 0.13 K.M.	0.13 K.M.	
Angaluru flood bank 0.00 to 1.80 K.M. in East Godavari District.	1.80 K.M.	

**Below Barrage :**

**GOWTHAMI RIVER**

i) Gowthami Right Bank (Bobbarlanka to Balusutippa) in East Godavari District	85.10 K.M.	} 204.70 K.M
ii) Gowthami Left Bank (From Dowlaiswaram to Yanam) in East Godavari District	63.40 K.M.	
iii) Polavaram Island Project flood bank in East Godavari District	40.60 K.M.	
iv) Coringa Island Project flood bank, (From Yanam to Girijanapeta) in East Godavari District	9.80 K.M.	
v) Coringa Island Project bank (From Yanam to Tallarevu) in East Godavari District	5.80 K.M.	

**VASISTA RIVER**

i) Vasista Right bank (From Vijjeswaram to Biyyaputippa) in W.G. Dist.	90.20 K.M.	} 246.30 K.M.
ii) Vasista Left bank, (From Bobbarlanka to Anthervedhi) in East Godavari District	90.60 K.M.	
iii) Vynatheyam Right bank, East Godavari District (From Gannavaram to Adurru) in East Godavari District	28.20 K.M.	
iv) Vynatheyam Left bank, East Godavari District (From Gannavarm to Bendamurulanka) in East Godavari District	28.50 K.M.	
v) Abandoned bank from Nadipudi lock to K.M. 13.40 of Vy. L.B., East Godavari District	8.80 K.M.	

**234.73 K.M.**

OR SAY **535.00 K.M.**

The following standard nomenclature is used to the officers working during flood period every year.

**"THE CONSERVATOR"** means officer appointed as the conservator of the Godavari River under section (6) of the Madras River Conservancy Act, 1884 i.e., Executive Engineer, Godavari Head Works Division. Now vide G.O. Ms. No. 138, dated 16-08-2004 of I & C.A.D. (IRR 1.2) Department (G.O. Enclosed) the Executive Engineer, Godavari Head Works Division, Dowlaiswaram as River Conservator upto second (2<sup>nd</sup>) warning stage and the Superintending Engineer, Irrigation Circle, Dowlaiswaram will be the River Conservator after attaining 17 Lakhs Cusecs of Flood discharge in the River Godavari and from Polavaram in West Godavari District and Purushothapatnam in East Godavari District in respect of Akhanda Godavari as well as Gowthami, Vrudha Gowthami, Vasistha and Vynatheyam branches of the rivers both in East Godavari and West Godavari District till confluence with the Sea.

**"ASSISTANT CONSERVATOR"** Executive Engineer of other Divisions means the Officer who will guide the flood Superintendents and Flood Section Officers under his control and assist the Conservator in Overall flood management as shown in column 13 of the "APPENDIX-E".

**"FLOOD SUPERINTENDENT"** Deputy Executive Engineer means the officer who will supervise the work of the Flood Section Officers under his charge as shown in Column 10 of "APPENDIX-E".

**"FLOOD SECTION OFFICER"** (Assistant Engineers / Assistant Executive Engineers) means the officer who will be primarily responsible for that stretch of flood bank under his charge as shown in column 7 of "APPENDIX-E".

**"FLOOD SUB-SECTION OFFICER"** (I.C. Assts. and work inspectors) means officer who patrols the bank under his charge and assists the Flood Section Officer is safeguarding the stretch of flood bank shown in Column 6 of "APPENDIX-E".

**Port Officer, Department of Ports, Kakinada** : As per Inland Vessels Act. All Lunches and Boats licensing and operational powers delegated to Department of Ports, Kakinada.

Therefore the concern Revenue Officials will send requisition for launches to Depart of Ports, Kakinada. As per requisition the Port Officer will arrange and send launches to concern Revenue Officials.

**FLOOD SEASON** : Flood in the River Godavari are mostly due to the South-West monsoon and generally occur from July to October, High Floods usually occur during July and August and Occasionally in September. Flood also in October but very rarely.

#### **ARRANGEMENT FOR FLOOD MANAGEMENT AT DISTRICT LEVEL:**

The Conservator will hold conference with all the flood duty officers at Dowlaiswaram in the 4th Week of May every year.

# GOVERNMENT OF ANDHRA PRADESH

## ABSTRACT

3.

Establishment - Irrigation and CAD Department - Appointment of Executive Engineer, Godavari Headworks Division, Dowlaiswaram as a River Conservator upto 2nd warning stage and Superintending Engineer, Irrigation Circle, Dowlaiswaram as River Conservator for the River Godavari - Revised Orders - Issued.

### **Irrigation and CAD (IRR.1.2) Department**

G.O.Ms. No. 138

Dated : 16-08-2004.

Read the following :

1. G.O. Ms. No. 61 Irrigation and Command Area Development (Irr. 1.2) Department, dated 29-03-2004.
2. From the ENC (Irr.) Lr. No. DCE IV/OT.7/SO.VI/20613/2004, dated 09-06-2004.

<><><>

#### **ORDER:**

Whereas, the Government of Andhra Pradesh appointed the Superintending Engineer, Irrigation Circle, Dowlaiswaram as River Conservator under section 6 of the Andhra Pradesh ( Andhra Area) Rivers Conservancy Act, 1884, for the river Godavari from Polavarm in West Godavari District and Pusushothapatnam in East Godavari District in respect of Akhanda Godavari as well as Gowthami, Vrudha Gowthami, Vasista and Vynatheyam branches of the rivers both in East and West Godavari Districts till confluence with the Sea in the G.O. first read above and the said notification has been published in the Part-1, Extraordinary issue of the A.P. Gazette No. 129-A, dated the 29th March, 2004.

2. And whereas the Engineer-in-Chief (Irrigation), Hyderabad in the reference 2nd read above has reported that the Executive Engineer, Godavari Head Works Division, Dowlaiswaram is acting as River Conservator for River Godavari as per Madras Rivers Conservancy Act, 1884 even after formation of Andhra Pradesh and it requires necessary amendment to the Government Orders duly giving notification that the Executive Engineer Godavari Head Works Division, Dowlaiswaram will continue as River Conservator upto 2nd warning stage and the Superintending Engineer, Irrigation Circle, Dowlaiswaram will be the River Conservator after attaining 17 Lakhs cusecs of flood in the river.

3. And whereas, the Government of Andhra Pradesh after careful examination of the matter decided to issue a notification by superseding the notification issued in the Government Order first read above.

4. The following Notification will be published in the extraordinary issue of the Andhra Pradesh Gazette dated the 16th August, 2004.

(CONTD..2)

## **NOTIFICATION**

In exercise of the powers conferred under section 6 of the Andhra Pradesh Andhra Area) Rivers Conservancy Act, 1884 and in supersession of the orders issued in G.O. Ms. No.61 Irrigation and Command Area Development (Irr.1.2) Department, dated the 29th March, 2004 the Government of Andhra Pradesh hereby appoint the Executive Engineer, Godavari Head Works Division, Dowlaiswaram as River Conservator upto Second (2nd) warning stage and the superintending Engineer, Irrigation Circle, Dowlaiswaram will be the River Conservator after attaining Seventeen 17 Lakhs causes of flood in the River Godavari from Polavaram in West Godavari District and Purushothapatnam in East Godavari District in respect of Akhanda Godavari as well as Gowthami, Vrudha Gowthami, Vasistha and Vynatheyam branches of the rivers both in East Godavari and West Godavari District till confluence with the sea.

(BY ORDER AND IN THE NAME OF THE GOVERNOR OF ANDHRA PRADESH)

**Dr. C.V.S.K. Sarma,**  
PRINCIPAL SECRETARY TO GOVERNMENT.

To

The Engineer-in-chief (Irrigation), Hyderabad.

The Superintending Engineer, Irrigation Circle, Dowlaiswaram.

The Executive Engineer, Godavari Head Works Division, Dowlaiswaram.

The District Collector, East Godavari, Kakinada.

The District Collector, West Godavari, Eluru

The Special Chief Secretary & CCLA, Hyderabad.

The Commissioner of Printing, Stationery and Stores Purchase, Hyderabad (with a request to publish in the A.P. Gazette).

**Copy to :**

The Director of Accounts, SACB, Dowlaiswaram.

The Pay & Accounts Officer, SACB, Dowlaiswaram.

The Pay and Accounts Officer, Irrigation Circle, Eluru.

The I & CAD (CAD-Ser.II) Dept. (w.r.t.C.No.37421/CAD.Ser..II/2003.).

The Law (B) Department.

SF/SCs.

// FORWARDED::BY ORDER //

**Sd/- xxxxx.**  
SECTION OFFICER

THE ANDHRA PRADESH GAZETTE  
PART-I EXTRAORDINARY  
PUBLISHED BY AUTHORITY

**HYDERABAD, MONDAY, AUGUST 16, 2004**

NOTIFICATIONS BY GOVERNMENT  
IRRIGATION AND CAD DEPARTMENT  
(IRR. 1.2)

APPOINTMENT OF EXECUTIVE ENGINEER, GODAVARI HEADWORKS DIVISION,  
DOWLAISWARAM AS A RIVER CONSERVATOR UPTO 2ND WARNING STAGE AND  
SUPERINTENDING ENGINEER, IRRIGATION CIRCLE, DOWLAISWARAM AS RIVER  
CONSERVATOR FOR THE RIVER GODAVARI - REVISED ORDERS.

(G.O. Ms. No. 138, Irrigation and CAP (IRR. 1.2), 16th August, 2004)

In exercise of the powers conferred under Section 6 of the Andhra Pradesh (Andhra Area) Rivers Conservancy Act, 1884 and in supersession of the orders issued in G.O.Ms. No. 61, Irrigation and Command Area Development (Irr. 1.2) Department, dated the 29th March, 2004 the Government of Andhra Pradesh hereby appoint the Executive Engineer, Godavari Head Works Division, Dowlaiswaram as River Conservator upto Second (2nd) warning stage and the Superintending Engineer, Irrigation Circle, Dowlaiswaram will be the River Conservator after attaining Seventeen (17) lakhs causes of flood in the River Godavari from Polavaram in West Godavari District and Purushothapatnam in East Godavari District in respect of Akhanda Godavari as well as Gowthami, Vrudha Gowthami, Vasistha and Vynatheyam branches of the rivers both in East Godavari and West Godavari District till confluence with the Sea.

**Dr. C.V.S.K. SARMA.**  
Principal Secretary of Government.

**EXECUTIVE ENGINEER, GODAVARI HEAD WORKS DIVISION, DOWLAISWARAM.**

In the capacity of the river Conservator and the same will be introduced by the District Collector, for discussion with all flood duty officers. After discussion, any instructions found necessary will be issued. Thereafter minutes of the flood conference will be communicated to all flood duty officers of East and West Godavari Districts for proper patrolling of flood banks of River Godavari.

**FLOOD FORECASTING STATIONS :** The flood forecasting information will be received from different stations as listed below.

**RAINFALL WARNING STATIONS**

1. Jagadalpur
2. Jaipur
3. Nagapur
4. Chanda
5. Seoni
6. Amaravathi
7. Parbani
8. Aurangabad

**WEATHER STATIONS**

1. Secunderabad
2. Visakhapatnam

**FLOOD WARNING STATIONS (WIRELESS STATIONS)**

Guage Stations	Distance from Barrage	Time of Travel to SAC Barrage, Dowlaiswaram
Peruru (Base Station)	320 K.M.	36 Hrs.
Dummugudem	200 K.M.	24 Hrs.
Bhadrachalam	160 K.M.	18 Hrs.
Kunavaram	110 K.M.	12 Hrs.
Koida (Base Station)	96 K.M.	10 Hrs.

The Conservator will ensure that, all weather messages received by him are promptly communicated to all flood duty officers, mentioned in APPENDIX-'A'.

**I. FLOOD WARNINGS :** When rainfall messages indicate the flood is likely to reach 3.58M (11.75 Ft) over the sill of Barrage in clear condition of all 175 gates and that it is likely to continue raising telephone messages will be sent as follows by the Conservator, Dowlaiswaram.

**(A) FIRST WARNING :**

- i. Message "Flood Level 3.58m (11.75Ft) over the sill of Barrage. Further raise expected. Keep ready extra watchers. Sub-Section flood duty officers to be Warned" (R.W.L.=+14.25M, Discharge. = 10.00 Lakhs cusecs and above and **Sill Level of Barrage = +10.67M (+35.00 Ft.)**)

The above message should be sent by Telephone/Mobile phone as the case may be to the officers mentioned in the APPENDIX-"A"

- ii. Message : Flood Level 3.58 m (11.75 Ft) over sill of Barrage. Warm Village Sarpanches. Village Development Officers and Village Secretary to furnish Labour and Material if called on. Warm Revenue Flood Section Officers.

