

TENDER DOCUMENT

FOR

Distribution Network for Nabinagar Division of Right Main Canal (RMC), Bihar Portion under North Koel Reservoir Project, Jharkhand and Bihar

Estimated Cost (Rs. 47.85 Crores)

TENDER NO: WAP/NK/RMC/DIST/NABINAGAR/2025

TENDER DRAWINGS

Issued to M/s



(भारत सरकार का उपक्रम-जल शक्ति मंत्रालय)

(A Government of India Undertaking-Ministry of Jal Shakti)

NORTH KOEL RESERVOIR PROJECT

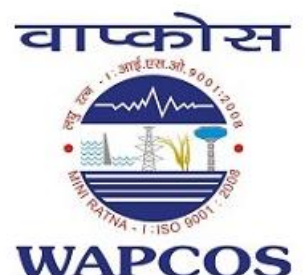
JANUARY 2025

Completion of Balance
Works of North Koel
Reservoir Project

DRAWING REPORT – KULHARIYA SUB
DISTRIBUTARY (OFFTAKING FROM RIGHT
MAIN CANAL AT 43.29 KM)



WAPCOS LIMITED
(GOVT. OF INDIA UNDERTAKING)
76- C SECTOR-18 INDUSTRIAL AREA,
GURUGRAM-122015 (HARYANA)



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L-SECTION

L- SECTION OF KULHARIA SUB-DISTRIBUTARY
(OFFTAKE FROM RD - 43+667 KM. (LT), NORTH KOEL RIGHT MAIN CANAL)
FROM CH 0+000 TO 1+500

(CH: 1.150 - 2.500 KM)		(IR DATA)	
Proposed (New IR)		AS PER IR	Unit
Discharge	1.78/62.81	1.628/57.50	cum/cusec
Bed Slope	1 in 4000	1 in 4000	25.0 cm/km
Bed Width	3.600	3.353	m
F.S.D.	0.900	0.920	m
Velocity	0.49	0.515	m/sec
CVR	0.96	1.000	
Bank Width L/R	1.500/5.000	1.500/3.048	m
Free Board	0.750	0.750	m

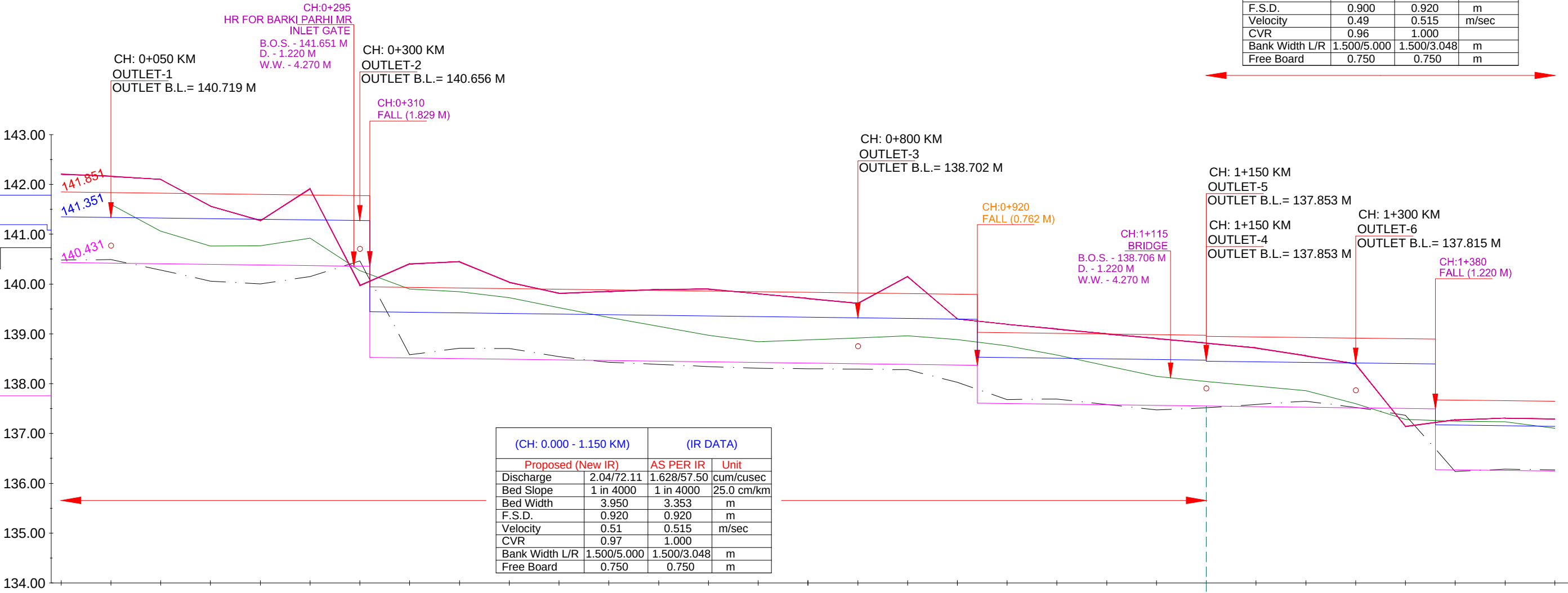
DATA OF
PARENT
CANAL

FSL @ FULL
DISCH. = 141.784

FSL @ 2/3
DISCH. = 141.078

CREST LEVEL
OF HR = 140.731

B.L.= 137.758



Chainage IN KM	EXISTING DATA			DESIGN DATA		
	NSL	TOP OF BANK LEVEL	Bed Level	Proposed Bed Level	F.S.L.	TOP OF BANK LEVEL
+ 0+000		142.208	140.482	140.431	141.351	141.851
+ 0+050	141.598	142.166	140.491	140.419	141.339	141.839
+ 0+100	141.064	142.101	140.281	140.406	141.326	141.826
+ 0+150	140.765	141.563	140.060	140.394	141.314	141.814
+ 0+200	140.771	141.272	140.001	140.381	141.301	141.801
+ 0+250	140.920	141.912	140.148	140.369	141.289	141.789
+ 0+300	140.269	139.974	140.462	140.356 140.354 138.525	141.276 141.274 139.445	141.776 141.774 139.945
+ 0+350	139.901	140.403	138.583	138.515	139.435	139.935
+ 0+400	139.845	140.447	138.710	138.502	139.422	139.922
+ 0+450	139.724	140.037	138.708	138.490	139.410	139.910
+ 0+500	139.524	139.814	138.541	138.477	139.397	139.897
+ 0+550	139.331	139.852	138.430	138.465	139.385	139.885
+ 0+600	139.151	139.890	138.388	138.452	139.372	139.872
+ 0+650	138.970	139.901	138.343	138.440	139.360	139.860
+ 0+700	138.841	139.805	138.309	138.427	139.347	139.847
+ 0+750	138.881	139.709	138.300	138.415	139.335	139.835
+ 0+800	138.920	139.613	138.291	138.402	139.322	139.822
+ 0+850	138.960	140.150	138.281	138.390	139.310	139.810
+ 0+900	138.885	139.301	138.026	138.377	139.297	139.797
+ 0+950	138.761	139.192	137.682	137.603	138.523	139.023
+ 1+000	138.575	139.097	137.693	137.590	138.510	139.010
+ 1+050	138.361	139.001	137.583	137.578	138.498	138.998
+ 1+100	138.148	138.907	137.474	137.565	138.485	138.985
+ 1+150	138.042	138.813	137.515	137.553	138.473	138.973
+ 1+200	137.952	138.719	137.582	137.540	138.440	138.940
+ 1+250	137.862	138.559	137.650	137.528	138.428	138.928
+ 1+300	137.601	138.396	137.524	137.515	138.415	138.915
+ 1+350	137.282	137.142	137.368	137.503	138.403	138.903
+ 1+400	137.246	137.272	136.239	137.495 136.253 136.270	138.395 138.375 137.170	138.895 138.875 137.670
+ 1+450	137.235	137.308	136.284	136.258	137.158	137.658
+ 1+500	137.105	137.292	136.271	136.245	137.145	137.645

LEGEND

	NSL		EXISTING BED LEVEL
	EXISTING TOP OF BANK		PROPOSED BED LEVEL
	EXISTING FALL		PROPOSED FSL
	MODIFIED FALL		PROPOSED TOP OF BANK LEVEL
	NEW FALL		

IMPLEMENTING AGENCY :-

WAPCOS LTD.



PROJECT TITLE :-

NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND

DRAWING TITLE :-

L- SECTION OF KULHARIA SUB-DY. (OFFTAKE FROM RD - 43+667 KM. (L),
NORTH KOEL RIGHT MAIN CANAL)

