

**GOVERNMENT OF ANDHRA PRADESH**

IRRIGATION AND CAD DEPARTMENT

(H.N.S.S. PHASE-2,PACKAGE NO.13)

**HYDRAULIC PARTICULARS HNSS MAIN CANAL(STAGE-II) 1) FROM KM 380.000 TO 380.500, 2) KM 380.850 TO KM 381.250, 3) KM 382.975 TO KM 383.550, 4) KM 385.100 TO KM 385.500, 5) KM 394.650 TO KM 395.750, 6) KM 395.750 TO KM 396.190/400.000**

SL. No	Reach No.	Reach in KM			Hydraulic Particulars											Loss (m)			Bed Level		Full Supply Level		Remarks	
		From	To	Distance (IN Mts)	Required Discharge (Cumecs)	Bed Width (In Mts)	F.S.D (IN Mts)	Surface Fall	Side Slopes	A(m2)	P(m)	R(m)	R=2/3	Velocity M/Sec	Designed Discharge (Cumecs)	Due To Bed Fall	Due To CM & CD Structures	Total	At Start (M)	At End (M)	At Start (M)	At End (M)		
1		2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1		380.000	380.500	500	45.140	11.00	3.25	1.12000	1.50:1	51.59	22.718	2.271	1.728	0.876	45.208	0.042	0.08	0.117	442.743	442.701	445.993	445.951	FSL @ KM 380.000 AS PER AGREEMENT +445.993	SDR/HDR/F&F/HR
2		380.850	380.900	50	Transition		3.25	1.10100								0.0050	0.00	0.005	442.672	442.667	445.922	445.917	-	
		380.900	381.200	300	45.140	11.50	3.25	1.8200	0.50:1	42.660	18.767	2.273	1.729	1.061	45.240	0.037	0.00	0.037	442.667	442.630	445.917	445.880	FULL CUTTING	HR REACH
		381.200	381.250	50	Transition		3.25	1.11200								0.005	0.00	0.005	442.630	442.625	445.880	445.875		
3		382.975	383.025	50	Transition		3.25	1.9500								0.005	0.00	0.005	442.492	442.487	445.742	445.737	HR FULL CUTTING VARIES FROM 9.40 M TO 13.10 M	HP's ARE WITH HOLD FOR WANT OF HORE HOLE DATA
		383.025	383.500	475	45.140	11.00	3.25	1.7000	0.50:1	41.030	18.267	2.246	1.715	1.139	46.729	0.068	0.00	0.068	442.487	442.419	445.737	445.669		
		383.500	383.550	50	Transition		3.25	1.8500								0.005	0.00	0.005	442.419	442.414	445.669	445.664	-	
4		385.100	385.150	50	Transition		3.25	1.10550								0.005	0.00	0.005	442.276	442.271	445.526	445.521	-	
		385.150	385.500	350	45.140	12.10	3.25	1.9100	0.50:1	44.610	19.367	2.303	1.744	1.016	43.306	0.038	0.00	0.038	442.271	442.233	445.521	445.483	FULL CUTTING	HR REACH
		394.650	394.700	50	Transition		3.25	1.10100								0.005	0.00	0.005	441.127	441.122	444.377	444.372		
5		394.700	395.700	1000	45.140	11.50	3.25	1.8200	0.50:1	42.660	18.767	2.273	1.729	1.061	45.240	0.122	0.00	0.122	441.122	441.000	444.372	444.250	FULL CUTTING	HR REACH
		395.700	395.750	50	Transition		3.25	1.10100								0.005	0.00	0.005	441.000	440.995	444.250	444.245		
6		395.750	396.190/400.000	440	45.140	11.00	3.25	1.12000	1.50:1	51.590	22.718	2.271	1.728	0.876	45.208	0.037	0.00	0.037	440.995	440.958	444.245	444.208	HR FULL CUTTING VARIES FROM 5.70 M TO 17.10 M	FSL @ KM 396.190/400.000 AS PER AGREEMENT +444.208

Co-effiect of Rugosity :0.018

Note: The HP's in the above reaches of packages 13 proposed vide Lr no (1) CE(P)/ATP/P-13/VOL4478CE DT-20-12-2002

2) ENCTGS/HNSS/Ph-II/Pkg 13-1 Dt-09.09.2008

3) ENCTGS/HNSS/Ph-II/Pkg 13-2 Dt-09.09.2008

4) ENCTGS/HNSS/Ph-II/Pkg 13-2 Dt-09.09.2008 are vetted and approved.

5)Approved subject to the condations that the ENC TGP/SKHT Shall approach Govt and obtained approval for devation of orginal canal now modified to Tunnel of certain reach.