The above message should be sent by Telephone/Mobile phone as the case may be to the officers mentioned in the APPENDIX-"B"

- iii. Message : Flood 3.58 m (11.75 Ft) over sill of Barrage arrange to keep telephone stationed working day and night till further orders.

The above message should be sent by the Conservator from the Telephone station located in the Godavari Head Works Division Office, Dowlaiswaram.

**B) SECOND WARNING :** When the water level in the river touches 4.19m (13.75 Ft) over sill of Barrage and is expected to continue raising, the following telephones message and telegram should be sent by the Conservator.

(Sill level = +10.67 M R.W.L. = + 14.86 Mts. Discharge = 13.00 Lakhs cusecs and above

- i) Message : Flood level 4.19 m (13.75Ft) over the sill of Barrage. Engage necessary watchers. Flood Duty Officers to proceed immediately to their respective stations.

The above message should be sent by Telephone/Mobile phone as the case may be to the all Irrigation Officers and Subordinates referred to in the list vide APPENDIX-"A".

1. On receipt of the above, Irrigation Department Section Officers will at once order Irrigation Department Flood Sub-Section Officers to join their flood stations forthwith.
- ii) Message : Flood level 4.19 m 13.75 Ft over the sill of Barrage. Instruct to flood duty stations to be take-up.

The above message should be sent by Telephone/Mobile phone as the case may be to the officers mentioned in the APPENDIX - "C".

**C) THIRD WARNING (DANGER LEVEL)** = 5.41 m (17.75 Ft) with discharge 17.00 Lakhs cusecs and above.

- i. Message : "Flood level now 5.41 m (17.75 Ft) over sill of Barrage. Tahsildars, Mandal Development Officers, Extension Officers to proceed forthwith to flood duty stations."

The above message should be sent by Telephone/Mobile phone as the case may be to the above Mandal Officers, having flood duty.

Note : Based on the above message the Tahsildars will at once order Mandal Revenue Inspectors detailed as Flood Section Officers who are under their control to join flood stations forthwith.

On receipt of the orders all Tahsildars, Mandal Development Officers and extension officers will immediately proceed to their flood duty stations and render assistance in procuring labour and material in patrolling the flood banks.

Once the officers are on flood duty, flood readings should be communicated twice daily to all the officers for information by the Deputy Executive Engineer, Head Works and supplies Sub Division, Dowlaiswaram who will be stationed in flood control room at Office of the Executive Engineer, G.H. Division, Dowlaiswaram.

**D) DISPERSAL** : As soon as the flood falls below 3.58m (11.75 Ft.) over the sill of Barrage, the Conservator will give intimation to all the flood duty officers to disperse unless he considers that a further rise is probable. Officers who have started special protection works should not disperse until relieved by the River Conservancy Deputy Executive Engineer or one of his subordinates.

**DUTY OF PORT OFFICERS DURING FLOOD** :- As per I.V. Act, 2017. The Port Officers of Port Department is authorized person to issue fitness certificate to the floating Crafts. He has to issue licenses to drivers of the floating Crofts and Sarongs.

Since the Boats and Boat operating agencies are in control of Port Officer in-feature the Port Officer has to arrange necessary floating crofts, Boats and etc., the Port Officer shall arrange all the necessary Men and Material such as floating crofts, Boats, Swimmers, Boat Drivers, Sarongs, Life Saving Equipment's like Life Jackets etc., for transportation of Men, Goods during floods.

**4. TRAFFIC (NAVIGATION) RULES** : Flood warnings for navigation to be issued for various flood levels are as detailed below :

**A) SUSPENSION OF TRAFFIC**

**(I) COUNTRY CRAFT** : All the country crafts to be warned and stopped when the flood level above sill of Barrage reaches as below.

- |     |  |                      |
|-----|--|----------------------|
| i)  | For Akhanda Godavari                                 | : 3.58 m (11.75 Ft.) |
| ii) | For Vasistha and Gowthami<br>branches below Barrage. | : 4.19 m (13.75 Ft.) |

**II) LAUNCH TRAFFIC : ABOVE BARRAGE**

- i. When the flood level crosses 3.58 M (11.75Ft) over the sill of Barrage stop all launch traffic, except launches with 18 ton capacity and above, that too only between Rajahmundry and Bobbarlanka.
- ii. To stop all Launches traffic when the level reaches 5.41 M ( 17.75Ft) over the sill of The Barrage



### **III) LAUNCHED TRAFFIC : BELOW BARRAGE**

- i. To stop all launch services except launches of 80 HP and 18 ton capacity and above when flood level crosses 4.19 m (13.75 Ft) over the sill of Barrage.
- ii. To stop all launch traffic without exception when the flood level above sill of Barrage reaches 5.41 m (17.75 Ft).

## **B) RESTORATION OF TRAFFIC**

### **(I) ABOVE BARRAGE :**

- i) To restore 80 HP launch service between Rajahmundry and Bobbarlanka only after the level falls to 4.80 m (15.75 Ft) over the sill of Barrage.
- ii) To restore all launch service when the level falls below 3.35m (11.00 Ft) over the sill of the Barrage.

### **(II) BELOW BARRAGE :**

- i. To restore only 80 HP and above launch service when level above Barrage falls to 4.80 m (15.75Ft).
- ii. To restore complete launch service when the depth of water above sill of the Barrage falls below 4.19 m (13.75Ft).

**5. Duties of Officers on Flood Duty :** Appendix "E" shows the details of jurisdiction of various flood duty officers. In apportioning the charge, the present condition of the Banks, their proximity of vulnerable points and other circumstances have been fully considered. A list of vulnerable points is contained in Appendix "G".

**A. PERSONNEL DRAFTED FOR FLOOD DUTY :** The following classes of officers of the Revenue and Irrigation Departments are on flood duty.

1. Patrolling officers of Irrigation Department will consist of Sub-Section Officers to patrol banks by engaging extra watches etc.,
2. Supervising Officers will consist of Assistant Engineer / Assistant Executive Engineer of the Irrigation Department and Mandal Revenue Inspector working conjointly.
3. To further supervise the work, there will be the flood superintendent consisting of Deputy Executive Engineer of the Irrigation Department working conjointly with Revenue Divisional Officers and officers of the Zilla Praja Parishad and Mandal Parishad at flood duty.

The Revenue Divisional Officers, Mandal Revenue Officers, the Officer of the Zilla Praja Parishads, Mandal Praja Parishad and Deputy Executive Engineer of Irrigation Department will also have general supervision on the respective staff on flood duty in their respective jurisdiction.

They must see that all their subordinates are attending faithfully to the duties. Any subordinate lacking energy, inactive in performing his duties shall be replaced immediately. In case any Officer fails to attend flood duty, substitute will be posted by Conservator from Irrigation Department and by the District Collector from Revenue Department.

**B. FLOOD RULES** : Every flood duty officer will have a copy of flood rules and will certify when he takes over or hands over charge that he has received or handed over his copy of flood rules book.

**C. STOCK OF MATERIALS** : Appendix "D" gives the various store sheds situated on all the flood banks of the Godavari River and stock of store and tools that are kept ready at each store shed.

It is the overall responsibility of flood duty officers to see that the materials drawn from flood store or procured in open market may be utilized effectively based on the need. They have to give a certificate as follows. "Certified that the following materials drawn from flood store are effectively utilized".

The stock shall be checked jointly by the Revenue and Irrigation Officials and brought up to date as per standards by the concerned Deputy Executive Engineer, River Conservancy subdivision before 20th June. The subordinate in charge of the stock shall issue necessary material on the requisition of flood duty officers taking acknowledgment for the same. If extra materials are found necessary they shall be procured at once by the Conservator on requisition from the concerned.

**D. AFTER FIRST WARNING** : On receipt of the first warning flood duty officers shall endeavor to return from camp and stay in headquarters.

River Conservancy Section officer will at once warn each village Sarpanch and Village Revenue Officers (VRO), who will assist in procuring the extra watchers to the sub-sections in the limits of their conservancy section. The watchers shall be in readiness to go on flood duty if required and should be clearly informed about the reach of flood bank of their duty and the officer to report.

***The normal conservancy establishment consists of one bank lascar or watcher for every five kilometers. The river conservancy section officer shall give written warnings for extra watchers as directed above so that there is one extra watcher for every 1.6 km (1.00 Mile) in three shifts daily in addition to the regular conservancy watcher for every 5 km.*** Each flood duty officer should carefully study the General and specific instructions in his copy of the rules. They shall also keep in touch with telegram and telephone stations and mobile phone calls.

**E. SECOND WARNING** : On receipt of the second Warning all flood duty Officers will proceed at once to their stations and assume control of the charge allotted to them in the Appendix "E" appended to these rules, taking with them the flood rules, some conveyance (Viz.,) a bicycle or Motor Cycle and one carbon note book for sending messages etc. As and when a flood officers assumes duty at his assigned station he has to flash a message to the Conservator in the following format. "Assumed duty as (designation) from km ..... to .....km of flood banks. .... hrs. on ....., with copies to all officers above him. Failure to non-report to flood duty is a very serious lapse and such cases will be dealt as misconduct and necessary action would be initiated. Oral message should not be sent. All the Irrigation flood Superintendents / (DEEs) and Executive Engineers / Assistant Executive Engineer & Assistant Engineers shall be provided with Four wheel vehicles during flood duty period by diversion of jeeps available with other departmental Officers in the locality to the extent necessary or from the common pool of vehicles under the orders of the District Collector of the District concerned The extra vehicles required shall be kept with the river conservator for allotment to various Officers required and for keeping spare vehicles for use during any emergency.

Such patrolling Officer shall traverse the whole length; of his charge keeping careful watch for cracks, rat holes, weak places and any indication of percolation through the bank. He shall not leave his charge during the period of the patrol. In case of urgency, he shall apply for relief to the Supervising Officers and should not leave till he is relieved by a substitute. He will see that the village Sarpaches of the villages in his charge watch the bank day and night. All other officers in flood duty shall also not leave their charge without obtaining relief.

The sub-section Officers will give full instructions to the extra watchers under their charge and carefully explain to them their duties. The day patrol will commence from 5 AM and one of the two day extra watchers i.e. one will watch from 5 AM to 12 Noon 2nd will watch from 12 Noon to 7 PM and two watchers both patrolling night together from 7 PM to 5 AM.

All weak or dangerous places must be promptly attended too. Cracks and rat holes being plugged and low places 'being built up where necessary. Appendix 'F' contains the details of protective measures that should be taken up. In case where the ordinary watchers above mentioned are insufficient, sufficient labour from each village should be pooled to assist the watchers in attending to weak places and flood duty Officers must see that the expenses in so protecting the flood bank should be promptly paid weekly or at shorter intervals by Irrigation Department subordinate on vouchers countersigned by Mandal Revenue Officer or the Officer of the Zilla Praja Parishads or Mandal Praja Parishads on flood duty or Deputy Executive Engineer, Irrigation as the case may be.

The extra watchmen and Mazdoors obtained through village Sarpanches, Village Development Officers should be paid at rate to be specified by the District Collector. Additional rates should be paid for night work and also during the transplantation season. Irrigation Department Superintendents should communicate this note to all their flood section Officers.

**F.** The execution of urgent works shall on no account be delayed for want of funds. if necessary the expenditure may first instance be met from maintenance grant and adjustments made later on.

**G.** All bills for payment for work done by Revenue & ZP Officers during flood shall be Counter 7 signed by the Officers of Revenue or Zilla Praja Parishads or Mandal Praja Parishads on flood duty and also necessarily Irrigation Department patrol Officers. These payments shall be claimed within a week of the dispersal. Later claims will not considered.

**H. LOW - LAYING AREAS :** There are several Low Laying Areas in between flood banks and outside flood banks subject to oozing of water during floods. Necessary steps are to be taken to shift the residents depending upon the condition of river to avoid any calamity at a later date in case the flood water rises rapidly. A statement showing the names of the villages with flood levels at which they are likely to be subjected to submersion have been mentioned at Appendix "I". Depending upon the condition of river following action has to be taken by the concerned Departments.

The flood Superintendent and his subordinate Officers of Irrigation enlighten the present position of the flood in the river and request the Mandal Revenue Officer Praja Parishad in charge of the reach to make arrangement for evacuation. The Mandal Revenue Officers with the co-operation of Police Department will immediately take action for evacuation by means of launches and country craft to a safer place mentioned in Appendix 'I' and arrange for their stay including providing food and medical facilities etc. The Mandal Officer concerned will take all precautionary measures in maintaining sanitation and drinking water facilities in addition to medical aid.

i. **BREACHES :** The occurrence of the breach requires prompt and immediate action. The Mandal Officer on the spot must at once send warning to the village or villages likely to be affected, to the nearest Irrigation Departmental Officer and to his next superior Mandal Revenue Officer. When Railway line is likely to be affected, intimation must be given at once be flashed to the nearest Railway Station.