DRAWING NO. :-

WAP/ INFRA/ NORTHKOEL/ BC/ R-09/ LSEC-

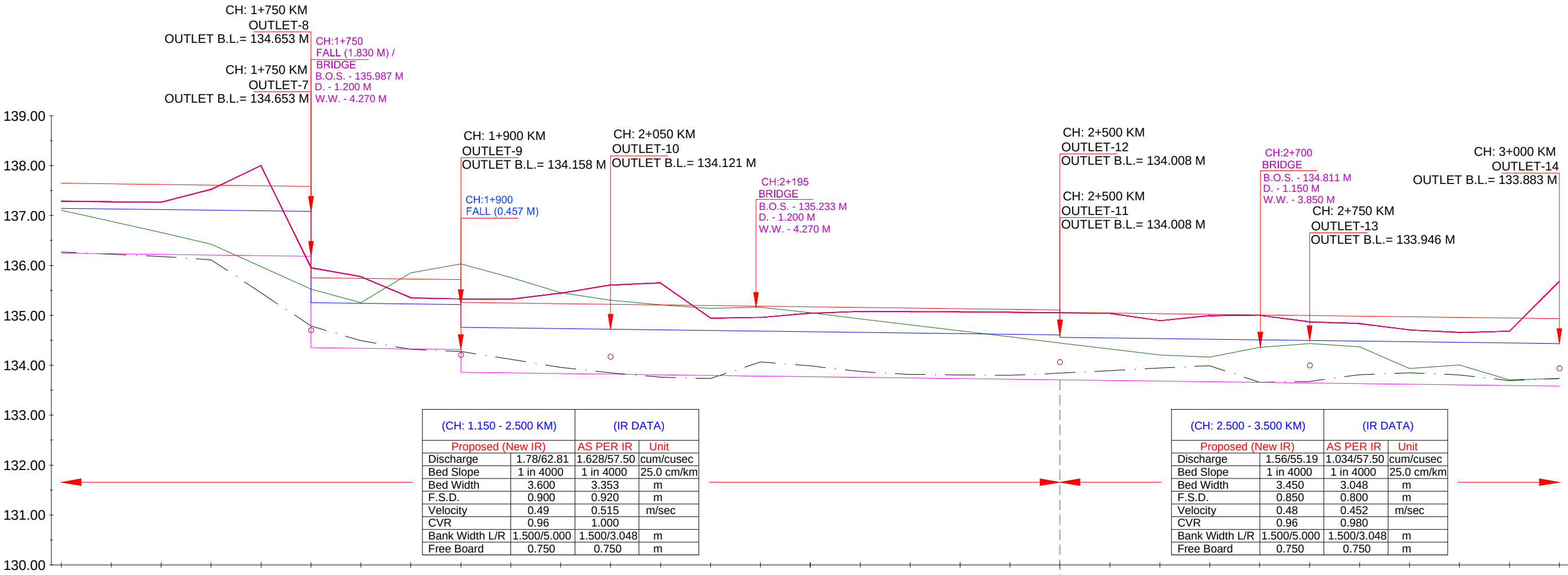
01 of 09

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Checked By:-

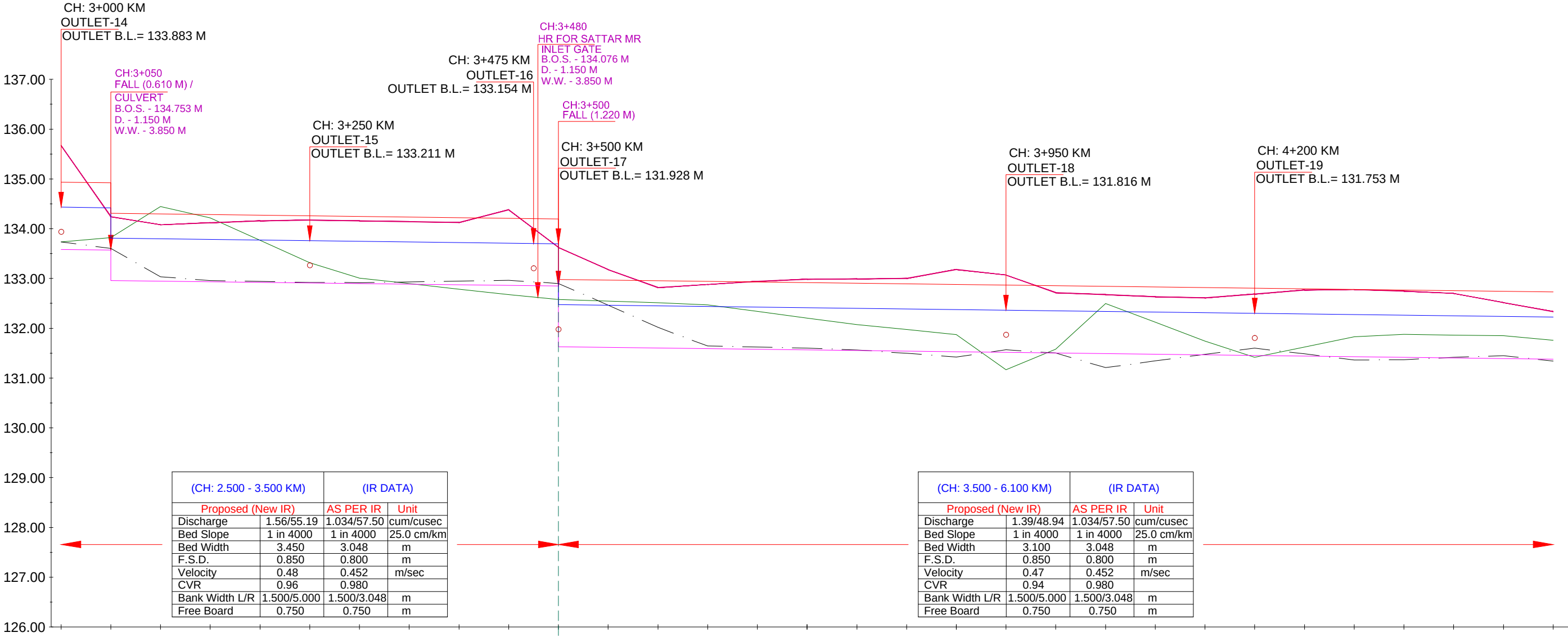
Approved By:-

L- SECTION OF KULHARIA SUB-DISTRIBUTARY
(OFFTAKE FROM RD - 43+667 KM. (LT), NORTH KOEL RIGHT MAIN CANAL)
FROM CH 1+500 TO 3+000



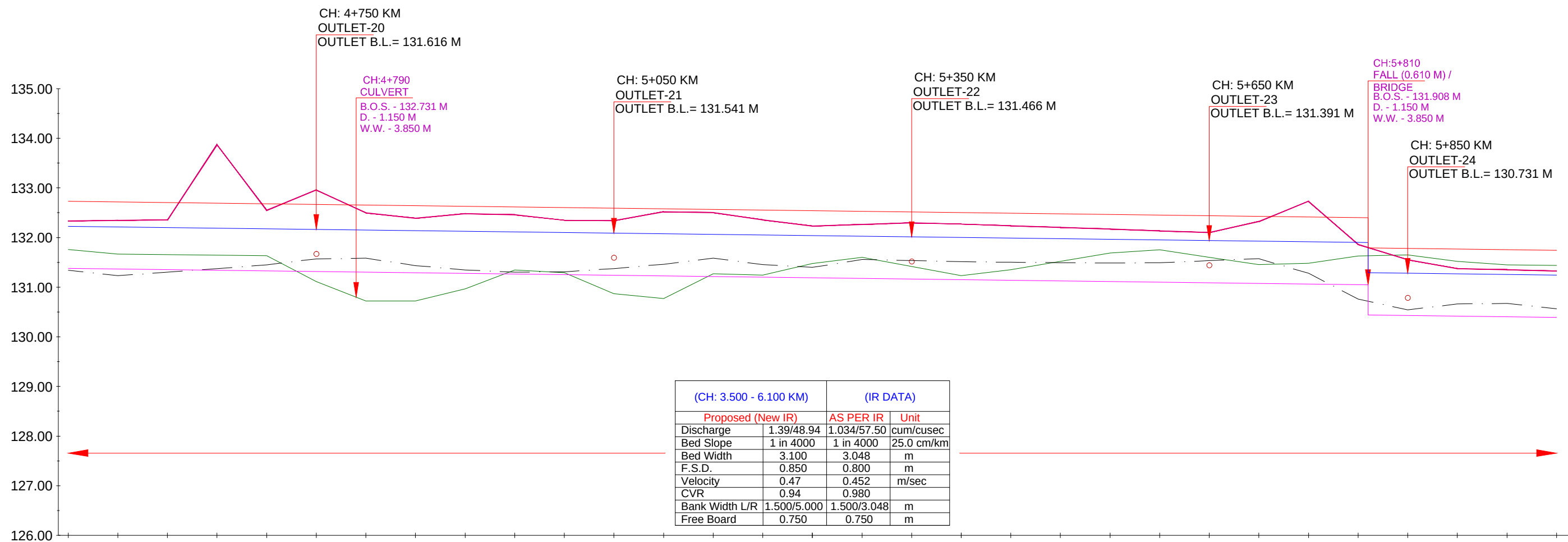
Chainage IN KM	EXISTING DATA			DESIGN DATA		
	NSL	TOP OF BANK LEVEL	Bed Level	Proposed Bed Level	F.S.L.	TOP OF BANK LEVEL
- 1+500	137.105	137.292	136.271	136.245	137.145	137.645
- 1+550	136.881	137.275	136.224	136.233	137.133	137.633
- 1+600	136.658	137.267	136.178	136.220	137.120	137.620
- 1+650	136.424	137.522	136.114	136.208	137.108	137.608
- 1+700	135.974	138.002	135.450	136.195	137.095	137.595
- 1+750	135.526	135.956	134.787	136.183	137.083	137.583
- 1+800	135.253	135.776	134.492	134.340	135.240	135.740
- 1+850	135.850	135.351	134.318	134.328	135.228	135.728
- 1+900	136.029	135.328	134.279	134.315	135.215	135.715
- 1+950	135.759	135.324	134.118	133.846	134.746	135.246
- 2+000	135.456	135.444	133.957	133.833	134.733	135.233
- 2+050	135.302	135.606	133.850	133.821	134.721	135.221
- 2+100	135.212	135.649	133.762	133.808	134.708	135.208
- 2+150	135.142	134.946	133.733	133.796	134.696	135.196
- 2+200	135.163	134.958	134.066	133.783	134.683	135.183
- 2+250	135.051	135.042	133.989	133.771	134.671	135.171
- 2+300	134.930	135.078	133.873	133.758	134.658	135.158
- 2+350	134.810	135.075	133.816	133.746	134.646	135.146
- 2+400	134.689	135.071	133.807	133.733	134.633	135.133
- 2+450	134.568	135.062	133.798	133.721	134.621	135.121
- 2+500	134.447	135.051	133.842	133.708	134.608	135.108
- 2+550	134.326	135.041	133.893	133.696	134.546	135.046
- 2+600	134.205	134.893	133.946	133.683	134.533	135.033
- 2+650	134.163	134.992	133.990	133.671	134.521	135.021
- 2+700	134.360	135.002	133.661	133.658	134.508	135.008
- 2+750	134.435	134.870	133.677	133.646	134.496	134.996
- 2+800	134.370	134.835	133.811	133.633	134.483	134.983
- 2+850	133.937	134.709	133.851	133.621	134.471	134.971
- 2+900	134.006	134.657	133.805	133.608	134.458	134.958
- 2+950	133.708	134.682	133.693	133.596	134.446	134.946
3+000	133.733	135.677	133.735	133.583	134.433	134.933