Sd/-(dt.17.09.2008)  
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**GOVERNMENT OF ANDHRA PRADESH**  
 IRRIGATION AND CAD DEPARTMENT  
 (H.N.S.S. PHASE-2 PACKAGE NO.13)  
**HYDRAULIC PARTICULARS HNSS MAIN CANAL(STAGE-II) FROM KM 380.500 TO 382.975**

SL. No	Reach No.	Reach in KM			Hydraulic Particulars											Loss (m)			Bed Level		Full Supply Level		Remarks	
		From	To	Distance (In Mts)	Required Discharge (Cumecs)	Bed Width (In Mts)	F.S.D (In Mts)	Surface Fall	Side Slopes	A(m2)	P(m)	R(m)	R=2/3	Velocity M/Sec	Designed Discharge (Cumecs)	Due To Bed Fall	Due To CM & CD Structures	Total	At Start (M)	At End (M)	At Start (M)	At End (M)		
1		2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	1	380.500	380.850	350	45.140	11.00	3.25	1.12000	1.50:1	51.59	22.718	2.271	1.728	0.876	45.208	0.029	0.00	0.029	442.701	442.672	445.851	445.922	FSL +380.400 AS PER AGREEMENT BASICS PARAMETERS +446.993	PARTIAL CUTTING AND FILLING,ASK /HDR/ F&F
2		380.850	381.250	400	PROPOSED AS H.R REACH																			
3	2	381.250	381.950	700	45.140	11.00	3.25	1.14200	2.00:1	56.88	25.534	2.227	1.706	0.795	45.224	0.049	0.00	0.049	442.626	442.577	445.876	445.827	AKS/HDR/F&F	BED FILLING ABOUT 4.0M FOR A LENGTH 350M
4		381.950	382.000	50	Transition		3.25	1.13100								0.004	0.00	0.004	442.577	442.573	445.827	445.823		
5	3	382.000	382.975	975	45.140	11.00	3.25	1.12000	1.50:1	51.59	22.718	2.271	1.728	0.876	45.208	0.081	0.00	0.081	442.573	442.492	445.823	445.742	PARTIAL CUTTING AND FILLING	AKS/ HDR/ F&F

1) Co-efficiect of Rugosity :0.018

2) HP'S IN HR REACHING FROM KM 380.850 TO KM 381.250 ARE WITH HELD FOR WANT OF BORE HOLE DATA

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**GOVERNMENT OF ANDHRA PRADESH**

IRRIGATION AND CAD DEPARTMENT  
(H.N.S.S. PHASE-2,PACKAGE NO.13)

**HYDRAULIC PARTICULARS HNSS MAIN CANAL(STAGE-II) FROM KM 386.500 TO 393.000**

SL. No	Reach h No.	Reach in KM			Hydraulic Particulars										Loss (m)			Bed Level		Full Supply Level		Remarks		
		From	To	Distance (IN Mts)	Required Discharge (Cumecs)	Bed Width (In Mts)	F.S.D (In Mts)	Surface Fall	Side Slopes	A(m2)	P(m)	R(m)	R=2/3	Velocity M/Sec	Designed Discharge (Cumecs)	Due To Bed Fall	DueTo CM & CD Structures	Total	At Start (M)	At End (M)	At Start (M)			At End (M)
1		2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	1	386.500	393.000	6500	45.140	11.00	3.25	1.12000	1.50:1	51.590	22.718	2.271	1.728	0.876	45.208	0.541	0.00	0.541	441.956	441.414	445.206	444.664	PARTIAL CUTTING	ALL SOILS,SDR & HDR

**Co-efficient of Rugosity :0.018**

**Note:** The HP'S in the above reach are approved subject to the condation of undertaking sought from the agency for full filling of the tunnel and providing of the cut and cover at the approach and exit of the tunnel as per IS code and general practice as discussed in the joint inspection of the committee dated 06.03.2008.

Sd/-(dt.24.04.2008)  
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**GOVERNMENT OF ANDHRA PRADESH**

IRRIGATION AND CAD DEPARTMENT  
(H.N.S.S. PHASE-2, PACKAGE NO.13)