If he can get the breach closed at once, he must do so, bearing in mind that it is generally easier to put a ring bund in shallow water on the margin than to close the breach itself if stakes are required, they must be driven in firmly and sand bags can then be used for effectively closing the breach.

He will keep a careful account of the labour and materials used and measurements of work done.

If he is unable to close the breach he must at once protect it from further scour by fixing branches and sand bags round the ends of the bank, collect on the spot materials likely to be required and have sand bags filled and stacked as near the breach as is safe.

**J. SUPPLY OF LABOUR AND MATERIALS :** The above rule applies only to cases where responsible Officers of the Irrigation Department i.e. Section Officer or Higher Officer is not on the spot When Irrigation Department Officer arrives on the scene, the work should be handed over to him with the bills for work done so far. The duty of the Mandal Revenue Officer will then consist in the prompt supply of labour and materials to meet the requirements of the Irrigation Department Officers

Officers on flood duty should take immediate steps on their own "Initiative" to safeguard the flood banks. If any signs of danger are seen or apprehended or any emergency occurs without referring the matter to any other authority but they will report the occurrence and the action taken in writing as soon as possible to the Conservator of Godavari River. Full usage should be made mobile or telephone system, whenever available to keep in touch with the Conservator.

Any Irrigation Department Officer on flood duty requiring labour or materials shall in the absence of the Mandal Revenue Officer on the spot, send a requisition to the Panchayat Sarpanch or Panchayat Extension Officer or Village Revenue Officer. He should do so in writing keeping a copy of the order. He should not make general demands but should state precisely the requirements. When labour is required he shall state as far as practicable, the number of labour required, the period for which they are needed and the wages that will be paid. The time of dispatch of the message should be noted with date on the memorandum. The time of arrival of the labour will also be noted. If any village Sarpanch or Village Extension Officer or V.R.O. delays in supplying labour or materials after a reasonable intervals, he should report against the village Sarpanch or Village Extension Officer or V.R.O. at once by a letter and apply to the nearest T A H S I L D A R S not lower in Rank of Mandal Revenue Inspector. If this is not done any excuse for not obtaining labour will not be accepted.

**K. DUTIES OF PANCHAYAT SARPANCHES OR PANCHAYAT SECRETARIES OR VILLAGE REVENUE OFFICERS :** It is the duty of the Panchayat Sarpanches and Panchayat Secretaries and V.R.O.'s to comply with promptly, with any requisition for labour or materials. They shall see that the labour sent from their village take with them bill hooks memoties and baskets. The village Sarpanch and Village Extension Officer and V.R.O. shall keep a careful account of all material supplied and give precise receipts to all the farmers from whom they are taken. All Officers obtaining materials from a village should do so, as far as practicable, through the village

headman. In times of emergency, when supply of labour is required, panchayat Sarpanches and Village Extension Officers and V.R.O. should arrange to muster not less than 10 (ten) collies from each village and supply them to flood duty Officer concerned. They should not wait for the order of the Mandal Revenue Inspector or Tahsildar.

**L. EMERGENT WORKS DONE BY VILLAGERS :**

- i. In the event of an emergent work being done by the villagers on their own initiative, the Tahsildar or other flood Superintendent on duty should go to the spot as soon as possible, measure the work done, and fill up in a statement showing the material used and labour engaged and obtain the signature of village Head-man on the statement. A certificate stating briefly to what extent the work was essential and urgent should be added to the statement. All work done by villagers will be inspected and check measured as soon as practicable by the Irrigation Department staff. The bill should be sent within a week of the dispersal. A copy of the bill should be sent to the Irrigation Department Officers marked "Copy".
- ii. Payments for emergent Irrigation Department works ordered by the District Collector or his duly authorized subordinate will be made by the District Collector on the strength of the countersignature of the Revenue Divisional Officer or the District Panchayat Officer West Godavari, East Godavari as the case may be on the bills without any verification of record of measurement by the Irrigation Department.

**M. REPORTS TO SUPERIOR OFFICERS :** Each patrolling Officer shall ordinarily prepare a daily report and send a copy to the supervising Officers, Executive Engineer, Tahsildar Deputy Executive Engineer, Revenue Divisional Officer, District Panchayat Officer as case may be Officer incharge as far as his jurisdiction is concerned, and to Conservator direct. The Supervising Officer should submit the reports received from the patrolling Officers to the Revenue Divisional Officer the District Panchayat Officers, the Executive Engineer the Superintending Engineer & the District Collector. In case of the concerned the Executive Engineers, Revenue Divisional Officer, the District Panchayat Officer is himself the supervising Officer, he should submit his report to the District Collector, Conservator the Superintending Engineer as the case may be. The report should be brief and should be prepared in carbon books supplied for the purpose. It should contain information on the following points.

- a) The state of River, whether stationary, raising or falling.
- b) The condition of the flood bank.
- c) Apprehended danger to Irrigation communications, village sites human lives etc. preparation made in case evacuation is necessary.

d) Any action taken for repairs difficulties experienced with regard to labour etc. Special reports should be sent by telegraph or telephone or through mobile if possible as soon as :

- i. Danger to life or property is Imminent.
- ii. A breach occurs in flood bank.
- iii. Important communication rail or road is breached, Bridges are damaged.
- iv. Casualties occurred.

All reports sent through should be super scribed "FLOOD VERY URGENT".

**N. GENERAL :**

- a) In carrying out their duties of inspection and direction and supervising emergency works on the flood banks, all flood duty Officers will be under the general control of the Conservator.
- b) While Officers of the varied classes Viz., flood Superintendent flood section Officers and sub-section Officers are employed on flood duty, it is to be expressly understood that when more than one Officer is present Officer of the Irrigation Department shall always assume control of emergent protection works at any place where he is present in preference to Officer of the same class in the Revenue or any other Department.
- c) Superintendents of either Department - will however always assume control over flood Section or sub-section Officer and flood section Officers will generally have control over subsection Officers, but no Revenue flood section Officers shall take over control from section Officer or sub-section Officer of Irrigation Department.
- d) FLOOD MESSAGES : The Conservator will send flood message about floods in Godavari River to all the flood duty Officer simultaneously to the District Collectors, Superintendents of Police, East and West Godavari District, Dy. Superintendents of Police, District Medical and Health Officers, Road Transport Officers of both Districts as soon as he receives intimation about the flood levels.

The Conservator will confirm sending of messages for the 1st and 2nd warnings when the flood level touches 3.58 M (11.75ft) and 4.2 M (13.75ft.) respectively over the sill of the Barrage by wire or any other urgent means of communication like telephone, mobile etc., He will also communicate the messages to the District Public Relations Officers of two Districts for giving publicity through the All India Radio. Immediately after receipt of the 2nd warning the flood duty Officers should plunge into action and reach to their respective destination.

**O. FLOOD DUTY OFFICERS TO THE RIVER GODAVARI :** A list of flood duty Officers of Revenue and Irrigation Department is appended in Appendix 'E'.

The flood duty Officers should be in their jurisdiction as soon as they receive second warning from the Conservator and the file should be informed to the Conservator. ***Flood duty Officer should not go on leave without prior intimation and obtaining***

**sanctioned by the officer concerned during the Flood period.** Under any circumstances if leave is sanctioned to a flood duty Officer, the concerned Officer should nominate a substitute for the flood duty and intimate the fact to the Conservator and the District Collector promptly. The flood duty Officers are also requested to keep one assistant of their office to receive and communicate any important messages during the flood period.

The officer of Revenue and Irrigation Department who do not have flood duty are and whose headquarters is near to flood bank are to be directed to keep in touch with flood control room during the floods. In case of any emergency the Officers are to contact the flood supervising Officers and River Conservator i.e., Executive Engineer, Godavari Head works Division, Dowlaiswaram so that their services can be utilized wherever required.

**P. ALLOTMENT OF VEHICLES TO THE FLOOD DUTY OFFICERS :** The Officers whose vehicles requisitioned are requested to keep them road worthy. Under any circumstances any request for exemption of vehicles from flood duty will not be considered. The vehicle owning Officer should send their vehicle to the Officers for whose purpose the vehicles are requisitioned as soon as 1st warning is issued without waiting for any separate requisition.

**Q. FLOOD STORES :** A list of flood stores in Godavari Head works Division with details of materials to be kept at each flood stores is appended in Appendix 'D'. The Conservator will ensure that sufficient quantities of material are kept in the stores keeping the past experience particularly 1986 floods in view. He may address the Government if excess quantity of material required "than the limitations stipulated under rules. The Executive Engineer, Godavari Head works Division, Dowlaiswaram will ensure that the flood stores are equipped with the required quantities of materials before end of June every year.

**R. REQUISITION FOR PRIVATE FLOATING CRAFT :** During 1986 floods, it has become a difficult task to procure required no. of launches requisitioned by the Revenue Divisional Officer, Kovvur etc., To avoid this difficulty, and as per new rules Port Officer, Department of Ports, Kakinada will arrange to send launches to the Officers specified below as soon as 2nd warning is issued to the station mentioned therein.

1. Two launches for Revenue Divisional Officer, Kovvur.
2. One launch for Revenue Divisional Officer, Narasapur to be anchored at Doddipatla.
3. One launch for Grain purchasing Officer Tadepalligudem to be anchored at Sidhantam.

The Port Officer, Department of Ports, Kakinada will requisition of the launches in advance of flood season for sending them to the above Officers during flood time and a copy of the requisition proceedings will be sent to the above Officers as well as to the District Collectors of East or West Godavari District. Launches to use for flood duty should not be less than 80 HP capacity.



If any launch are required by the Police, or Medical Department during floods, the Revenue Divisional Officers concerned shall take action for arranging launches through the Port Officer, Department of Ports, Kakinada. Payment of hire charges of the launches shall be made by the concerned Revenue Divisional Officer.

**S. REQUISITION FOR LORRIES :** There are no Departmental Lorries available. Private lorries have to be requisitioned. The Conservator will send a requisition to Regional Transport Officer, Eluru or Kakinada as the case may be for arranging lorries. However the motor vehicles Inspectors Kakinada, Rajamahendravaram, Kothapeta, Bhimavaram, Eluru, Tadepalligudem and Assistant Motor Vehicle Inspectors, Kovvur are responsible to send the Private lorries whenever requisitioned by the flood duty Officers of Irrigation and Revenue Departments, when flood level over sill of the Barrage exceeds 5.4 M (17.75 ft.)

**T. HOLDING OF MEETING BY THE REVENUE DIVISIONAL OFFICERS :** The Revenue Divisional Officers, Kovvur, Narsapur of West Godavari District, Amalapuram, Kakinada and Rajamahendravaram of East Godavari District are to hold meetings at village levels and issue necessary instructions to the Panchayat Extension Officers and Sarpanches and VRO's to be alert and to keep sufficient labour force with Irrigation Department. The Revenue Officials at village level should be made responsible for patrolling their jurisdiction particularly during night. The TAHSILDARS are requested to make arrangements to convey the flood readings and messages to the village through the Panchayat Sarpanch and village Panchayat Secretary (Village Officers) and Revenue Officials entrusted with flood duty.

## **6. PROTECTION OF TOWNS :**

**A. POLAVARAM :** There is a road belonging to Road and Building Department taking off from Akhanda Godavari right bank at km 38.800 in Polavaram town limits. There are culverts on the road with open vents. During floods when the flood level reaches 4.20 M (13.75ft) over sill of the Barrage water enter through these culverts into the town. Hence the R&B Section Officer may be stationed at Polavaram town in order to attend to flood precautionary measures and to close effectively the leakage of water through the culverts during the flood periods. The Assistant Engineer (R & B) concerned will be in close touch with the officials of Revenue Department and Irrigation Department and render necessary technical Assistance to them.

**B. RAJAMAHENDRAVARAM :** During floods the Municipality has to see that the drainage inlets into the River Godavari function properly. The shutters fixed to the drainage inlets should be closed and should be made leak-proof. If there is stagnation of water at these points the Municipality have to arrange for pumping of water into the river. The pumping arrangements should be kept in working condition at Aryapuram outfall sluice (Nalla Channel) at Km. 9.600 Akhanda Godavari left bank (Pump House belongs to the Municipality). The shutter of the outfall sluice at Km.

9.600 of AGLB will be closed when the water level is about 3.20 M (10.45 ft). over the sill of Barrage. The operators should be available for 24 hours during floods to operate the pumps as and when required, since there is possibility of stagnation causing submersion of low lying areas in case there are local rains.

The Rajamahendravaram Municipality has to make lighting arrangements all along the Godavari bund in Rajamahendravaram town limits.

The Municipality should see that the bank width is kept free from all debris and other obstructions if any from Km 4.00 to 6.4 and km 9.00 to 10.20.