L- SECTION OF KULHARIA SUB-DISTRIBUTARY
(OFFTAKE FROM RD - 43+667 KM. (LT), NORTH KOEL RIGHT MAIN CANAL)
FROM CH 3+000 TO 4+500



	EXISTING DATA			DESIGN DATA		
	NSL	TOP OF BANK LEVEL	Bed Level	Proposed Bed Level	F.S.L.	TOP OF BANK LEVEL
Chainage IN KM						
- 3+000	133.733	135.677	133.735	133.583	134.433	134.933
- 3+050	133.823	134.242	133.603	133.571 132.961	134.421 133.811	134.921 134.311
- 3+100	134.444	134.079	133.033	132.948	133.798	134.298
- 3+150	134.215	134.119	132.960	132.936	133.786	134.286
- 3+200	133.766	134.159	132.941	132.923	133.773	134.273
- 3+250	133.317	134.176	132.922	132.911	133.761	134.261
- 3+300	133.005	134.159	132.917	132.898	133.748	134.248
- 3+350	132.896	134.142	132.932	132.886	133.736	134.236
- 3+400	132.786	134.126	132.947	132.873	133.723	134.223
- 3+450	132.677	134.381	132.963	132.861	133.711	134.211
- 3+500	132.581	133.623	132.901	132.848 131.628	133.698 132.478	134.198 132.978
- 3+550	132.548	133.179	132.467	131.616	132.466	132.966
- 3+600	132.515	132.818	132.020	131.603	132.453	132.953
- 3+650	132.471	132.880	131.644	131.591	132.441	132.941
- 3+700	132.337	132.942	131.624	131.578	132.428	132.928
- 3+750	132.203	132.985	131.603	131.566	132.416	132.916
- 3+800	132.076	132.993	131.566	131.553	132.403	132.903
- 3+850	131.974	133.001	131.496	131.541	132.391	132.891
- 3+900	131.872	133.180	131.424	131.528	132.378	132.878
- 3+950	131.168	133.070	131.568	131.516	132.366	132.866
- 4+000	131.578	132.715	131.502	131.503	132.353	132.853
- 4+050	132.499	132.674	131.209	131.491	132.341	132.841
- 4+100	132.122	132.635	131.345	131.478	132.328	132.828
- 4+150	131.744	132.609	131.478	131.466	132.316	132.816
- 4+200	131.415	132.689	131.601	131.453	132.303	132.803
- 4+250	131.621	132.769	131.485	131.441	132.291	132.791
- 4+300	131.827	132.777	131.363	131.428	132.278	132.778
- 4+350	131.876	132.749	131.370	131.416	132.266	132.766
- 4+400	131.863	132.701	131.417	131.403	132.253	132.753
- 4+450	131.850	132.516	131.449	131.391	132.241	132.741
- 4+500	131.758	132.333	131.339	131.378	132.228	132.728

L- SECTION OF KULHARIA SUB-DISTRIBUTARY
(OFFTAKE FROM RD - 43+667 KM. (LT), NORTH KOEL RIGHT MAIN CANAL)
FROM CH 4+500 TO 6+000



Chainage IN KM	EXISTING DATA			DESIGN DATA		
	NSL	TOP OF BANK LEVEL	Bed Level	Proposed Bed Level	F.S.L.	TOP OF BANK LEVEL
4+500	131.758	132.333	131.339	131.378	132.228	132.728
4+550	131.666	132.345	131.231	131.366	132.216	132.716
4+600	131.654	132.358	131.304	131.353	132.203	132.703
4+650	131.644	133.870	131.376	131.341	132.191	132.691
4+700	131.635	132.549	131.449	131.328	132.178	132.678
4+750	131.111	132.960	131.571	131.316	132.166	132.666
4+800	130.723	132.497	131.583	131.303	132.153	132.653
4+850	130.722	132.389	131.435	131.291	132.141	132.641
4+900	130.964	132.480	131.349	131.278	132.128	132.628
4+950	131.345	132.460	131.301	131.266	132.116	132.616
5+000	131.290	132.348	131.311	131.253	132.103	132.603
5+050	130.868	132.341	131.375	131.241	132.091	132.591
5+100	130.770	132.520	131.463	131.228	132.078	132.578
5+150	131.269	132.505	131.586	131.216	132.066	132.566
5+200	131.242	132.356	131.456	131.203	132.053	132.553
5+250	131.478	132.233	131.398	131.191	132.041	132.541
5+300	131.604	132.264	131.559	131.178	132.028	132.528
5+350	131.418	132.299	131.538	131.166	132.016	132.516
5+400	131.231	132.272	131.514	131.153	132.003	132.503
5+450	131.351	132.238	131.503	131.141	131.991	132.491
5+500	131.519	132.204	131.495	131.128	131.978	132.478
5+550	131.687	132.170	131.486	131.116	131.966	132.466
5+600	131.752	132.135	131.494	131.103	131.953	132.453
5+650	131.604	132.099	131.535	131.091	131.941	132.441
5+700	131.456	132.325	131.576	131.078	131.928	132.428
5+750	131.483	132.732	131.279	131.066	131.916	132.416
5+800	131.626	131.861	130.758	131.053	131.903	132.403
5+850	131.648	131.551	130.543	131.041	131.891	132.401
5+900	131.519	131.376	130.662	131.028	131.878	132.391
5+950	131.449	131.350	130.674	131.016	131.866	132.381
6+000	131.440	131.326	130.566	131.003	131.853	132.373

LEGEND			
	NSL		EXISTING BED LEVEL
	EXISTING TOP OF BANK		PROPOSED BED LEVEL
	EXISTING FALL		PROPOSED FSL
	MODIFIED FALL		PROPOSED TOP OF BANK LEVEL
	NEW FALL		

IMPLEMENTING AGENCY :-

WAPCOS LTD.



PROJECT TITLE :-

NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND

DRAWING TITLE :-

L- SECTION OF KULHARIA SUB-DY. (OFFTAKE FROM RD - 43+667 KM. (L), NORTH KOEL RIGHT MAIN CANAL)

DRAWING NO. :-

WAP/ INFRA/ NORTHKOEL/ BC/ R-09/ LSEC-

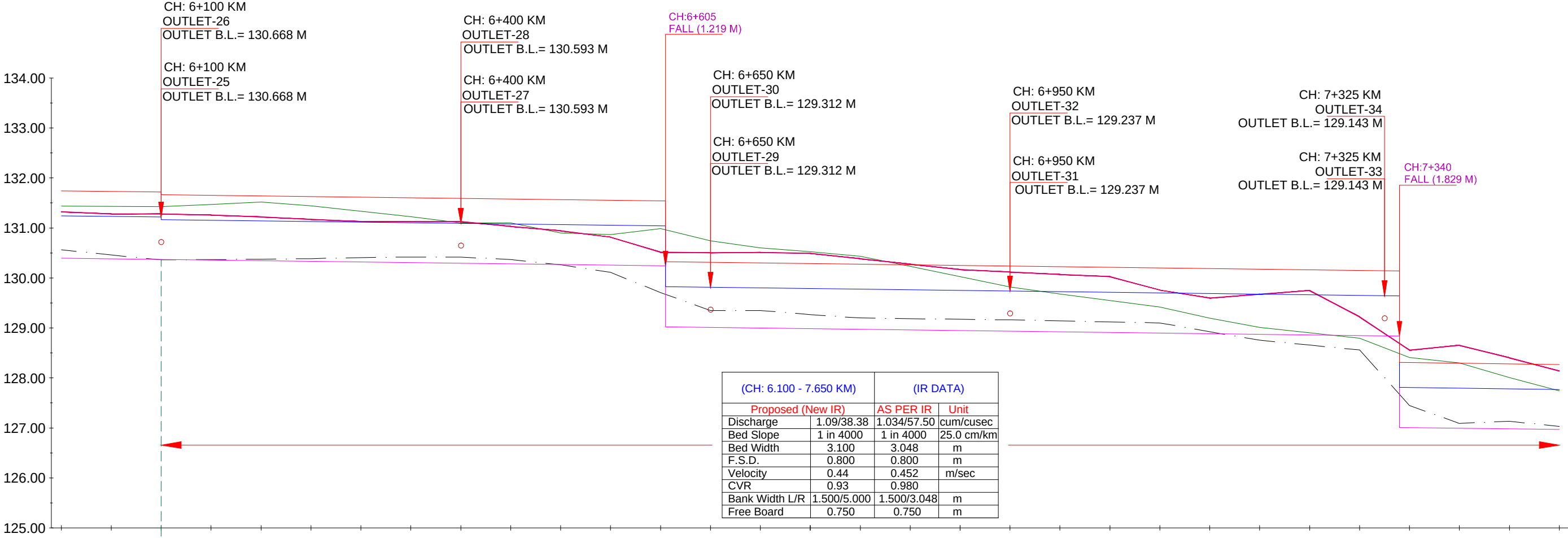
04 of 09

Drawn By:-

Checked By:-

Approved By:-

L- SECTION OF KULHARIA SUB-DISTRIBUTARY
(OFFTAKE FROM RD - 43+667 KM. (LT), NORTH KOEL RIGHT MAIN CANAL)
FROM CH 6+000 TO 7+500



Chainage IN KM	EXISTING DATA		DESIGN DATA	
	NSL	TOP OF BANK LEVEL	Proposed Bed Level	F.S.L.
6+000	131.440	131.326	130.566	131.743
6+050	131.431	131.301	130.458	131.731
6+100	131.427	131.281	130.361	131.718
6+150	131.472	131.261	130.368	131.656
6+200	131.517	131.219	130.376	131.643
6+250	131.444	131.170	130.387	131.631
6+300	131.334	131.127	130.408	131.618
6+350	131.223	131.127	130.418	131.606
6+400	131.099	131.127	130.368	131.593
6+450	130.989	131.029	130.315	131.581
6+500	130.900	130.944	130.263	131.568
6+550	130.870	130.816	130.112	131.556
6+600	130.985	130.514	129.706	131.543
6+650	130.742	130.506	129.462	130.312
6+700	130.601	130.509	129.349	130.299
6+750	130.528	130.494	129.268	130.287
6+800	130.434	130.386	129.199	130.274
6+850	130.230	130.278	129.186	130.262
6+900	130.025	130.169	129.173	130.249
6+950	129.821	130.117	129.161	130.237
7+000	129.680	130.072	129.144	130.224
7+050	129.549	130.027	129.121	130.212
7+100	129.418	129.758	129.100	130.199
7+150	129.198	129.596	128.924	130.187
7+200	129.013	129.673	128.754	130.174
7+250	128.905	129.749	128.657	130.162
7+300	128.796	129.223	128.559	130.149
7+350	128.409	128.556	127.447	130.139
7+400	128.302	128.652	127.091	128.295
7+450	128.007	128.405	127.134	128.283
7+500	127.739	128.136	127.032	128.270

LEGEND

	NSL		EXISTING BED LEVEL
	EXISTING TOP OF BANK		PROPOSED BED LEVEL
	EXISTING FALL		PROPOSED FSL
	MODIFIED FALL		PROPOSED TOP OF BANK LEVEL
	NEW FALL		

IMPLEMENTING AGENCY :-

WAPCOS LTD.