**HYDRAULIC PARTICULARS HNSS MAIN CANAL(STAGE-II) FROM KM 383.550 TO 394.650**

SL. No	Reach No.	Reach in KM			Hydraulic Particulars											Loss (m)			Bed Level		Full Supply Level		Remarks	
		From	TO	Distance (IN Mts)	Required Discharge (Cumecs)	Bed Width (In Mts)	F.S.D (IN Mts)	Surface Fall	Side Slopes	A(m2)	P(m)	R(m)	R=2/3	Velocity M/Sec	Designed Discharge (Cumecs)	Due To Bed Fall	DueTo CM & CD Structures	Total	AT Start (M)	AT End (M)	AT Start (M)	AT End (M)		
1		2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1		383.550	384.000	450	45.140	11.20	3.25	1.10000	1.00:1	46.96	20.392	2.303	1.744	0.969	45.499	0.045	0.00	0.045	442.414	442.369	445.664	445.619	FULL CUTTING	F&F
2		384.000	384.050	50	Transition		3.25	1.11000								0.005	0.00	0.005	442.369	442.364	445.619	445.614	-	
		384.050	385.100	1050	45.140	11.00	3.25	1.12000	1.50:1	51.590	22.718	2.271	1.728	0.876	45.208	0.088	0.00	0.088	442.364	442.276	445.614	445.526	PARTIAL CUTTING FILLING	AKS/SDR/HDR/ F&F/HR
3		385.500	385.550	50	Transition		3.25	1.70	SLOPED FALLING ENTRY TRANSITION TO TUNNEL									442.232	441.521	445.483	445.371	-		
		385.550	386.000	450	45.140	6.00	3.25	1.1500	0.00:1	23.100	13.700	1.686	1.417	2.032	46.941	0.300	0.00	0.300	441.521	441.221	445.371	445.071	TUNNEL "D"SHAPE 6M * 6M	
		386.000	386.075	75	Transition		3.25	1.97									0.00	0.000	441.221	441.991	445.071	445.241	-	
		386.075	386.500	425	45.140	11.00	3.25	1.12000	1.50:1	51.590	22.718	2.271	1.728	0.876	45.208	0.035	0.00	0.035	441.991	441.956	445.241	445.206	PARTIAL CUTTING	ALL SOILS,SDR & HDR
5		393.000	393.400	400	45.140	11.00	3.25	1.12000	1.50:1	51.590	22.718	2.271	1.728	0.876	45.208	0.033	0.00	0.033	441.414	441.381	444.664	444.631		ALL SOILS,SDR & HDR
		393.400	393.450	50	Transition		3.25	1.12000							0.004	0.00	0.004	441.381	441.377	444.631	444.627			
6		393.450	393.800	350	45.140	10.00	3.25	1.12000	2.00:1	53.630	24.534	2.186	1.684	0.854	45.803	0.029	0.00	0.029	441.377	441.198	444.627	444.448	BED FILLING ABOUT 3.5M	AQUEDUCT PROPOSED
		393.800	393.850	50	Transition		3.25	1.12000							0.004	0.00	0.004	441.198	441.194	444.448	444.444			
7		393.850	394.650	800	45.140	11.00	3.25	1.12000	1.50:1	51.590	22.718	2.271	1.728	0.876	45.208	0.067	0.00	0.067	441.194	441.127	444.444	444.377	PARTIAL CUTTING FILLING	AKS/HDR/F&F

Co-efficient of Rugosity :0.018

Note:

- 1) The HP's of the package with tunnel proposal furnished by ENC/TGP/HNSS/Ph-II/Pkg 13-1 Dt-18.04.2008 are vetted and approved subject to condition that the ENC will apprise the Government of the deviation of the agreement.
- 2) The HP's of the package with the tunnel are approved subject to the approval of Government for the deviation for which the ENC/TGP/SKHT to approach the Government and seek ratification.

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**GOVERNMENT OF ANDHRA PRADESH**

IRRIGATION AND CAD DEPARTMENT

(H.N.S.S. PHASE-2,PACKAGE NO.13)

**HYDRAULIC PARTICULARS HNSS MAIN CANAL(STAGE-II) FROM KM 394.700 TO 395.700**

SL. No	Reach No.	Reach in KM			Hydraulic Particulars											Loss (m)			Bed Level		Full Supply Level		Remarks	
		From	TO	Distance (IN Mts)	Required Discharge (Cumecs)	Bed Width (In Mts)	F.S.D (IN Mts)	Surface Fall	Side Slopes	A(m2)	P(m)	R(m)	R=2/3	Velocity M/Sec	Designed Discharge (Cumecs)	Due To Bed Fall	DueTo CM & CD Structures	Total	AT Start (M)	AT End (M)	AT Start (M)	AT End (M)		
1		2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	1	394.700	395.700	1000	45.140	10.10	3.25	1.8200	1.00:1	43.390	19.292	2.249	1.717	1.053	45.692	0.122	0.00	0.122	441.122	441.000	444.372	444.250	FULL CUTTING	F&F , HR

1)Co-efficiet of Rugosity :0.018

2)THE PROPOSAL OF REVISION OF HP'S IN THE REACH FROM KM 394.700 TO 395.700 FURNISHED VIDE LR NO ENC/TGP/SKHT/DW/DD2/DEE2/HNSS-ATP/PKG-13/731 DT 10/12/2008 IS VETTED AND APPROVED.

3)APPROVED SUBJECT TO THE CONDATION THAT ENC/TGP/SKHT SHALL APPROACH THE GOVERNMENT AND OBTAIN APPROVAL FOR DEVIATION OF ORGINAL CANAL NOW MODIFIED TO TUNNEL OF CERTAIN REACH.

Sd/-(dt.21.01.2009)

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