**7. VULNERABLE POINTS :** There are some important vulnerable places where special attention of the Revenue and Irrigation Department is called for, after the issue of the 2nd warning. A list of the important places (vulnerable points) at which special attention is required appended in Appendix 'G'.

**8. FERRY POINTS :** A statement showing the ferry points in East and West Godavari Districts is appended in Appendix 'J'. Special vigilance is required at these points and police men will be posted there during the flood time.

## **9. POLICE BANDOUST AND EVACUATION ARRANGEMENTS**

**A. POLICE BANDOUST ARRANGEMENT :** The Superintendent of Police, West Godavari Eluru and East Godavari District, Kakinada will arrange Police Band bust during floods time as in previous years.

**B. EVACUATION ARRANGEMENTS :** This item of work will be attended by Revenue Department. The Assistant Commissioner for transport, Eluru and Assistant Commissioner for Transport Kakinada will send private lorries whenever requisitioned by the Conservator. The Superintended of Police and the Revenue Divisional Officers for evacuation purpose during the floods.

The Divisional controllers of A.P.S.R.T.C. at Kakinada, Amalapuram, Rajamahendravaram, Kovvur, Narasapur, Tadepalligudem will make arrangements to send buses when requisitioned by the conservator or the Superintendent of Police or the Revenue Divisional Officers for evacuation purpose.

## **10. RELIEF AND REHABILITATION :**

Relief camps will be arranged at suitable places and feeding arrangements will be supervised by the Revenue Divisional Officers concerned. The Revenue Divisional Officers will involve the Assistant Grain Purchasing Officers in their jurisdiction in making feeding arrangements. The list of rehabilitation centre is enclosed in Appendix - "I"

### **1. CONTROL ROOM :**

GODAVARI HEADWORKS DIVISION OFFICE, DOWLAISWARAM.

AND

IRRIGATION CIRCLE OFFICE, DOWLAISWARAM

Flood control room will be opened at the office of the River Conservator (Executive Engineer, Godavari Head Works Division, Dowlaiswaram) from 1st July onwards every year, and will function round the clock for transmitting flood readings, forecasts and warnings etc., till end of October.

The following phones are available in the Control Room.

1. 0883 - 2417066 - Dowlaiswaram
2. 0883 - 2417419 - Dowlaiswaram

RIVER CONSERVATOR  
AND  
EXECUTIVE ENGINEER  
GODAVARI HEAD WORKS DIVISION  
DOWLAISWARAM

<b>STATEMENT SHOWING THE YEAR WISE MAXIMUM FLOOD LEVELS AND DISCHARGES</b>					
Sl. No.	Date of Maximum Flood	Maximum Flood Level at Barrage (Gauge Readings on Sill of S.A.C.B)		With reference to M.S.L.	Discharge (in C/s)
		(in Feet)	(in Mts.)		
01	16-08-1953	22.75	6.93	(+17.60 M)	30,03,100
02	16-08-1986	24.55	7.48	(+18.15 M)	35,06,388
03	17-10-1987	9.75	2.97	(+13.64 M)	6,81,000
04	30-07-1988	17.50	5.33	(+16.00 M)	21,22,310
05	27-07-1989	15.30	4.66	(+15.33 M)	15,23,610
06	25-08-1990	22.75	6.93	(+17.60 M)	27,88,700
07	19-08-1991	13.05	3.98	(+14.65 M)	12,10,365
08	17-08-1992	16.80	5.12	(+15.79 M)	17,85,370
09	06-08-1993	9.60	2.93	(+13.60 M)	6,78,930
10	07-09-1994	19.85	6.11	(+16.78 M)	22,67,510
11	23-10-1995	17.00	5.18	(+15.85 M)	17,84,970
12	23-08-1996	10.25	3.12	(+13.79 M)	4,31,750
13	30-08-1997	9.40	2.87	(+13.54 M)	5,92,300
14	18-09-1998	9.10	2.77	(+13.44 M)	6,88,030
15	09-08-1999	11.20	3.41	(+14.08 M)	9,51,960
16	31-08-2000	17.80	5.43	(+16.10 M)	19,89,026
17	23-08-2001	16.25	4.95	(+15.62 M)	17,16,802
18	27-08-2002	14.00	4.27	(+14.94 M)	13,58,442
19	27-07-2003	14.50	4.42	(+15.09 M)	14,39,073
20	07-08-2004	10.10	3.08	(+13.75 M)	7,35,874
21	21-09-2005	19.40	5.91	(+16.58 M)	22,08,973
22	07-08-2006	22.80	6.95	(+17.62 M)	28,50,664
23	10-08-2007	15.10	4.60	(+15.27 M)	15,56,720
24	07-08-2008	12.60	3.84	(+14.51 M)	11,86,542
25	30-08-2009	9.90	3.02	(+13.69 M)	3,91,357
26	09-08-2010	17.95	5.47	(+16.14 M)	20,05,299
27	03-09-2011	11.30	3.44	(+14.11 M)	9,80,478
28	23-08-2012	13.00	3.96	(+14.63 M)	12,10,825
29	04-08-2013	19.00	5.79	(+16.46 M)	21,18,170
30	09-09-2014	16.10	4.91	(+ 15.57M)	16,56,782
31	23-06-2015	10.00	3.05	(+ 13.72M)	8,08,287
32	13-07-2016	14.80	4.51	(+ 15.18 M)	14,70,903
33	22-07-2017	9.40	2.86	(+ 13.53 M)	566324
34	22-08-2018	15.35	4.68	(+15.35 M)	1529130
35	10-08-2019	15.60	4.75	(+15.42 M)	1561404
<b>Note : Crest Level of S.A.C. Barrage : + 35.00 Ft. (10.67 M)</b>					

## APPENDIX - A

### **List of Irrigation Officers to whom the flood Messages will be sent when flood is 3.58 M + 11.75 ft. over the sill of the Barrage at Dowlaiswaram.**

Assistant Conservators / Executive Engineers	:	01 Godavari Eastern Division, Dowlaiswaram 02 Godavari Central Division, Dowlaiswaram 03 Godavari Western Division, Nidadavole. 04 Y.I. Division, Peddapuram 05 Drainage Division, Kakinada 06 Drainage Division, Bhimavaram
Flood Superintendents / Deputy Executive Engineers	:	01 Gowthami Sub-Division, Dowlaiswaram 02 Head Works & Supplies Sub-Division, Dowlaiswaram 03 Vasistha Sub-Division, Razole. 04 Irrigation Sub-Division, Amalapuram 05 Irrigation Sub-Division, Gannavaram 06 Irrigation Sub-Division, Narsapur 07 Irrigation Sub-Division, Ramachandrapuram 08 Irrigation Sub-Division, Kotipalli 09 I.S.R.M.S. Sub-Division-I, Kovvur 10 I.S.R.M.C. Sub-Division-II, Jagareddigudem 11 Drains Sub-Division, Razole 12 Drains Sub-Division, Amalapuram 13 Irrigation Sub-Division, Rajamahendravaram
Flood Section Officers / Assistant Engineers / Assistant Executive Engineers	:	01 A.G.L.B. Section, Rajamahendravaram 02 V.N.P. Scheme, Rajamahendravaram 03 Head Works Section, Dowlaiswaram 04 A.G.R.B. Section, Kovvur 05 Irrigation Section, Chettipeta 06 Irrigation Section, Polavaram 07 Quarry Section, Dowlaiswaram 08 VLB Upper Section, Gopalapuram 09 Irrigation Section, Gopalapuram 10 Irrigation Section, Tatipaka 11 V.L.B. Lower Section, Razole

Assistant Engineers /	12 Irrigation Section, Razole
Assistant Executive Engineers	13 V.R.B. (U) Section, Sidhantam
	14 Irrigation Section, Sidhantam
	15 Torrigedda Pumping Scheme.
	16 Irrigation Section, Amalapuram
	17 Irrigation Section, Peravali
	18 V.R.B. (L) Section, Narasapur
	19 Irrigation Section, Narasapur
	20 Irrigation Section, Amalapuram
	21 Irrigation Section, Tallarevu
	22 Gokavaram Section (G.C. Divn.), Gokavaram.
	23 Irrigation Section, Marteru
	24 G.R.B. (U) Section, Kothapeta
	25 Irrigation Section, Kothapeta
	26 Irrigation Section, Mukteswaram
	27 Irrigation Section, Inapuram
	28 G.R.B. (L) Section, Muramalla
	29 P.I.P. Section Irrigation, Muramalla
	30 G.L.B. (U) Section, Alamuru
	31 G.L.B. (L) Section, Kotipalli.
	32 Irrigation Section, Aalamuru

Note: Irrigation Department Section Officers must send warning to all flood duty sub sectional Officers under their orders in addition to the above 'A', message if being sent to the following Officers.

01. The District Collector, East Godavari District, Kakinada
02. The District Collector, West Godavari District, Eluru
03. Chief Engineer Godavari Delta System, Dowlaiswaram
04. Superintending Engineer, Irrigation Circle, Dowlaiswaram
05. Divisional Engineer, II Railway Bridge, Rajamahendravaram
06. Agricultural Engineer, I.A.D.P., Tadepalligudem
07. Regional Transport Officer, Eluru
08. Regional Transport Officer, Kakinada
09. Superintendent of Police, East Godavari District, Kakinada
10. Superintendent of Police, West Godavari District, Eluru
11. Dy. Superintendent of Police, Eluru, Kakinada, Narasapuram, Jangareddygudem, Kovvur, Rajamahendravaram and Amalapuram.

12. Municipal Commissioner, Rajamahendravaram
13. Grain Purchasing Officer, Rajamahendravaram
14. District Medical & Health Officer, Eluru and Kakinada
15. Executive Engineer, R & B N.H. Division, Rajamahendravaram
16. Superintendent of Police Urban, Rajamahendravaram

**Further, the fact of issuing of 1st warning is being intimated to the following Officers :**

01. Engineer-in-Chief (Administration), Vijayawada, Andhra Pradesh.
02. Engineer-in-Chief (Irrigation), Vijayawada/ Chief Engineer, Godavari Delta System Dowlaiswaram.
03. The District Collectors East and West Godavari Districts and Khammam.
04. Superintendent of Police, East and West Godavari Districts and Urban Rajamahendravaram
05. Sub-Collector, Rajamahendravaram
06. Revenue Divisional Officers, Narasapur, Kovvur, Jangareddygudem, Amalapuram and Kakinada.
07. Deputy Superintendent of Police, Rajamahendravaram, Kovvur, Amalapuram, Jangareddygudem, Narasapur and Kakinada.
08. Sub-Collector, Yetapaka Division.
09. Executive Engineer, S.M.I. Division, Rampachodavaram.
10. Station Director, All India Radio, Vijayawada.
11. T.V. News Channels.
12. Superintendent of Police, Urban, Rajamahendravaram.

## **APPENDIX - B**

**List of Revenue Department Officers and Officers of Zilla Praja Parishad and Mandal Praja Parishad to who flood message will be sent when flood level is +11.75 ft. (3.58 M) over sill of Barrage.**

### **I. Revenue Divisional Officers :**

#### **EAST GODAVARI DISTRICT**

- 01 Rajamahendravaram
- 02 Amalapuram
- 03 Kakinada
- 04 Ramachandrapuram

#### **WEST GODAVARI DISTRICT**

- 01 Narsapur
- 02 Kovvur
- 03 Bhadrachalam
- 04 Jangareddigudem

### **II. Tahsildars :**

#### **EAST GODAVARI DISTRICT**

- 01 Rajamahendravaram (Town)
- 02 Rajamahendravaram (Rural)
- 03 Seethanagaram
- 04 Devipatnam
- 05 Kadium
- 06 Alamuru
- 07 Kapileswarapuram
- 08 K. Gangavaram
- 09 Tallarevu
- 10 Atreyapuram
- 11 Ravulapalem
- 12 Kothapeta
- 13 Razole
- 14 Mummidivaram
- 15 Katrenikona
- 16 I. Polavaram
- 17 P. Gannavaram
- 18 Sakshinetipalli
- 19 Malkipuram
- 20 Mamidikuduru
- 21 Ambajipeta
- 22 Allavaram
- 23 Amalapuram
- 24 Inavalli
- 25 Ramachandrapuram
- 26 Kajuluru

#### **WEST GODAVARI DISTRICT**

- 01 Kovvuru
- 02 Tallapudi
- 03 Polavaram
- 04 Nidadavole
- 05 Pervali
- 06 Penugonda
- 07 Achanta
- 08 Yelamanchali
- 09 Narsapuram
- 10 Poduru



### **III. Mandal Development Officers:**

01	Kapileswarapuram	13	I. Polavaram
02	Mummidivaram	14	Devipatnam
03	Kothapeta	15	Polavaram
04	Korukonda	16	Tallapudi
05	Pamaru	17	Kovvur
06	Rampachodavaram	18	Nidadavole
07	Rajanagaram	19	Peravali
08	Amalapuram	20	Penugonda
09	Gannavaram	21	Achanta
10	Razole	22	Yelamanchili
11	Talalerevu	23	Narsapur
12	Mummidivaram	24	Poduru

### **IV. Mandal Co-operative Officers**

01	Kothapeta	06	I. Polavaram
02	Atreyapuram	07	Tallarevu
03	Ravulapalem	08	P. Gannavaram
04	Inavalli	09	Sakhinetipalli
05	Katrenikona	10	Mamidikuduru

### **V. Mandal Education Officers:**

01	Atreyapuram	03	I. Polavaram
02	P. Gannavaram		

### **VI. Mandal Engineering Officers:**

01	I. Polavaram	02	Tallarevu
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### **Note :**

01. The telegram to be sent should be classed as "EXPRESS"
02. Tahsildars will be responsible for issue warnings to the Mandal Revenue Inspectors under their control, who are designated as flood Section Officers.
03. Mandal Development Officers will discharge the duties in place of Tahsildars if necessary.