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DRAWING TITLE :-

L- SECTION OF KULHARIA SUB-DY. (OFFTAKE FROM RD - 43+667 KM. (L), NORTH KOEL RIGHT MAIN CANAL)

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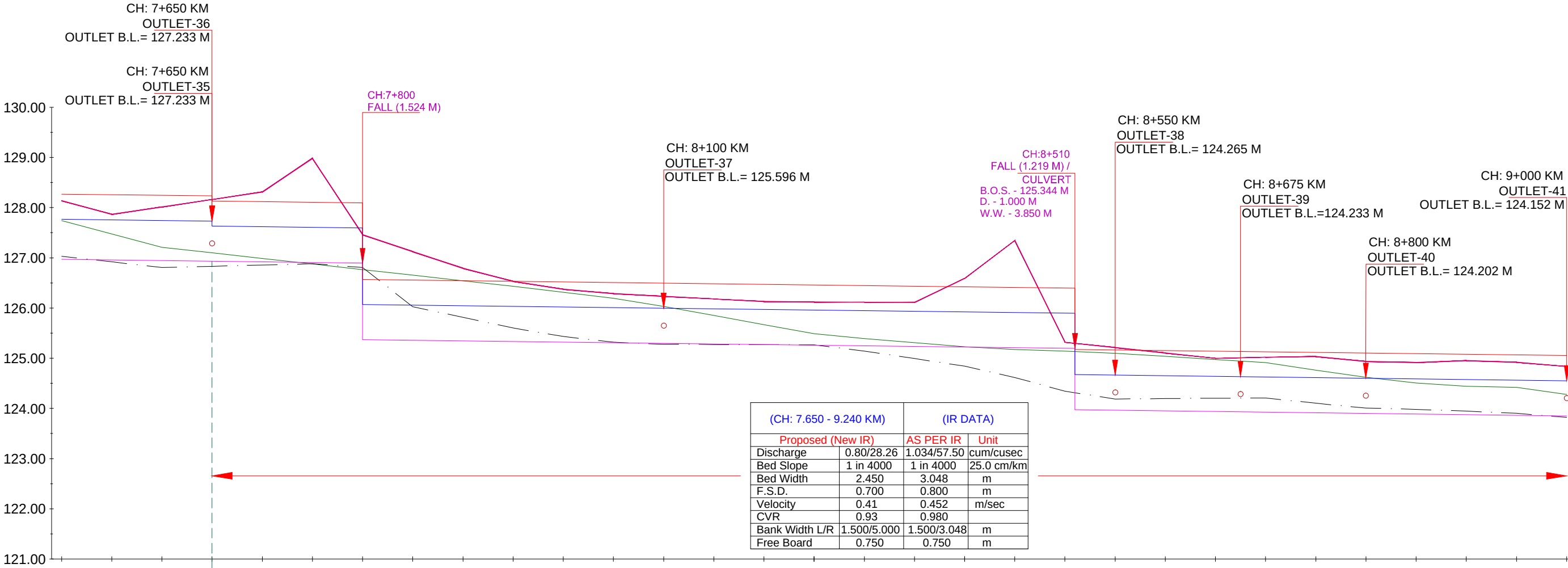
05 of 09

Drawn By:-

Checked By:-

Approved By:-

L- SECTION OF KULHARIA SUB-DISTRIBUTARY
(OFFTAKE FROM RD - 43+667 KM. (LT), NORTH KOEL RIGHT MAIN CANAL)
FROM CH 7+500 TO 9+000



EXISTING DATA	DESIGN DATA			Chainage IN KM
	TOP OF BANK LEVEL	F.S.L.	Proposed Bed Level	
Bed Level	128.270	127.770	126.970	7+500
TOP OF BANK LEVEL	128.258	127.758	126.958	7+550
NSL	128.245	127.745	126.945	7+600
	128.233	127.733	126.933	7+650
	128.120	127.620	126.920	7+700
	128.108	127.608	126.908	7+750
	128.095	127.595	126.895	7+800
	126.571	126.071	125.371	7+850
	126.559	126.059	125.359	7+900
	126.546	126.046	125.346	7+950
	126.534	126.034	125.334	8+000
	126.521	126.021	125.321	8+050
	126.509	126.009	125.309	8+100
	126.496	125.996	125.296	8+150
	126.484	125.984	125.284	8+200
	126.471	125.971	125.271	8+250
	126.459	125.959	125.259	8+300
	126.446	125.946	125.246	8+350
	126.434	125.934	125.234	8+400
	126.421	125.921	125.221	8+450
	126.409	125.909	125.209	8+500
	126.396	125.896	125.196	8+550
	126.384	125.884	125.184	8+600
	125.175	124.675	123.975	8+650
	125.165	124.665	123.965	8+700
	125.152	124.652	123.952	8+750
	125.140	124.640	123.940	8+800
	125.127	124.627	123.927	8+850
	125.115	124.615	123.915	8+900
	125.102	124.602	123.902	8+950
	125.090	124.590	123.890	9+000
	125.077	124.577	123.877	
	125.065	124.565	123.865	
	125.052	124.552	123.852	

LEGEND

	NSL		EXISTING BED LEVEL
	EXISTING TOP OF BANK		PROPOSED BED LEVEL
	EXISTING FALL		PROPOSED FSL
	MODIFIED FALL		PROPOSED TOP OF BANK LEVEL
	NEW FALL		

IMPLEMENTING AGENCY :-

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NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND

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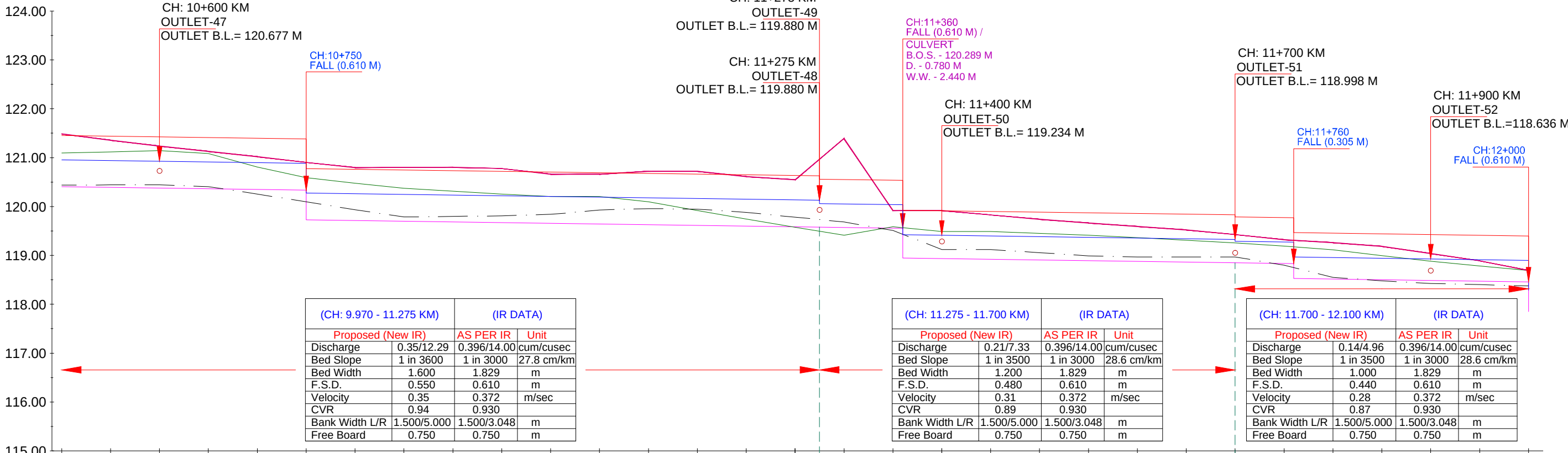
06 of 09

Drawn By:-

Checked By:-

Approved By:-

FROM CH 10+500 TO 12+000



	EXISTING DATA			DESIGN DATA		
	NSL	TOP OF BANK LEVEL	Bed Level	Proposed Bed Level	F.S.L.	BANK LEVEL
-10+500	121.095	121.487	120.437	120.405	120.955	121.455
-10+550	121.119	121.358	120.442	120.391	120.941	121.441
-10+600	121.143	121.236	120.445	120.377	120.927	121.427
-10+650	121.084	121.129	120.407	120.363	120.913	121.413
-10+700	120.809	121.018	120.255	120.349	120.899	121.399
-10+750	120.591	120.903	120.099	120.335	120.885	121.385
-10+800	120.479	120.798	119.935	119.712	120.262	120.762
-10+850	120.372	120.800	119.786	119.698	120.248	120.748
-10+900	120.312	120.802	119.798	119.684	120.234	120.734
-10+950	120.253	120.778	119.810	119.670	120.220	120.720
-11+000	120.206	120.661	119.839	119.656	120.206	120.706
-11+050	120.204	120.660	119.928	119.642	120.192	120.692
-11+100	120.097	120.744	119.957	119.628	120.178	120.678
-11+150	119.918	120.720	119.947	119.614	120.164	120.664
-11+200	119.745	120.612	119.880	119.600	120.150	120.650
-11+250	119.578	120.549	119.782	119.587	120.137	120.637
-11+275	---	---	---	119.580	120.130	120.630
-11+300	119.411	121.393	119.684	119.572	120.060	120.560
-11+350	119.587	119.916	119.509	119.558	120.038	120.538
-11+400	119.547	119.916	119.290	118.934	119.414	119.914
-11+450	119.488	119.828	119.120	118.920	119.400	119.900
-11+500	119.450	119.740	119.056	118.905	119.385	119.885
-11+550	119.412	119.663	118.992	118.891	119.371	119.871
-11+600	119.363	119.592	118.967	118.877	119.357	119.857
-11+650	119.309	119.522	118.968	118.862	119.342	119.842
-11+700	119.255	119.427	118.969	118.848	119.288	119.828
-11+750	119.188	119.322	118.798	118.834	119.274	119.774
-11+800	119.117	119.260	118.552	118.526	118.966	119.466
-11+850	118.997	119.186	118.481	118.500	118.940	119.440
-11+900	118.880	119.038	118.427	118.486	118.926	119.426
-11+950	118.785	118.890	118.401	118.472	118.912	119.412
-12+000	118.691		118.375	118.457	118.897	119.397

LEGEND			
	NSL		EXISTING BED LEVEL
	EXISTING TOP OF BANK		PROPOSED BED LEVEL
	EXISTING FALL		PROPOSED FSL
	MODIFIED FALL		PROPOSED TOP OF BANK LEVEL
	NEW FALL		

WAPCOS LTD.



NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND

L- SECTION OF KULHARIA SUB-DY. (OFFTAKE FROM RD - 43+667 KM. (L), NORTH KOEL RIGHT MAIN CANAL)

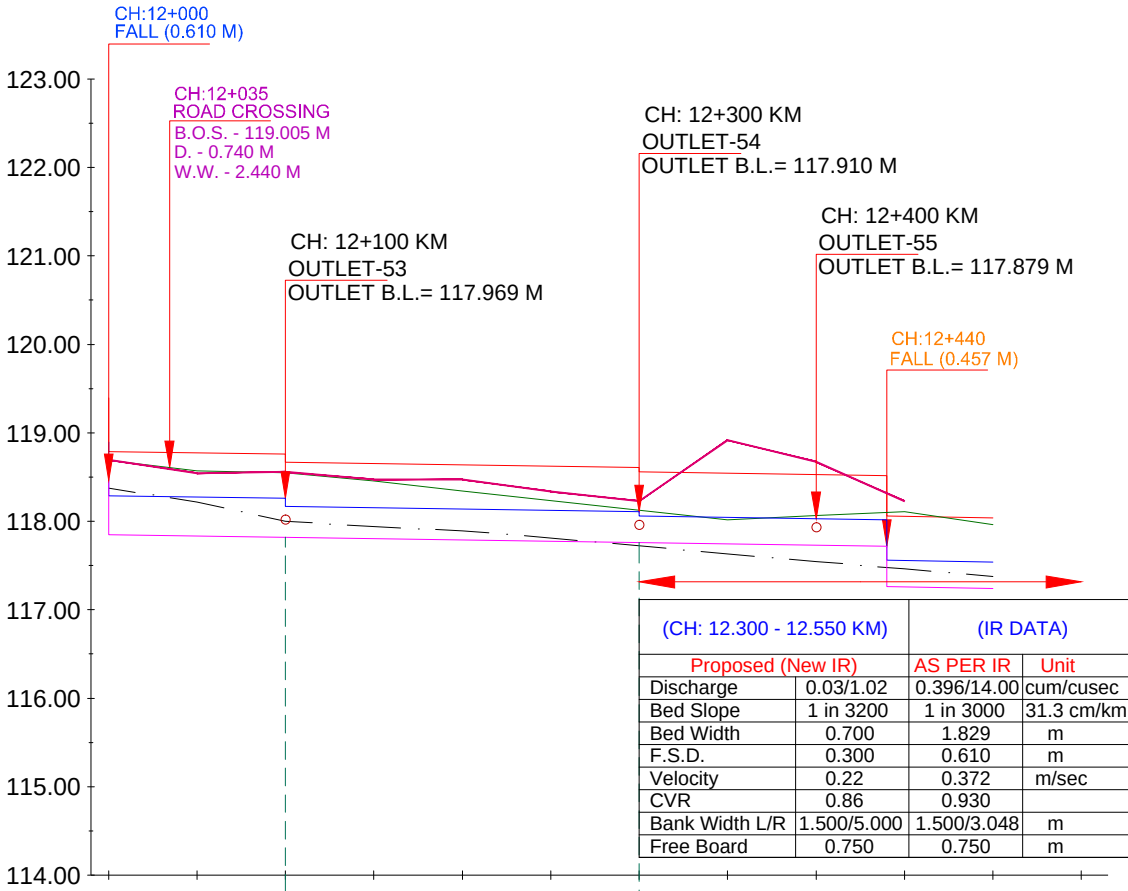
WAP/ INFRA/ NORTHKOEL/ BC/ R-09/ LSEC-

08 of 09

Approved By:-

(CH: 12.100 - 12.300 KM)		(IR DATA)	
Proposed (New IR)		AS PER IR	Unit
Discharge	0.07/2.44	0.396/14.00	cum/cusec
Bed Slope	1 in 3400	1 in 3000	28.6 cm/km
Bed Width	0.700	1.829	m
F.S.D.	0.350	0.610	m
Velocity	0.25	0.372	m/sec
CVR	0.89	0.930	
Bank Width L/R	1.500/5.000	1.500/3.048	m
Free Board	0.750	0.750	m

L- SECTION OF KULHARIA SUB-DISTRIBUTARY
(OFFTAKE FROM RD - 43+667 KM. (LT), NORTH KOEL RIGHT MAIN CANAL)
FROM CH 12+000 TO 12+550



DESIGN DATA	TOP OF BANK LEVEL	119.397	118.787	118.773	118.669	118.654	118.639	118.625	118.610	118.560	118.544	118.529	118.516	118.059	118.056	118.041
	F.S.L.	118.897	118.287	118.273	118.259	118.154	118.139	118.125	118.110	118.060	118.044	118.029	118.016	117.999	117.986	117.541
EXISTING DATA	Proposed Bed Level	118.457	117.847	117.833	117.819	117.804	117.789	117.775	117.760	117.744	117.729	117.716	117.703	117.689	117.676	117.241
	Bed Level	118.375	118.218	118.218	118.000	117.940	117.892	117.811	117.721	117.631	117.546	117.461	117.377	117.377	117.377	117.377
	TOP OF BANK LEVEL	118.693	118.544	118.544	118.559	118.584	118.472	118.338	118.230	118.155	118.073	117.987	117.901	117.815	117.729	117.643
Chainage IN KM	NSL	118.691	118.569	118.549	118.456	118.345	118.234	118.123	118.018	117.905	117.792	117.679	117.566	117.453	117.340	117.227
	Chainage	12+000	12+050	12+100	12+150	12+200	12+250	12+300	12+350	12+400	12+450	12+500	12+550	12+550	12+550	12+550

LEGEND

	NSL		EXISTING BED LEVEL
	EXISTING TOP OF BANK		PROPOSED BED LEVEL
	EXISTING FALL		PROPOSED FSL
	MODIFIED FALL		PROPOSED TOP OF BANK LEVEL
	NEW FALL		

IMPLEMENTING AGENCY :-

WAPCOS LTD.



PROJECT TITLE :-

NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND

DRAWING TITLE :-

L- SECTION OF KULHARIA SUB-DY. (OFFTAKE FROM RD - 43+667 KM. (L), NORTH KOEL RIGHT MAIN CANAL)

DRAWING NO. :-

WAP/ INFRA/ NORTHKOEL/ BC/ R-09/ LSEC-

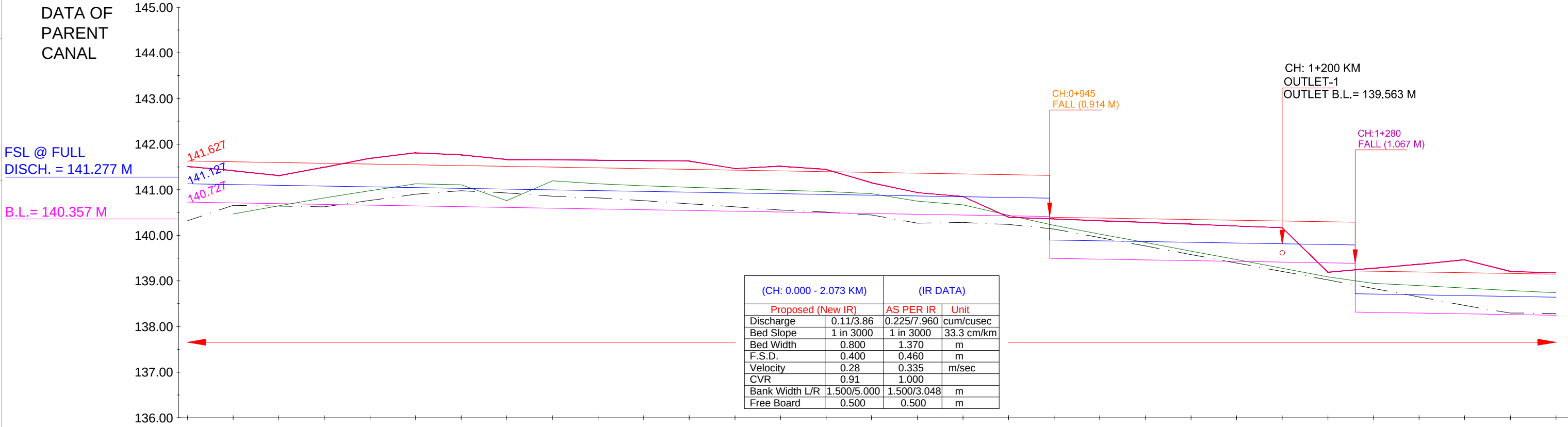
09 of 09

Drawn By:-

Checked By:-

Approved By:-

L- SECTION OF BARKI PARHI MINOR
(OFFTAKE FROM RD - 0+295 KM. (RT), KULHARIA SUB-DISTRIBUTARY CANAL)
FROM CH 0+000 TO 1+500