## APPENDIX - C

List of Officers to whom flood messages will be sent when flood is +13.75' (4.20M) over the sill of the Barrage.

### Telephone Message to

01. The District Collector, West Godavari District, Eluru
02. The District Collector, East Godavari District, Kakinada
03. The District Collector, Khammam
04. Revenue Divisional Officer, Bhadrachalam
05. Engineer-in-Chief (Admn. Wing), Vijayawada.
06. Engineer-in-Chief (Irrigation Wing, Vijayawada.

### Telephone Messages to

01. Executive Engineer, Godavari Eastern Division, Dowlaiswaram
02. Executive Engineer, Godavari Central Division, Dowlaiswaram
03. Executive Engineer, Godavari Western Division, Chittipeta, Nidadavolu.
04. Executive Engineer, Yeluru Division, Peddapuram
05. Executive Engineer, I.S.R.M. Canal Division, Kovvur
06. Executive Engineer, Drainage Division, Bhimavaram.

Telegrams will be sent if telephone connections are not available.

### Revenue Divisional Officers

01. Rajamahendravaram
02. Kakinada
03. Amlapuram
04. Ramachandrapuram
05. Kovvur
06. Narasapur
07. Jangareddigudem

- Note: 1) Telephone message to be sent should be classed as "URGENT"  
In addition to the above message will be sent to all the officers mentioned in Appendix 'A'.
- Note: 2) Further Telephone message are to be sent about flood situation when the flood level over sill of Barrage 16.75 (5.10M)

### FLOOD CONTROL

- |    |  |                     |
|----|--|---------------------|
| a) | Engineer in Chief, C.W.C. Hyderabad.                   | Ph : 23308640       |
| b) | Superintending Engineer, C.W.C., Hyderabad.            | Ph : 040 - 23308646 |
| c) | Executive Engineer, C.W.C., L.G. Division Hyderabad.   | Ph : 040 - 23308649 |
| d) | Engineer-in-Chief, Irrigation, (F.C. Room) Vijayawada. | Ph :                |

<b>APPENDIX - D</b>				
Statement showing the list of Flood Stores in <b>East Godavari District</b>				
Sl. No.	Name of the Flood Bank	Kilo meter	Name of the Station which Flood stores to be located.	Area covered by the flood stores.
<b>01</b>	<b>02</b>	<b>03</b>	<b>04</b>	<b>05</b>
<b>I.</b>	<b>CENTRAL FLOOD STORES :</b>			
01	Akhanda Godavari Left Bank	K.M. 9.600	Rajahmundry	K.M. 0.000 to 41.735 of A.G.L.B.
02	Gowthami Left Bank	K.M.26.800 /27.000	Kapileswarapuram	K.M. 0.000 to 34.000 of G.L.B.
03	Gowthami Left Bank	K.M.42.600 to 42.800	Kotipalli	K.M. 34.000 to 63.600 of G.L.B.
04	Gowthami Right Bank	K.M.13/4-6	Ryali Lock	K.M. 0.000 to 51.000 of G.R.B.
05	Gowthami Right Bank	K.M.63.000	Annampalli	K.M. 51.000 to 85.100 of G.R.B.
06	Polavaram Island Project	PIP flood bank	Muramalla	K.M. 0.000 to 40.500 of P.I.P. Bank K.M.38.600
07	Vasistha Left Bank	K.M.62.006	Razole	K.M. 43.300 to 90.610 of V.L.B.

<b>APPENDIX - D</b>				
Statement showing the list of Flood Stores in <b>West Godavari District</b>				
Sl. No.	Name of the Flood Bank	Kilo meter	Name of the Station which Flood stores to be located.	Area covered by the flood stores.
<b>01</b>	<b>02</b>	<b>03</b>	<b>04</b>	<b>05</b>
<b>I.</b>	<b>CENTRAL FLOOD STORES :</b>			
01	Akhanda Godavari Right Bank	K.M. 9.600	Kovvur	K.M. 0.200 to 20.000 of A.G.R.B.
02	Vasistha Right Bank	K.M. 20.000	Kakaraparru	K.M. 0.000 to 24.000 of V.R.B.
03	Vasistha Right Bank	K.M. 34.000	Sidhantham	K.M. 24.000 to 45.400 of V.R.B.
04	Vasistha Right Bank	K.M. 75.000	Narsapur	K.M. 59.600 to 90.200 of G.R.B.

**Note:**

Due to insufficient man power such as watchmen and lascar, The permanent flood stores and additional flood stores for closed temporarily.

The material to be place in permanent and additional flood stores was kept in central flood store only. The material required for emergency works will be the conveyed from the central flood store only. Action will be taken accordingly.

Sl. No.	Description of Material	Central Flood Stores
01	Empty Cemenet Bags or Gunny Bags	44,000 Nos.
02	Casurina Piles	2,000 Nos.
03	Bamboos	2,000 Nos.
04	Sand	770 cum
05	Country Twine	32 Kgs.
06	Coir Rope	180 Kgs.
<b>TOOLS</b>		
01	Torch Lights	36 Nos.

<b>STATEMENT SHOWING THE LIST OF TELEPHONE / MOBILE NUMBERS OF FLOOD DUTY OFFICERS</b>				
Sl. No.	Designation of the Officer.	Reach	Mobile No.	Office/Residence Ph.No.
1	Collector & District Megistrate, East Godavari District, Kakinada	-----	7993332244	0884-2365424(O) 0884-2361300(R)
2	Collector & District Megistrate, West Godavari District, Eluru	-----	9491041488	08812-230050(O) 08812-231844(R)
3	Joint Collector, East Godavari District, Kakinada		9849903919	0884-2361700(O)- 0884-2361500 ('R)
4	Joint Collector, West Godavari District, Eluru	-----	9491041415	08812-230471(O) - 08812-230373(R)
5	Sub Collector/Revenue Divisional Officer, Rajamahendravaram	-----	9849903863	0883-2442344(O) - 0883-2461400(R)
6	Sub Collector/Revenue Divisional Officer, Kakinada	-----	9849903864	0884-2368100 (O)
7	Sub Collector/Revenue Divisional Officer, Amalapuram	-----	9849903866	08856-233100(O) - 08856-233101(R)
8	Sub Collector/Revenue Divisional Officer, Jangareddygudem	-----	9491041426	08821-223660(O)
9	Sub Collector/Revenue Divisional Officer, Kovvur	-----	9491041425	08813-231488(O) - 08813-233944(R)
10	Sub Collector/Revenue Divisional Officer, Narsapuram	-----	9491041423	08814-276699(O) - 08814-274577(R)
11	Sub Divisional Engineer, Central Water Commission, Rajahmundry	-----		0883-2468753 (O)

**STATEMENT SHOWING THE LIST OF TELEPHONE / MOBILE NUMBERS OF FLOOD DUTY OFFICERS.**

Sl. No.	Designation of the Officer.	Reach	Mobile No.	Office/Residence Ph.No.
<b>01</b>	River Coservator and Superintending Engineer, Irrigation Circle, Dowlaiswaram	As per G.O. Ms. No. 138 dated 16.8.2004 the Superintending Engineer, Irrigation Circle, Dowlaiswaram will be the River Conservator after attaining 17.00 Lakhs cusecs of Flood in River Godavari	9490741146	0883-2417419
<b>02</b>	River Conservator and Executive Engineer, Godavari Head Works Divison, Dowlaiswaram	As per G.O.Ms.No. 138, dt. 16.8.2004 the Executive Engineer, Godavari Head Works Divison, Dowlaiswaram as River Conservator upto Second warning stage.	9491058002 9949083565	0883-2417066
<b>03</b>	Assistant Conservator and Executive Engineer, Godavari Eastern Division, Dowlaiswaram.	K.M. 0/0 to 41/8 of AGLB K.M.0/0 to 0/13 and 0/0 to 1/80 of Angaluru flood bank K.M.0/0 to 63/4 of GLB K.M. 0/0 to 9/8 of Girijanapeta flood bank K.M. 0/0 to 5/8 of Tallarevu flood bank.	9491058003	0883-2417140
<b>04</b>	Assistant Conservator and Executive Engineer, Godavari Central Division, Dowlaiswaram	K.M. 0/0 to 90/6 of VLB K.M. 0/0 to 28/5 of Vy. L.B.K.M. 0/0 to 28/2 of Vy. R.B.	8500972524 9491058004	0883-2417461
<b>05</b>	Assistant Conservator and Executive Engineer, Drainage Division, Kakinada.	K.M. 0/0 to 40/6 of PIPK.M. 0/0 to 85/1 of GRB	9491058007	0884 - 2378784
<b>06</b>	Assistant Conservator and Executive Engineer, Godavari Western Division, Nidadavolu.	K.M. 0/0 to 40/2 of AGRB	9490151001	
<b>07</b>	Assistant Conservator and Executive Engineer, Drainage Division, Bhimavaram.	K.M. 0/0 to 90/2 of VRB	9491066988	08816-234197
<b>08</b>	Flood Superintendent and Deputy Executive Engineer, Irrigation Sub-Division, Rajahmundry	K.M. 0/0 to 41/8 of AGLB and Angaluru flood bank.	9494954697 9491058018	0883-2475776
<b>09</b>	Flood Superintendent and Deputy Executive Engineer, Irrigation Sub-Division, Ramachandrapuram	K.M. 0/0 to 33/6 of GLB	9491058014	08857 - 242430

<b>Sl. No.</b>	<b>Designation of the Officer.</b>	<b>Reach</b>	<b>Mobile No.</b>	<b>Office/Residence Ph.No.</b>
<b>10</b>	Flood Superintendent and Deputy Executive Engineer, Irrigation Sub-Division, Kotipalli	K.M. 33/6 to 63/4 of GLB K.M. 0/0 to 5/8 of Tallarevu flood bank K.M. 0/0 to 9/8 of Girijanapeta flood bank	8500035056	08857-255427
<b>11</b>	Flood Superintendent and Deputy Executive Engineer, Gowthami Sub-Division, Dowlaiswaram	K.M. 0/0 to 44/8 of GRB	9348399222	
<b>12</b>	Flood Superintendent and Deputy Executive Engineer, Irrigation Sub-Division, Amalapuram	K.M. 44/8 to 85/100 of GRB	9618960478	08856 - 236850
<b>13</b>	Flood Superintendent and Deputy Executive Engineer, Drainage Sub- Division, Amalapuram	K.M. 0/0 to 40/6 of PIP flood bank	9491058029	
<b>14</b>	Flood Superintendent and Deputy Executive Engineer, Irrigation Sub-Division, Gannavaram	K.M. 0/0 to 49/3 of VLB	9491058017	08856 - 288256
<b>15</b>	Flood Superintendent and Deputy Executive Engineer, Vasistha Sub-Division, Razole.	K.M. 49/3 to 90/6 of V.L.B. K.M. 0/0 to 28/2 of Vy. R.B.	9704666777	08862-221062
<b>16</b>	Flood Superintendent and Deputy Executive Engineer, Drainage Sub-Division, Razole.	K.M. 0/0 to 28/5 of Vy. L.B.	9491058028	
<b>17</b>	Flood Superintendent and Deputy Executive Engineer, I.S.R.M.C. Sub-Division, Kovvuru	K.M. 0/0 to 40/2 of A.G.R.B.	9440908035, 9493050545	
<b>18</b>	Flood Superintendent and Deputy Executive Engineer, ISRMC Sub-Division, Jangareddigudem	K.M. 0/0 to 45/4 of V.R.B.	9440908045	
<b>19</b>	Flood Superintendent and Deputy Executive Engineer, Irrigation Sub-Division, Narasapuram	K.M.45/4 to 90/2 of V.R.B.	9441385867	08814-275849