Chainage IN KM	EXISTING DATA		DESIGN DATA	
	NSL	TOP OF BANK LEVEL	Bed Level	Proposed Bed Level
0+000		141.511	140.319	140.727
0+050	140.469	141.417	140.658	140.710
0+100	140.646	141.308	140.639	140.694
0+150	140.819	141.495	140.627	140.677
0+200	140.976	141.689	140.763	140.660
0+250	141.132	141.806	140.902	140.644
0+300	141.109	141.764	140.979	140.627
0+350	140.761	141.661	140.928	140.610
0+400	141.195	141.655	140.857	140.594
0+450	141.130	141.646	140.820	140.577
0+500	141.088	141.638	140.760	140.560
0+550	141.054	141.629	140.692	140.544
0+600	141.020	141.463	140.624	140.527
0+650	140.986	141.516	140.556	140.510
0+700	140.962	141.444	140.510	140.494
0+750	140.913	141.151	140.443	140.477
0+800	140.750	140.937	140.268	140.460
0+850	140.670	140.850	140.280	140.444
0+900	140.441	140.397	140.239	140.427
0+950	140.218	140.359	140.137	140.412
1+000	140.030	140.320	139.951	140.380
1+050	139.842	140.281	139.765	140.363
1+100	139.654	140.243	139.579	140.346
1+150	139.466	140.204	139.393	140.330
1+200	139.278	140.166	139.208	140.313
1+250	139.090	139.192	139.022	140.296
1+300	138.950	139.280	138.836	140.286
1+350	138.897	139.368	138.650	139.196
1+400	138.844	139.461	138.463	139.179
1+450	138.790	139.209	138.297	139.163
1+500	138.739	139.178	138.289	139.146

LEGEND

NSL

EXISTING TOP OF BANK

EXISTING FALL

MODIFIED FALL

NEW FALL

EXISTING BED LEVEL

PROPOSED BED LEVEL

PROPOSED FSL

PROPOSED TOP OF BANK LEVEL

IMPLEMENTING AGENCY :-
WAPCOS LTD.



PROJECT TITLE :-
DRAWING TITLE :-
DRAWING NO. :-
Drawn By:-

NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND

L- SECTION OF BARKI PARHI MR. (OFFTAKE FROM RD - 0+295 KM. (R), KULHARIA SUB-DISTRIBUTARY CANAL)

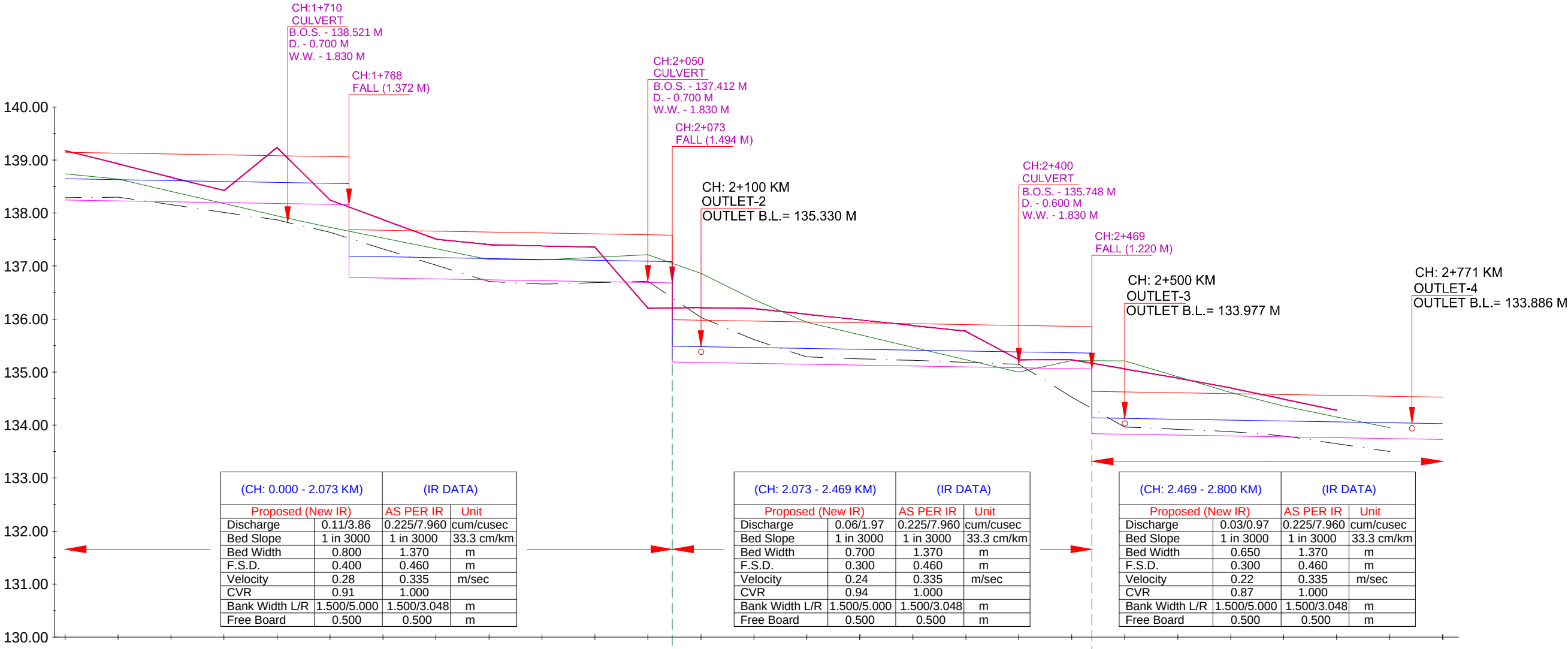
WAP/ INFRA/ NORTHKOEL/ BC/ R-09-01/ LSEC-

Checked By:-

Approved By:-

01 of 02

L- SECTION OF BARKI PARHI MINOR
(OFFTAKE FROM RD - 0+295 KM. (RT), KULHARIA SUB-DISTRIBUTARY CANAL)
FROM CH 1+500 TO 2+800



EXISTING DATA	DESIGN DATA		Chainage IN KM
	TOP OF BANK LEVEL		
	F.S.L.		
	Proposed Bed Level		
Bed Level			
TOP OF BANK LEVEL			
NSL			

138.289	138.246	138.646	139.146
138.298	138.229	138.629	139.129
138.159	138.213	138.613	139.113
138.012	138.196	138.596	139.096
137.868	138.179	138.579	139.079
137.635	138.163	138.563	139.063
137.557	138.157	138.557	139.057
137.785	138.185	138.585	139.085
137.324	138.174	138.574	139.074
137.016	138.157	138.557	139.057
136.708	138.141	138.541	139.041
136.660	138.124	138.524	139.024
136.686	138.107	138.507	139.007
136.712	138.091	138.491	138.991
136.683	138.074	138.474	138.974
136.189	138.058	138.458	138.958
136.032	138.042	138.442	138.942
135.610	138.026	138.426	138.926
135.285	138.010	138.410	138.910
135.250	137.994	138.394	138.894
135.220	137.978	138.378	138.878
135.184	137.962	138.362	138.862
135.148	137.946	138.346	138.846
134.528	137.930	138.330	138.830
135.231	137.914	138.314	138.814
133.962	137.898	138.298	138.798
133.920	137.882	138.282	138.782
133.878	137.866	138.266	138.766
133.796	137.850	138.250	138.750
133.648	137.834	138.234	138.734
133.503	137.818	138.218	138.718
	137.802	138.202	138.702

LEGEND

	NSL		EXISTING BED LEVEL
	EXISTING TOP OF BANK		PROPOSED BED LEVEL
	EXISTING FALL		PROPOSED FSL
	MODIFIED FALL		PROPOSED TOP OF BANK LEVEL
	NEW FALL		

IMPLEMENTING AGENCY :-

WAPCOS LTD.



PROJECT TITLE :-

NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND

DRAWING TITLE :-

L- SECTION OF BARKI PARHI MR. (OFFTAKE FROM RD - 0+295 KM. (R), KULHARIA SUB-DISTRIBUTARY CANAL)

DRAWING NO. :-

WAP/ INFRA/ NORTHKOEL/ BC/ R-09-01/ LSEC-

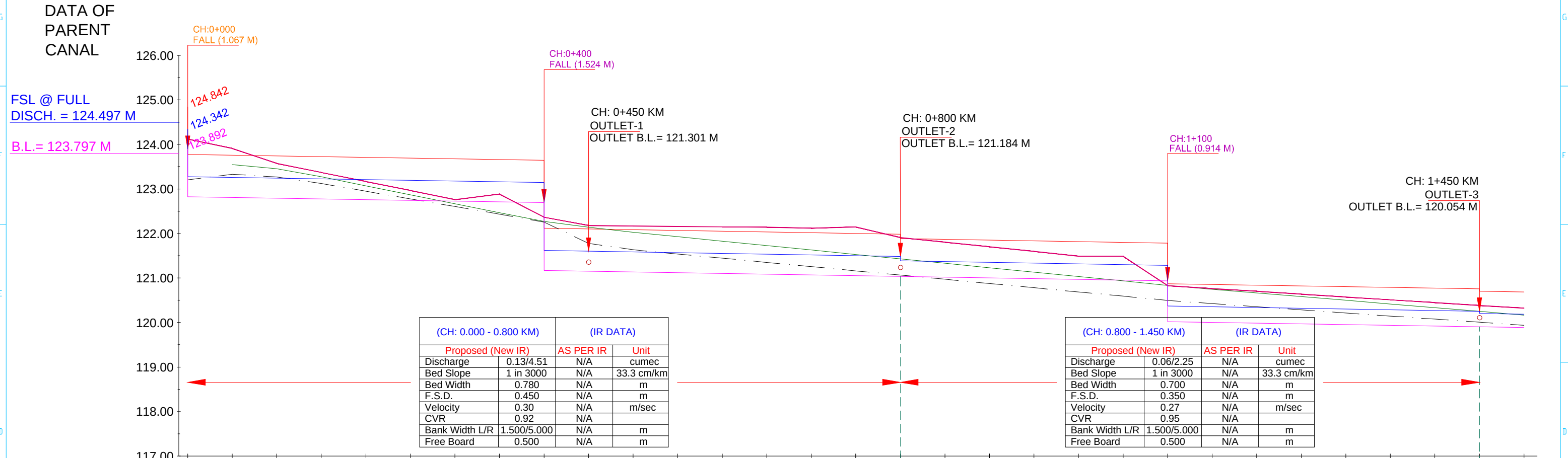
02 of 02

Drawn By:-

Checked By:-

Approved By:-

L- SECTION OF MOHAR KARMA MINOR
(OFFTAKE FROM RD - 9+220 KM. (LT), KULHARIA SUB-DISTRIBUTARY CANAL)
FROM CH 0+000 TO 1+500