## **APPENDIX 'F'**

01. For anyone who is unaware of the magnitude of a high river flood, the simple sight of marginal erosion and slips may appear to be alarming. Such simple problems can be tackled by taking proper protective measure. The officers must use their prudence and give messages to higher officers, panicky messages should not be sent on simple issues. Such a thing does more harm than good, in as much as it diverts the attention of the concerned Officers from other works of greater importance. A brief note explaining when a situation may be considered dangerous and few suggestions as to what is to be done are noted below. These are not exhaustive but are noted down only for guidance of the flood duty Officers.
02. Breaches in banks generally occur due to one of the two causes viz., (1) due to the water current setting in towards the banks and eroding away the bank slowly and bodily and (2) due to percolation through the bank slowly increasing the hole and consequently the bank breaching. In the 1st case, as soon as the scour approaches the toe of the bank the front slope will start falling away in big chunks and very soon longitudinal cracks will start appearing on the bank. The scour must be prevented by dumping sand bags and stone if available. The slope must be protected by means of bush wood edging in the same time the bank in the rear shall be protected i.e. the front slope which is falling down rapidly must be cut and thrown in the rear and the bank widened, or a temporary diversion bank may be formed in the rear. If sufficient labour is employed, to form the new bank in the rear at a faster rate than it is being scoured, a breach can be averted Success in such a case will depend on sufficient number of labour being available and earth being found nearby.
03. Percolation through holes may be due to:
- a) Holes made by rats or other animals existing in the bank.
  - b) Poor Junction of the new soil of the bank with natural soil of the foundations.
  - c) Cracks formed during summer not yet closed by rainy season.
  - d) Percolation caused by water pressure in bank of previous soils. The cause sometimes leads to breaches occurring even at places, where the river margin is comparatively wide and the bank apparently safe. The mouth of these leaks are on the river side and will not generally be visible but they can be approximately located by observing the outlets on the land side which will be either (a) on the slope of the bank itself or, (b) on the rear ground appearing in the form of sand boils working up through the "Sub-soil"



If the leakage is continuous for long, without being stopped, the bank will slip on the land side producing longitudinal cracks along top or rear slope of bund, and this if unchecked will result in breaching the bank. It will thus be seen that if leakages are allowed without being stopped in the beginning they will give serious trouble at a later stage and a careful watch over these is therefore essential and necessary.

If longitudinal cracks are found on the top of the bank on account of slipping, they should not be filled up by throwing earth into them as due to this the slipped rear half will only be wedged out from the main bank. Remedial measures to stop the leaks are effective only if the mouth of the leak is closed. Closing the outlet on the land side is impossible and it is therefore useless to attempt it. Gunny bags filled with earth or sand should be thrown on the river side where the mouth of these leaks is expected to be. The leaks on the river side are not likely to be closed by throwing of earth as the current will not allow it to stop at the place where it is thrown. Hence stakes are to be driven on the river side parallel to the bank where the mouth of the leak is expected to be with suitable connections to bank. Sand bags are to be placed adjacent to the walling created with stakes. Then the gap between the sand bags and the bank should be filled up with earth if available or else with sand bags only. If the bund shows signs of slipping on the land side, it should be stopped by putting up a row of piles with a mat about three feet from the rear toe of the bank and forming a rear berm.

<b>STATEMENT SHOWING THE LIST OF OUTFALL SLUICES IN EAST GODAVARI DISTRICT</b>		
Sl. No.	Chainages	Village
	<b>AKHANDA GODAVARI LEFT FLOOD BANK</b>	
01	K.M. 2.600 at Ava Channel	Dowlaiswaram
02	K.M. 9.600 & 9.842	Aryapuram (Rajamahendravaram)
03	K.M. 11.820	Vootalanka (Rajamahendravaram)
04	K.M. 13.190	Jallacalva
05	K.M. 18.400	Terrigedda
06	K.M. 35.000	Vangalapudi
07	K.M. 41.375	Angaluru
	<b>VASISTA LEFT FLOOD BANK</b>	
08	K.M. 23.450	Kattunga
09	K.M. 31/4-5	Gopalapuram
10	K.M. 72/4-6	Pedatippa
11	K.M. 87/0-2	Gondi
12	K.M. 88/6-8	Antervedi
	<b>VYNATHEYAM LEFT FLOOD BANK</b>	
13	K.M. 7.285	R. Yenugupalli
14	K.M. 7.512	Katarilanka
15	K.M. 9.126	K. Munjavaram
16	K.M. 12.050	Thondavaram
17	K.M. 13.200	Vakalagaruvu
18	K.M. 17.800	Gopayalanka
	<b>VYNATHEYAM RIGHT FLOOD BANK</b>	
19	K.M. 21/2-4	Vadabodi
20	K.M. 21/4-6	Bachalabanda
21	K.M. 24/4-6	Kadali
	<b>GOWTHAMI LEFT FLOOD BANK</b>	
22	K.M. 46.700	Kotga
23	K.M. 60.400	Aratikayalanka
24	Coringa Regulator	Yanam
25	K.M. 1.400 of Girijanapeta flood bank	Neelapalli
26	K.M. 9.800 of Girijanapeta flood bank	Girijanapeta

Sl. No.	Chainages	Village
	<b>GOWTHAMI RIGHT FLOOD BANK</b>	
27	K.M. 5.353	Peravaram
28	K.M.5.400	Velicheru
29	K.M. 9.810	Vaddiparru
30	K.M. 28.210	Mandapalli
31	K.M. 69.690	Inapuram
32	K.M. 70/0-2	Inapuram
33	K.M. 72.100	Kunchanapalli
34	K.M. 78.982	Pallamkurru
30	K.M. 28.210	Mandapalli
31	K.M. 69.690	Inapuram
32	K.M. 70/0-2	Inapuram
33	K.M. 72.100	Kunchanapalli
34	K.M. 78.982	Pallamkurru
35	K.M. 79.450	Pallamkurru
36	K.M. 79.816	Mokkalatippa
37	K.M. 81.769	Gollagaruvu
38	K.M. 83.254	Gollagaruvu
	<b>P.I.P. FLOOD BANK</b>	
39	Km 2.000	Pasuvullanka
40	K.M. 3.000	Pasuvullanka
41	K.M. 5.240	Komaragiri
42	K.M. 5.791	Pathainjaram
43	K.M. 13.947 (NAC Lock)	Guttenadeevi
44	K.M. 15.400	G. Vemavaram
45	K.M. 16.424	Guttenadeevi
46	K.M. 17.138	G. Vemavaram
47	K.M. 18.890	G. Moolapolam
48	K.M. 19.827	G. Moolapolam

Sl. No.	Chainages	Village
49	K.M. 22.450	T. Kothapalli
50	K.M. 24.116	Tillakuppa
51	K.M. 25.200	Kesanakurru
52	K.M. 27.680	Kesanakurru
53	K.M. 29.846	Kesanakurru
54	K.M. 37.300	Muramalla

STATEMENT SHOWING THE LIST OF OUTFALL SLUICES IN WEST GODAVARI DISTRICT		
Sl. No.	Chainages	Village
	<b>AKHANDA GODAVARI RIGHT FLOOD BANK</b>	
01	K.M. 40.120 (Kademma Outfall sluice)	Polavaram
	<b>VASISTA RIGHT FLOOD BANK</b>	
02	K.M. 59/4-6	Siragarapalli
03	K.M. 62/4-6	Yelmanchili
04	K.M. 66/8-67/0	Chinchinada
05	K.M. 70/2-4	Navarasapuram
06	K.M. 74/0-2	Madhavayapalem
07	K.M. 79/8-9	Muskepalem
08	K.M. 84/4-6	Dharbarevu
09	K.M. 90/0-2	Biyyaputippa

**APPENDIX – G**  
STATEMENT SHOWING THE VULNERABLE POINTS IN  
**EAST GODAVARI DISTRICT**

Sl. No	Chainages	Village
	<b>Akhanda Godavari Left Flood Bank</b>	
01	From K.M. 1.200 to 1.400	Dowlaiswaram
02	From K.M. 4.000 to K.M. 5.000	Alcot Gardens, Rajahmundry
03	From K.M. 15.600 to K.M. 16.400	Venkatanagaram
04	From K.M. 19.000 to K.M. 20.400	Bobbilanka
05	From K.M. 22.000 to 23.500	Katavaram
06	From K.M. 37.000 to 38.000	Ramachandrapuram
	<b>Vasista Left Flood Bank</b>	
01	From K.M. 48.500 to K.M. 48.900	L.Gannavaram village
02	From K.M. 49.500 to K.M. 50.100	Mondepulanka
03	From K.M. 57.850 to K.M. 57.950	Vadrevupalli
04	From K.M. 58.100 to K.M. 59.300	Tatipaka
05	From K.M. 59.800 to K.M. 60.150	Podalada
06	From K.M. 60.300 to K.M. 61.700	Razole
07	From K.M. 62.330 to K.M. 62.750	Razole
08	From K.M. 63.333 to K.M. 64.200	Razole
09	From K.M. 70.2000 to K.M. 71.000	Ramarajulanka
10	From K.M. 71.000 to K.M. 74.100	Ramarajulanka and Pedatippa
11	From K.M. 74.100 to K.M. 79.200	Sakhinetipalli
12	From K.M. 80.300 to K.M. 80.600	Sakhinetipalli

Sl. No	Chainages	Village
	<b>Vynetheyam left Flood Bank</b>	
01	From K.M. 6.000 to K.M. 7.000	R. Yenugupalli
	<b>Vynetheyam Right Flood Bank</b>	
01	From K.M. 22.800 to K.M. 23.000	Adurru
	<b>Gowthami Left Flood Bank</b>	
01	From K.M. 1.600 to K.M. 1.800	Vemagiri
02	From K.M. 34.400 to K.M. 35.700	Kulla
03	From K.M. 40.600 to K.M. 40.830	Sundarapallii
04	From K.M. 43.600 to K.M. 44.700	Kotipalli and Kota
	<b>Gowthami Right Flood Bank</b>	
01	From K.M. 3.000 to 3.400	Peravaram
02	From K.M. 6.900 to 7.100	Velicheru
03	From K.M. 7.400 to K.M. 9.200	Vaddiparru
04	From K.M. 77.350 to K.M. 78.000	Boolavarimondi
	<b>P.I.P. Flood Bank</b>	
01	From K.M. 39.000 to K.M. 40.575 & K.M. 00.000 to K.M. 00.100	Pasupulanka
02	From K.M.8.200 to 8.600	Yedurulanka
03	From K.M.19.700 to K.M.20.200	G.Merlapalem
04	From K.M.29.200 to K.M. 29.600	Kesanakurru
05	From K.M.37.000 to K.M. 37.500	Muramalla

## APPENDIX – G

### STATEMENT SHOWING THE VULNERABLE POINTS IN **WEST GODAVARI DISTRICT**

Sl. No	Chainages	Village
	<b>Akhanda Godavari Right Flood bank</b>	
01	From Km 1.200	Vadapalli
02	From Km 15/0-2	Kumaradevam
03	From Km 31.150 to 33.500	Gutala
04	From Km 34/6-8	Pattiseema
05	From Km 37.400 to 40.200	Neckless bund (Polavaram)
06	Kademma Outfall sluice	Polavaram
	<b>Vasista Right Flood Bank</b>	
01	From Km 0.900 to Km 1.35	Vizzaswaram
02	From Km 51.025 to Km 51.350	Burugupalli
03	From Km 53.150 to Km 53.425	Doddipatla
04	From Km 55.000 to Km 55.600	Abbirajupalem
05	From Km 55.600 to Km 57.000	Abbirajupalem
06	From Km 57.000 to Km 57.600	Gangadupalem
07	From Km 57.600 to Km 58.000	Lakshmipalem
08	From Km 58.000 to Km 58.800	Lakshmipalem
09	From Km 58.800 to Km 59.400	Siragarapalli
10	From Km 70.700 to Km 71.100	Navarasapuram
11	From Km 74.700 to Km 75.000	Madhavayapalem
12	From Km 80.800 to Km 81.100	Rajullanka

The following are the openings in the dowel bank which are vulnerable and formed for Sand Ramps, Bathing Ghats and Cattle Ramps and for Agricultural activities.