Chainage IN KM	EXISTING DATA			DESIGN DATA		
	NSL	TOP OF BANK LEVEL	Bed Level	Proposed Bed Level	F.S.L.	TOP OF BANK LEVEL
- 0+000		124.123	123.204	123.892 122.825	124.342 123.275	124.842 123.775
- 0+050	123.544	123.910	123.329	122.808	123.258	123.758
- 0+100	123.451	123.574	123.268	122.792	123.242	123.742
- 0+150	123.273	123.370	123.121	122.775	123.225	123.725
- 0+200	123.071	123.167	122.949	122.758	123.208	123.708
- 0+250	122.870	122.964	122.777	122.742	123.192	123.692
- 0+300	122.668	122.761	122.605	122.725	123.175	123.675
- 0+350	122.466	122.885	122.433	122.708	123.158	123.658
- 0+400	122.271	122.366	122.255	122.682 121.168	123.142 121.618	123.642 122.118
- 0+450	122.142	122.179	121.775	121.151	121.601	122.101
- 0+500	122.026	122.169	121.634	121.134	121.584	122.084
- 0+550	121.927	122.158	121.539	121.118	121.568	122.068
- 0+600	121.827	122.148	121.444	121.101	121.551	122.051
- 0+650	121.728	122.139	121.350	121.084	121.534	122.034
- 0+700	121.629	122.118	121.255	121.068	121.518	122.018
- 0+750	121.529	122.144	121.160	121.051	121.501	122.001
- 0+800	121.430	121.909	121.065	121.034	121.484 121.384	121.984 121.884
- 0+850	121.331	121.805	120.971	121.018	121.368	121.868
- 0+900	121.231	121.701	120.876	121.001	121.351	121.851
- 0+950	121.132	121.596	120.781	120.984	121.334	121.834
- 1+000	121.033	121.491	120.687	120.968	121.318	121.818
- 1+050	120.933	121.490	120.592	120.951	121.301	121.801
- 1+100	120.834	120.827	120.497	120.934 120.020	121.284 120.370	121.784 120.870
- 1+150	120.748	120.763	120.423	120.004	120.354	120.854
- 1+200	120.665	120.700	120.353	119.987	120.337	120.837
- 1+250	120.582	120.636	120.284	119.970	120.320	120.820
- 1+300	120.499	120.573	120.214	119.954	120.304	120.804
- 1+350	120.416	120.510	120.145	119.937	120.287	120.787
- 1+400	120.333	120.447	120.076	119.920	120.270	120.770
- 1+450	120.250	120.364	120.006	119.904	120.254 120.204	120.754 120.704
- 1+500	120.167	120.320	119.937	119.887	120.187	120.687

LEGEND

NSL

EXISTING TOP OF BANK

EXISTING FALL

MODIFIED FALL

NEW FALL

EXISTING BED LEVEL

PROPOSED BED LEVEL

PROPOSED FSL

PROPOSED TOP OF BANK LEVEL

IMPLEMENTING AGENCY :-
WAPCOS LTD.

PROJECT TITLE :-
DRAWING TITLE :-
DRAWING NO. :-
Drawn By:-

NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND

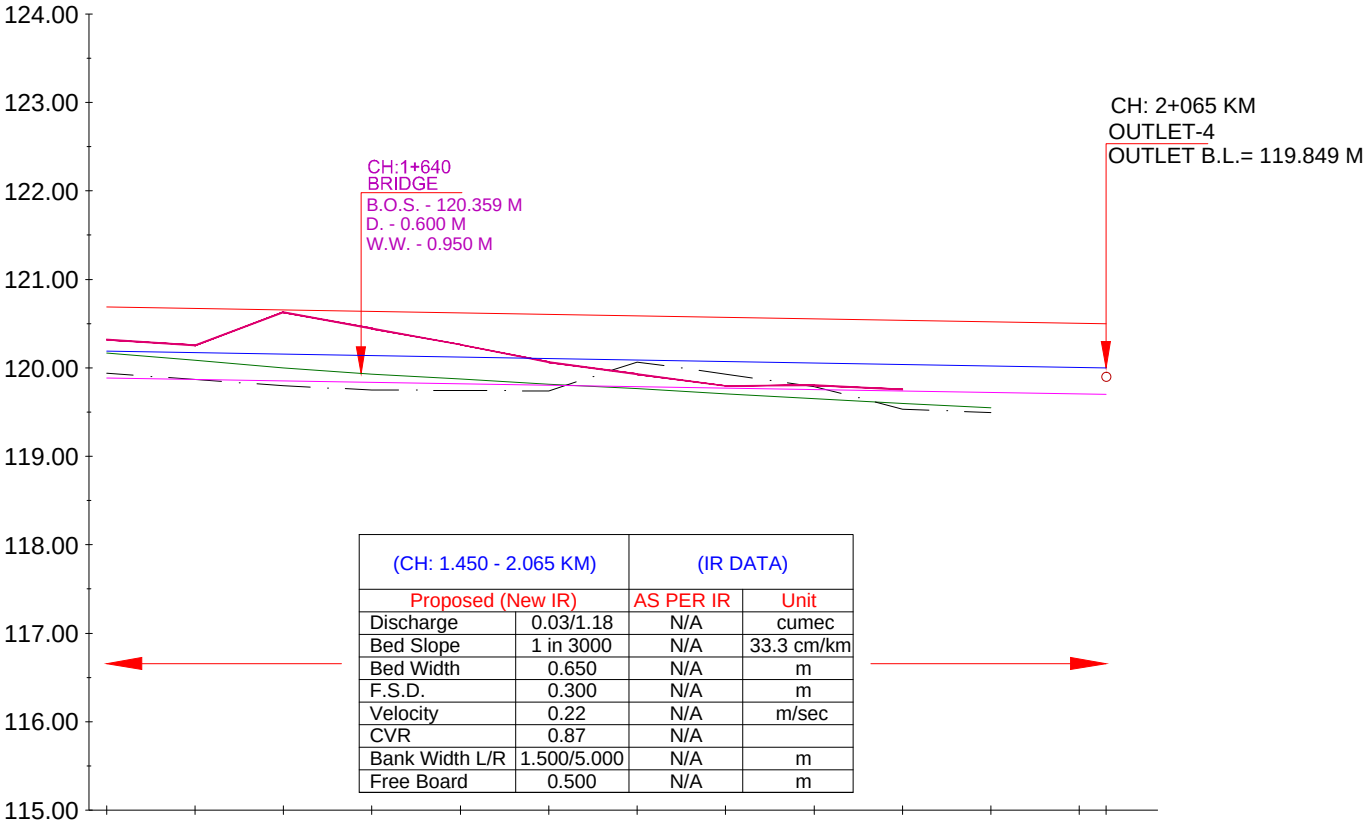
L- SECTION OF MOHAR KARMA MR. (OFFTAKE FROM RD - 9+220 KM. (L), KULHARIA SUB-DISTRIBUTARY CANAL)

WAP/ INFRA/ NORTHKOEL/ BC/ R-09-03/ LSEC-

Checked By:-
Approved By:-

01 of 02

L- SECTION OF MOHAR KARMA MINOR
(OFFTAKE FROM RD - 9+220 KM. (LT), KULHARIA SUB-DISTRIBUTARY CANAL)
FROM CH 1+500 TO 2+065



DESIGN DATA	TOP OF BANK LEVEL	120.687	120.670	120.654	120.637	120.620	120.604	120.587	120.570	120.554	120.537	120.520	120.504	120.499
	F.S.L.	120.187	120.170	120.154	120.137	120.120	120.104	120.087	120.070	120.054	120.037	120.020	120.004	119.999
	Proposed Bed Level	119.887	119.870	119.854	119.837	119.820	119.804	119.787	119.770	119.754	119.737	119.720	119.704	119.699
EXISTING DATA	Bed Level	119.937	119.867	119.798	119.749	119.745	119.739	120.066	119.928	119.790	119.533	119.495		
	TOP OF BANK LEVEL	120.320	120.257	120.627	120.445	120.263	120.065	119.930	119.796	119.803	119.754			
	NSL	120.167	120.084	120.001	119.926	119.872	119.817	119.763	119.708	119.654	119.599	119.551		
Chainage IN KM		1+500	1+550	1+600	1+650	1+700	1+750	1+800	1+850	1+900	1+950	2+000	2+050	2+065

LEGEND

	NSL		EXISTING BED LEVEL
	EXISTING TOP OF BANK		PROPOSED BED LEVEL
	EXISTING FALL		PROPOSED FSL
	MODIFIED FALL		PROPOSED TOP OF BANK LEVEL
	NEW FALL		

IMPLEMENTING AGENCY :-

WAPCOS LTD.