Sl. No	Chainages	Village
<b>East Godavari District</b>		
	<b>Akhanda Godavari Left Bank</b>	
1	K.M. 13.000 to 13.100	Katheru
2	K.M. 23.900 to 24.000	Munikudali
3	K.M. 25.200 to 25.300	Vedullapalli
4	K.M. 27.200 to 27.400	Muggalla
5	K.M. 31.000 to 32.000	Seethanagaram
	<b>West Godavari District</b>	
	<b>Akhanda Godavari Right Bank</b>	
1	K.M. 0.600 to 0.800	Madduru
2	K.M. 1.600 to 1.800	Vadapalli
3	K.M. 1.900 to 2.100	Vadapalli
4	K.M. 2.400 to 2.600	Vadapalli
5	K.M. 2.800 to 3.000	Vadapalli
6	K.M. 3.000 to 3.200	Vadapalli
7	K.M. 4.400 to 4.600	Vadapalli
8	K.M. 4.600 to 4.800	Vadapalli
9	K.M. 5.600 to 5.800	Aurangabad
10	K.M. 5.800 to 6.000	Aurangabad
11	K.M. 7.400 to 7.800	Kovvuru
12	K.M. 7.800 to 8.000	Kovvuru
13	K.M. 8.200 to 8.400	Kovvuru
14	K.M. 8.800 to 9.000	Kovvuru
15	K.M. 9.000 to 9.200	Kovvuru
16	K.M. 9.400 to 9.600	Kovvuru
17	K.M. 10.200 to 10.400	Kovvuru
18	K.M. 11.400 to 11.600	Kovvuru



Sl. No	Chainages	Village
19	K.M. 13.400 to 13.600	Arikirevula
20	K.M. 13.600 to 13.800	Arikirevula
21	K.M. 13.800 to 14.00	Arikirevula
22	K.M. 14.200 to 14.400	Arikirevula
23	K.M. 15.900	Kumaradevam Lift Irrigation scheme
24	K.M. 16.00 to 16.200	Kumaradevam
25	K.M. 16.500 to 16.700	Kumaradevam
26	K.M. 17.400 to 17.600	Kumaradevam
27	K.M. 18.200 to 18.400	Chidipi
28	K.M. 20.200 to 20.400	Chidipi
29	K.M. 21.400 to 21.600	ballipadu
30	K.M. 22.600 to 22.800	Vegeswarapuram
31	K.M. 23.00 to 23.200	Vegeswarapuram
32	K.M. 23.400	Vegeswarapuram Lift Irrigation scheme
33	K.M. 24.000 to 24.200	Tallapudi
34	K.M. 24.200 to 24.400	Tallapudi
35	K.M. 24.800 to 25.00	Tallapudi
36	K.M. 25.200 to 25.400	Prakkilanka
37	K.M. 27.200 to 27.400	Tadipudi
38	K.M. 28.400 to 28.600	Tadipudi
39	K.M. 28.600 to 28.800	Tadipudi
40	K.M. 29.200 to 29.400	Gutala
41	K.M. 30.00 to 30.200	Gutala
42	K.M. 31.00 to 31.200	Gutala
43	K.M. 34.200 to 34.400	Pattiseema
44	K.M. 34.300	Gutala Lift Irrigation scheme
45	K.M. 34.400 to 34.600	Pattiseema
46	K.M. 34.400 to 34.600	Pattiseema
47	K.M. 35.400 to 35.600	Pattiseema
48	K.M. 36.400 to 36.800	Pattiseema Lift Irrigation Scheme
49	K.M. 37.000 to 37.200	Krishnarao peta

**Details of Boats/ Launches for emergency purpose :**

The Port Officer Kakinada vide reference letter no.PC/IV/List of boats/2020 dated:02-01-2020. Informed that all the passenger boats/launches were inspected and deficiency list (form-5) is issued to owners/ operators of boats. As per the Port Officer's report, there is no licensed passenger boat/ launches to fly in the River Godavari during floods.

**APPENDIX - I****Statement No. VII****Statement Showing the Villages liable for Submersion in floods on downstream of S.A.C Barrage Floods in East Godavari District**

Sl. No.	Name of the Village	Mileage of the	Submergible level Flood Bank	Jurisdiction of RDO	Name of the Rehabilitation Centre
01	02	03	04	05	06
01	BurugulankaH/o. Gondi Village	K.M. 3519 to 38/0 of VLB	Vasistha Left Flood Bank Submergible at water level between 13.75 and 21.75 Barrage	Revenue Divisional Officer, Amalapuram	Z.P. Samithi School at Gondi Village
02	Pedapudilanka (Midstreamlanka) H/o Pedapudi	K.M. 35/8 to 38/0 of VLB	- do -	- do -	Z.P. Samithi School at Pedapudi Village
03	Udimudilanka H/o Udimudi Village	K.M. 39/2 to 40/0 of VLB	- do -	- do -	Z.P. Samithi School at Udimudi Village
04	L. Gannavaram Village	K.M. 48/4 to 49/0 of VLB	Submergible at water level between 13.75 I and 21.75 Barrage.	- do -	Z.P. Samithi School at L.Gannavaram Village
05	Mondepulanka	K.M. 49.000 to 53.000	- do -	- do -	Z.P. Samithi School at Mondepulanka Village
06	Nagullanka	K.M. 53.000 to 55.000	- do -	- do -	Z.P. Samithi School at Nagullanka Village
07	Tatipaka	K.M. 57.000 of 58.000 of VLB	- do -	- do -	Z.P. Samithi School at Tatipaka Village
08	Tatipaka Mattam	K.M. 58.000 to 59.000	- do -	- do -	Z.P. Samithi School at Tatipaka Village
09	Podalada	K.M. 59.000 to 59.600	- do -	- do -	Z.P. Samithi School at Podalada Village
10	Sompalli	K.M. 59.600 to 60.800	- do -	- do -	Z.P. Samithi School at Sompalli Village
11	Razolu Village Pallipalem	K.M. 60.8 to 63.8	- do -	- do -	Z.P. Samithi School at Razole Village
12	Ramarajulanka	K.M. 69.000 to 72.000	- do -	- do -	Z.P. Samithi School at Ramarajulanka Village

Sl. No.	Name of the Village	Mileage of the	Submergible level Flood Bank	Jurisdiction of RDO	Name of the Rehabilitation Centre
13	Applamururlanka	K.M. 73.600 to 74.000 of VLB	- do -	- do -	Z.P. Samithi School at Takisettipalem Village
14	Sakhinetipalli	K.M. 74.000 to 80.000	- do -	- do -	Z.P. Samithi School at Sakhinetipalli Village
15	L. Gannavaram	K.M. 0.000 to 1.000	Vasista Left Flood Bank Submergible at water level between 15.75' and 19.75' Barrage	Revenue Divisional Officer, Amalapuram P & L,	ZP Samithi school and Bonthi School at Gannavaram Village
16	Mondepulanka	K.M. 1.000 to 3.000	- do -	- do -	
17	Kondelapalem Village	K.M. 3.000 to 4.000	- do -	- do -	
18	Nagullanka	K.M. 4.000 to 7.400	- do -	- do -	
19	Pedapatnam Village	K.M. 9.200 to 11.600	- do -	- do -	
20	Appanapalli Village H/o Pasarlupudi Village	K.M. 11.600 to 15.600	- do -	- do -	
21	Pedapatnamlanka Village	K.M. 15.600 to 16.000	- do -	- do -	
22	B. Doodavaram	K.M. 16.000 to 17.000	- do -	- do -	
23	Vynatheyam Kothapalli	K.M. 4/1 to 6/	Vynatheyam Left Flood Bank Submersible at water level between 13.75' and 19.75' Barrage	- do -	
24	Munjavaram	K.M. 9.20 to 9.80	- do - 14.75 and 19.75	- do -	
25	Thondavaram	K.M. 11.600 to 12.000	Submersible at water level between 14.75' and 19.75'	- do -	
26	Vakalagaruvu	K.M. 12.600 to 13.000	- do - 12.75 to 19.75	- do -	

Sl. No.	Name of the Village	Mileage of the	Submergible level Flood Bank	Jurisdiction of RDO	Name of the Rehabilitation Centre
27	Bodasakurru	K.M. 14.900 to 17.000	- do - 15.75 to 19.75	- do -	
28	Godi	K.M. 21.000 to 23.000	- do - 13.75 to 19.75	- do -	
29	Rebbanpalli	K.M. 24.000 to 25.000	- do - 12.75 to 19.75	- do -	
30	Baduguvanilanka	K.M. 12/0 of GLB	Gowthami Left Bank Submersible at water level between 15.75 and 19.75	Revenue Divisional Officer, RJY	
31	Hamlet of K. Puram (Vedurylanka)	K.M. 26.281	- do -	- do -	
32	Dopposite to Kulla at Dakshommalanka Village	K.M. 26/281 to 36/0 of GLB	Liable fro submersion when the W.L. Over barrage is 16.75	- do -	
33	Opposite of Kotipalli of	K.M. 42/0 of GLB	Liable for submersion when the water level over barrage is 17.25	- do -	
34	Opposite for Brahmapuri Village(Seilanka)	K.M. 54/0 of OLB	Liable for submersion when the W.L. Over Barrage is 5.25	Revenue Divisional Officer, Rajahmundry	P.S. Elementary School Masakapalli VillageZ.P.H. School, Vanapalli.
35	Vadivarilanka	K.M. 30/4-6	Gowthami Right Bank These Villages are liable for Submersion when the water level over Barrage is 19.75	Revenue Divisional Officer, Amalapuram	Z.P. Elementary School Vanapalli Village
36	Kedarulanka	K.M. 30.6-8	- do -	- do -	- do -
37	Naravanalanka	K.M. 33/6-8	- do -	- do -	- do -
38	Sathamalanka	K.M. 39/6-4	- do -	- do -	- do -
39	Addankivarilanka	K.M. 39/4-40-0	- do -	- do -	- do -

Sl. No.	Name of the Village	Mileage of the	Submergible level Flood Bank	Jurisdiction of RDO	Name of the Rehabilitation Centre
40	Papeputlanka	K.M. 43/0 to 43/6	- do -	- do -	- do -
41	Inavarilanka	K.M. 40.6 to 46/6	- do -	- do -	- do -
42	Kamini Village	K.M. 56/57	These villages are situated in midstream high level lankas and liable for submersion when water level over the barrage is bet 17.75 and 21.75	- do -	Tanalanka village Panchayat Office
43	Saladivaripalem Village	K.M. 57/0 to 58/0	- do -	- do -	- do -
44	Serilanka	K.M. 57/0 to 58/0	- do -	- do -	- do -
45	Balusutippa Village	K.M. 84/0 to ORB	- do -	- do -	Z.P.G.H. School, Kandikuppa
46	Sowbandalanka	K.M. 14/0 to PIP	- do -	- do -	Elementary SchoolGuttenadeevi Village
47	Pugakulanka	K.M. 31/0 of PIP	- do -	- do -	- do -
48	Chintapallilanka	K.M. 60/01 of ORB	- do -	- do -	Elementary School Annampalli Village
49	Nagullanka	K.M. 4/0 to 6/0	Akanda Godavari Left Bank		
50	Pushkarapeta, Rajahmundry, Mulakallanka	K.M. 18/0 to 19/6			
51	Munikodali	K.M. 23/2 to 23/6			

<b>APPENDIX - I</b>					
<b>Statement No. VII</b>					
<b>Statement Showing the Villages liable for Submersion in Floods on downstream of S.A.C. Barrage in West Godavari District</b>					
1	Polavaram	K.M. 37/6 to 40/2 of AGRB	Submergible & at water level between 17 to 18 over the sill of Barrage.	Revenue Divisional Officer, Jangareddygudem	Choulry at Polavarm Junior College, Polavaram
2	Madhuralanka	K.M. 0/0 to 0/2 of VLB	—	Revenue Divisional Officer, Kovvur	Z.P.H. School & Elementary Shool of Vadapalli
3	Burugu Lanka	K.M. 34/2 to 3716 of VRB	Submergible at water Level at 16 over sill of Barrage.	- do -	Aviction arrangements are being attened on East Godavari side.
4	Pedda Arjunarao Lanka. (Mid-stream)	K.M.. 40/0 to 4010 of VRB	Submergible at water Level at 16 over sill of Barrage.	Revenue Divisional Officer, Narasapur	Padamalam School.
5	Pallipalem (H.O. Koderu) Mid-Stream	K.M.. 44/6 to 44/8 of VRB.	- do -	- do -	Koderu School
6	Ayodya Lanka Hft. Bhimalapuram Mid stream tanka in River.	K.M.. 48/4 to 49/0 of VLB	Submergible at water level at 15' over the sill Barrage.	- do -	Z.P.H. School and Elementary School Bhimalapuram
7	Kanakaya Mid stream lanka in river	K.M.. 54/0 to 57/0 of VRB	Submergible at water level between 5' to 21.50 over the sill of Barrage.	- do -	Doddipatla Village
8	Yelamanchali Lanka K.M.. 60/0 to 63/4 H/oYelamanchali inside of flood bank on high margin (Rajugarilanka)	K.M. 60/0 to 63/4 of VRB	Submergible at water level between 17.50 to 19.50 over the sill of barrage.		Z.P.H. School and Elementary school, Yelamanchali.
9	Yenuguvari lanka (Bodava) in side of flood bank on high margin	K.M. 67/4 to 70/4 of VRB	Submergible at water level between 17.50 to 19.50 over the sill of Barrage	- do -	Z.P.H. School and Elementary school, Yenuguvaripalem
10	Navarasapuram in of flood bank on high margin.	K.M. 70/2 to 71/2 of VRB	Submergible at water level between 19.50 to 21.50 over the sill of Barrage	- do -	Z.P.H. School and Elementary school, New Navarasapuram

## APPENDIX - J

### List of Ferry points in **East Godavari District**

01	Purushothapatnam	21	Pasarlapudi
02	Munakudali	22	Bodasakurru R.B.
03	Torrigeedda Outfall sluice	23	Kundaleswaram
04	Rajahmundry	24	Pallamkurru
05	Dowlaiswaram	25	Yarragaruvu
06	Kapileswarapuram	26	Saladivaripalem
07	Kulla	27	Tatipaka
08	Kotipalli	28	Ramarajulanka
09	Pillanka	29	Pedapatnam
10	Yanam	30	Appanapalli
11	Peravaram	31	Pasarlapudilanka
12	Vaddiparru	32	Adurru
13	Mukteswaram	33	Gogannamatham
14	Narkedimilli	34	Y. Kothapalli
15	L. Polavaram	35	Munjavaram
16	Juttigapadu	36	Tondavaram
17	Udimudi	37	Vakkalgaruvu
18	Gannavaram (L. Gannavaram)	38	Goditippa
19	Razole	39	Bendamurulanka
20	Sakhinetipalli		

## APPENDIX - J

### List of Ferry points in **West Godavari District**

01	Polavaram	10	Doddipatla
02	Kothapattiseema	11	Gangadupalem
03	Kovvur Ramp	12	Yelamanchili Lanka
04	Purushothapalli	13	Chinchanada Ferry
05	Pendayal	14	Yenuguvari Lanka
06	Usulumarru	15	Madhavapalem
07	Teeparru	16	Dharbharevu
08	Khandavalli	17	Narsapur Ferry
09	Koderu		



Highest Godavari Floods after construction of Anicut by Sir Authur  
Cotton Height of Flood water over the crest of Anicut at  
Dowlaiswaram crest level + 38.75 Ft / +11.81 Mts.

Sl. No.	Date and year of Flood	Dowlaiswaram Arm Gauge readings over sill		Flood Level with reference to M.S.L. (in Mts.)
		Feet	Mts.	
01	21.07.1861	15.10	4.60	+ 16.41
02	16.09.1863	13.80	4.21	+ 16.02
03	10.08.1868	7.90	2.41	+ 14.22
04	09.09.1873	11.30	3.44	+ 15.25
05	06.08.1878	12.40	3.78	+ 15.59
06	21.07.1882	13.90	4.24	+ 16.05
07	06.09.1883	13.70	4.18	+ 15.99
08	21.08.1886	16.80	5.12	+ 16.93
09	19.07.1887	15.70	4.79	+ 16.60
10	30.10.1891	17.00	5.18	+ 16.99
11	11.09.1917	11.50	3.51	+ 15.32
12	15.08.1921	13.40	4.08	+ 15.89
13	05.09.1922	10.10	3.08	+ 14.89
14	29.08.1925	10.40	3.17	+ 14.98
15	24.08.1926	11.80	3.60	+ 15.41
16	23.07.1927	10.50	3.20	+ 15.01
17	28.07.1928	8.60	2.62	+ 14.43
18	27.07.1929	10.50	3.20	+ 15.01
19	05.07.1930	13.20	4.02	+ 15.83
20	03.09.1931	12.80	3.90	+ 15.71
21	18.07.1932	11.60	3.54	+ 15.35
22	20.09.1933	13.90	4.24	+ 16.05
23	16.08.1934	13.90	4.24	+ 16.05
24	18.09.1935	9.60	2.93	+ 14.74
25	26.07.1936	12.40	3.78	+ 15.59
26	30.07.1937	10.40	3.17	+ 14.98

<b>01</b>	<b>02</b>	<b>03</b>	<b>04</b>	<b>05</b>	<b>06</b>
27	28.07.1938	12.50	3.81	+	15.62
28	24.08.1939	11.20	3.41	+	15.22
29	21.08.1940	15.80	4.82	+	16.63
30	15.07.1941	8.10	2.47	+	14.28
31	06.08.1942	17.10	5.21	+	17.02
32	24.08.1944	16.00	4.87	+	16.68
33	25.09.1945	13.30	4.05	+	15.86
34	29.07.1946	13.90	4.24	+	16.05
35	05.09.1947	12.50	3.81	+	15.62
36	01.10.1948	8.20	2.50	+	14.31
37	16.08.1949	12.80	3.90	+	15.71
38	28.07.1950	8.20	2.50	+	14.31
39	11.08.1950	12.10	3.69	+	15.50
40	16.08.1953	19.00	5.79	+	17.60
41	11.08.1954	13.00	3.96	+	15.77
42	29.08.1955	14.60	4.45	+	16.26
43	06.08.1956	15.40	4.69	+	16.50
44	24.08.1957	16.10	4.91	+	16.72
45	03.09.1958	17.90	5.45	+	17.26
46	17.09.1959	18.80	5.73	+	17.54
47	02.08.1960	12.10	3.69	+	15.50
48	04.08.1961	13.60	4.14	+	15.95
49	22.09.1962	16.10	4.91	+	16.72
50	13.08.1964	11.40	3.47	+	15.28
51	13.08.1964	11.40	3.47	+	15.28
52	08.09.1966	17.50	5.33	+	17.14
53	05.08.1967	12.20	3.72	+	15.53
54	19.08.1968	11.00	3.35	+	15.16
55	23.09.1969	13.30	4.05	+	15.86
56	23.08.1970	16.20	4.94	+	16.75
57	07.07.1972	9.85	3.00	+	14.81
58	28.08.1973	10.80	3.29	+	15.10
59	11.09.1975	12.95	3.95	+	15.76

01	02	03	04	05	06
60	23.07.1976	16.35	4.98	+ 16.79	
61	25.08.1977	11.1	3.38	+ 15.19	
62	18.08.1978	14.05	4.28	+ 16.09	
63	07.08.1979	12.05	3.67	+ 15.48	
64	24.08.1980	10.3	3.14	+ 14.95	
65	13.08.1981	15.1	4.6	+ 16.41	
66	15.08.1983	16.9	5.15	+ 16.96	
67	16.08.1986	20.8	6.34	+ 18.15	
				Ever Highest Flood	
Flood Level over the crest of Barrage (+ 35 Ft. / +10.67 Mts.) after 1986 Floods					
68	17.10.1987	9.75	2.97	+ 13.64	
69	30.07.1988	17.50	5.33	+ 16.00	
70	27.07.1989	15.30	4.66	+ 15.33	
71	25.08.1990	22.75	6.93	+ 17.60	
72	19.08.1991	13.05	3.98	+ 14.65	
73	17.08.1992	16.80	5.12	+ 15.77	
74	06.08.1993	9.60	2.93	+ 13.60	
75	07.09.1994	19.85	6.05	+ 16.72	
76	23.10.1995	17.00	5.18	+ 15.85	
77	23.08.1996	10.25	3.12	+ 13.79	
78	30.08.1997	9.40	2.86	+ 13.53	
79	18.09.1998	9.10	2.77	+ 13.44	
80	09.08.1999	11.20	3.41	+ 14.08	
81	31.08.2000	17.80	5.42	+ 16.09	
82	16.06.2001	11.75	3.60	+ 14.27	
83	23.08.2001	16.25	4.95	+ 15.62	
84	27.08.2002	14.00	4.93	+ 15.60	
85	27.07.2003	14.50	4.42	+ 15.09	
86	07.08.2004	10.10	3.08	+ 13.75	
87	21.09.2005	19.40	5.91	+ 16.58	
88	07.08.2006	22.80	6.95	+ 17.62	
89	10.08.2007	15.10	4.60	+ 15.27	
90	07.08.2008	12.60	3.84	+ 14.51	

<b>01</b>	<b>02</b>	<b>03</b>	<b>04</b>	<b>05</b>	<b>06</b>
91	30.08.2009	9.90	3.02	+	13.69
92	09.08.2010	17.95	5.47	+	16.14
93	03.09.2011	11.30	3.44	+	14.11
94	23.08.2012	13.00	3.96	+	14.63
95	04.08.2013	19.00	5.79	+	16.46
96	09.09.2014	16.10	4.91	+	15.57
97	23.06.2015	10.00	3.05	+	13.72
98	13.07.2016	14.80	4.51	+	15.18
99	22.07.2017	9.40	2.86	+	13.53
100	22.08.2018	15.35	4.68	+	15.35
101	10.08.2019	15.60	4.75	+	15.42

## **Godavari River Flood Mitigation on up Stream of Polavaram due to partial completion of coffer dam**

The River Godavari originates in Western Ghats and travels through Deccan Peninsula in Maharashtra and Telangana states and enters in to Andhra Pradesh through Eastern Ghats called Papikondalu. On upstream of Papikondalu, the main tributaries to Godavari river are Pranahita, Manjeera, Indravathi, Kinnerasani and Sabari rivers. On downstream of Papikondalu, the river Godavari flows through East and West Godavari districts and called as Akhanda Godavari upto SAC Barrage, Dowlaiswaram. At SAC Barrage, the river divides into Gowthami Godavari and Vasista Godavari and finally joins in Bay of Bengal.

The flood forecasting stations and the details are summarised below

<b>Gauge Stations</b>	<b>Distance from Barrage</b>	<b>Time of Travel to SAC Barrage, Dowlaiswaram</b>
Peruru	320 Km	36 Hrs
Dummugudem	200 Km	24 Hrs
Bhadrachalam	160 Km	18 Hrs
Kunavaram	110 Km	12 Hrs
Koida	96 Km	10 Hrs
Polavaram	45 Km	4 Hrs

The flood pattern in 2019 is completely different when compared with the previous flood patterns due to following reasons.

1. The Telangana Government constructed number of barrages across River Godavari and used to release the flood water without prior information.
2. In all the tributaries of River Godavari, heavy rainfall was recorded.
3. The duration of rainy season starts from 07/2019 to 10/2019 i.e very lengthy period.
4. The rainfall in Sabari Catchment is less when compared with the rainfall in other tributaries.

### **5. Incomplete construction of cofferdam in Polavaram Irrigation Project across River Godavari.**

6. The travel time of the flood discharges were also changed

In previous years, the submersion of villages/pathways were used to effect only after the issue of First warning at Bhadrachalam i.e. **43 feet** and attaining

the flood discharge of **10.00** Lakh Cusecs at SAC Barrage, Dowlaiswaram. But during 2019 monsoon season, the villages on U/s side of Polavaram Project were badly effected much earlier than the issue of First Warning at SAC Barrage, Dowlaiswaram. As per the field observations, the pathways were submerged when the flood flows were around 3.00 Lakh Cusecs at SAC Barrage. The villages were submerged when the flood reached to 5.00 Lakh at SAC Barrage. This is mainly due to obstruction created due to partial construction of Cofferdam at Polavaram Project. (Back waters effect).

The maximum observed flood discharge at SAC Barrage, Dowlaiswaram was **15.61** Lakhs on **09.09.2019** and the corresponding flood level was **15.42 M**. The maximum flood level at Bhadrachalam was **48.45 Ft.** on **09.09.2019** and the maximum flood level on U/s of Cofferdam of PIP was **28.95 M** on **10.8.2019**. During these floods, it was observed that about 87 number of villages in East Godavari district and 50 number of Villages in West Godavari district were effected either by submersion of village/ submersion of pathways to the villages.

Based on the experience of floods in 2019 a probably list of villages that are going to be effected from 3 Lakhs cusec flood discharge onwards was enclosed for ready reference.

Flood monitoring cell will be opened at SAC Barrage, Dowlaiswaram from the 1<sup>st</sup> of June 2020 onwards and it will be continued up to the end of the flood season. The flood monitoring cell with the Phone No **0883-2417066** will operate continuously 24 x 7 during this period. . The flood control room will obtain the information regarding the inflows of River Godavari from various sources i.e. Central Water Commission, Telangana Govt. etc. The effect of the inflows will be intimated to all the concerned officers of various line departments of both the districts. During flood season, daily messages such as real time flood levels, discharges and forecast of the flood will be placed in the Watsapp group (SACB Flood Group) created for this purpose.

**Liasoning Officer :**

On upstream of Polavaram to look after the flood situation due to cofferdam.

<b>S.no</b>	<b>Designation of the officer</b>	<b>Reach</b>	<b>Mobile.No.</b>
1	Executive Engineer, PIP Division No.8	ITDA,K.R.puram	9440908146
2	Executive Engineer,PIP Division No.5	Devipatanam	9440908123
3	Executive Engineer, PIP Division No.7	Yetapaka	9490610382
4	Deputy Executive Engineer, S.M.I	ITDA, Chintoor	9440202019