PROJECT TITLE :-

NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND

DRAWING TITLE :-

L- SECTION OF MOHAR KARMA MR. (OFFTAKE FROM RD - 9+220 KM. (L), KULHARIA SUB-DISTRIBUTARY CANAL)

DRAWING NO. :-

WAP/ INFRA/ NORTHKOEL/ BC/ R-09-03/ LSEC-

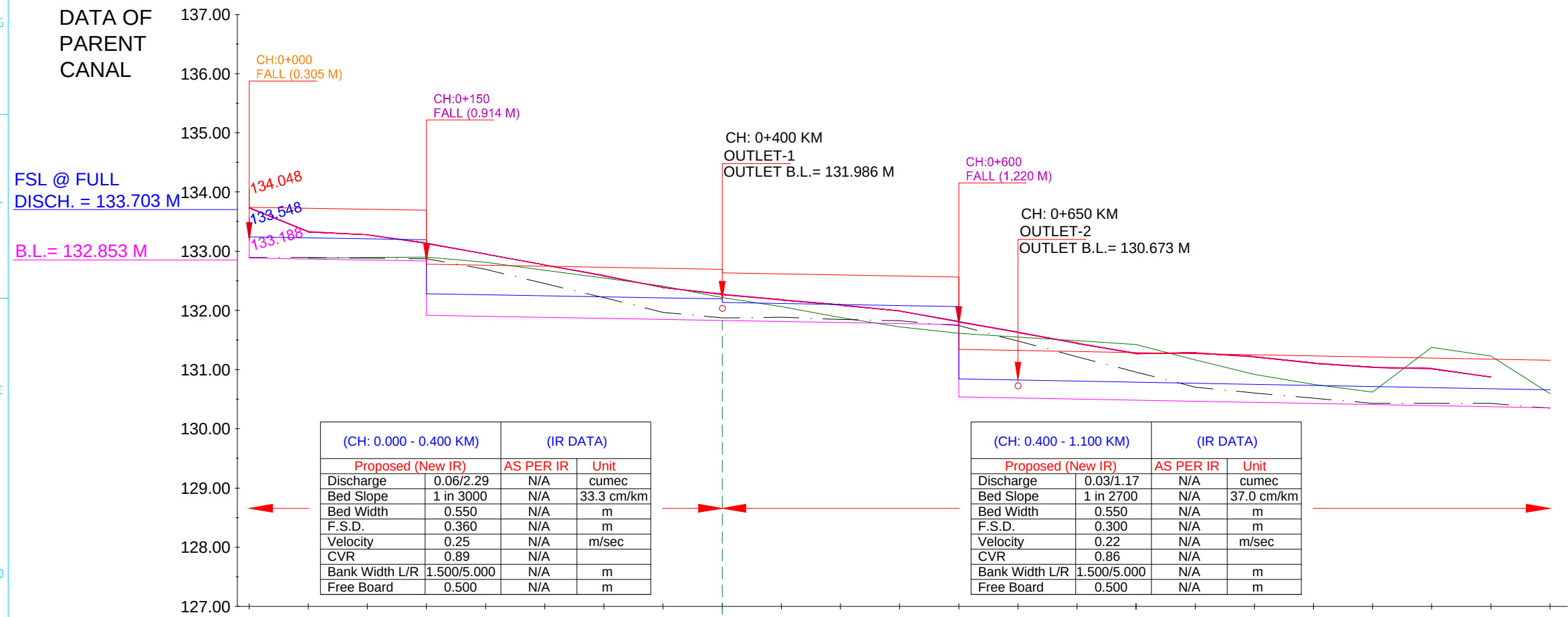
02 of 02

Drawn By:-

Checked By:-

Approved By:-

L- SECTION OF SARTAR MINOR
(OFFTAKE FROM RD - 3+480 KM. (RT, KULHARIA SUB-DISTRIBUTARY CANAL)
FROM CH 0+000 TO 1+150



Chainage IN KM	EXISTING DATA			DESIGN DATA		
	NSL	TOP OF BANK LEVEL	Bed Level	Proposed Bed Level	F.S.L.	TOP OF BANK LEVEL
0+000		133.736	132.896	133.188 132.883	133.548 133.243	134.048 133.743
0+050	132.886	133.328	132.892	132.866	133.226	133.726
0+100	132.894	133.278	132.884	132.850	133.210	133.710
0+150	132.901	133.135	132.872	132.833 131.919	133.193 132.279	133.693 132.779
0+200	132.813	132.952	132.693	131.902	132.262	132.762
0+250	132.680	132.768	132.454	131.886	132.246	132.746
0+300	132.546	132.584	132.215	131.869	132.229	132.729
0+350	132.412	132.387	131.969	131.852	132.212	132.712
0+400	132.218	132.271	131.872	131.836	132.196 132.136	132.696 132.636
0+450	132.062	132.180	131.883	131.817	132.117	132.617
0+500	131.880	132.094	131.847	131.799	132.099	132.599
0+550	131.722	131.991	131.824	131.780	132.080	132.580
0+600	131.612	131.810	131.743	131.762 130.542	132.062 130.842	132.562 131.342
0+650	131.550	131.628	131.482	130.523	130.823	131.323
0+700	131.488	131.447	131.219	130.505	130.805	131.305
0+750	131.426	131.273	130.957	130.486	130.786	131.286
0+800	131.164	131.283	130.704	130.468	130.768	131.268
0+850	130.919	131.217	130.605	130.449	130.749	131.249
0+900	130.749	131.111	130.516	130.430	130.730	131.230
0+950	130.620	131.037	130.432	130.412	130.712	131.212
1+000	131.374	131.017	130.464	130.393	130.693	131.193
1+050	131.230	130.873	130.429	130.375	130.675	131.175
1+100	130.595		130.348	130.356	130.656	131.156

LEGEND

NSL

EXISTING TOP OF BANK

EXISTING FALL

MODIFIED FALL

NEW FALL

EXISTING BED LEVEL

PROPOSED BED LEVEL

PROPOSED FSL

PROPOSED TOP OF BANK LEVEL

IMPLEMENTING AGENCY :-
WAPCOS LTD.



PROJECT TITLE :-
DRAWING TITLE :-
DRAWING NO. :-
Drawn By:-

NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND

L- SECTION OF SARTAR MR. (OFFTAKE FROM RD - 3+480 KM. (R), KULHARIA SUB-DISTRIBUTARY CANAL)

WAP/ INFRA/ NORTHKOEL/ BC/ R-09-02/ LSEC-

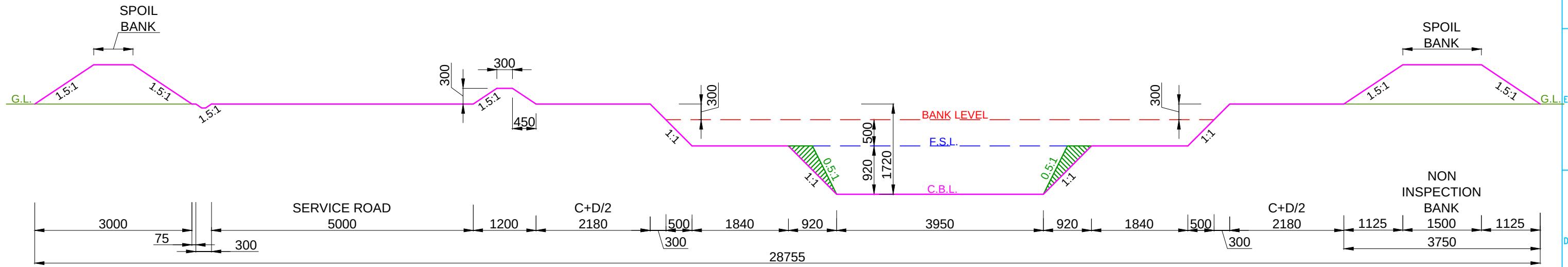
Checked By:-

Approved By:-

01 of 01

***TYPICAL X-SECTION
OF KULHARIA SUB DY***

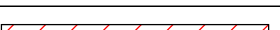
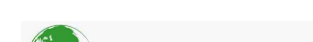
TYPICAL X-SECTION OF KULHARIA SUB-DY
FROM RD - 37+917 KM. (LT), NORTH KOEL RIGH
DESIGN SECTION FOR FULL CUTTING



DESIGN SECTION FROM CH: 0.000 KM TO CH: 1.150 KM

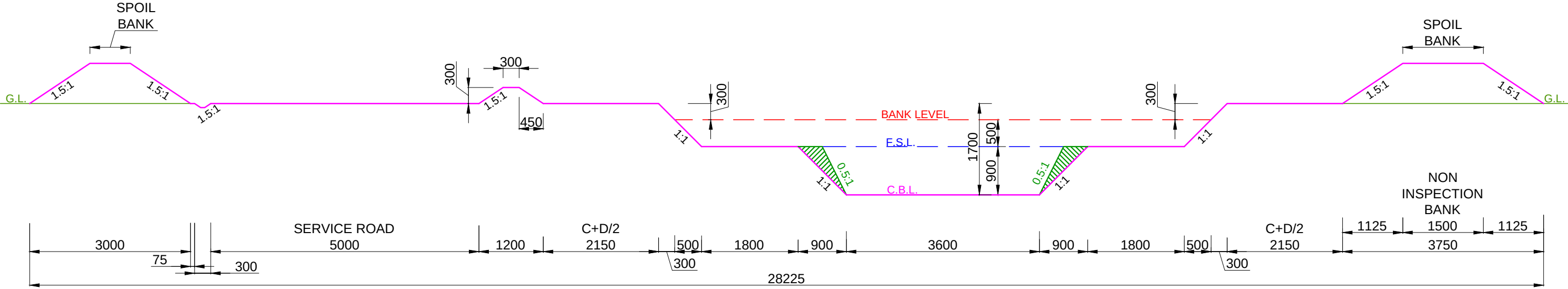
NOTE:-

1. THE BANK WIDTH HAS BEEN ADOPTED AS PER IS 7112 : 2002 (TABLE-1).
2. THE OFFTAKING CHAINAGE AND LENGTH OF THE CANAL HAS BEEN TAKEN AS PER ACTUAL SURVEY.
3. THIS IS A TYPICAL DRAWING , INSPECTION & NON-INSPECTION BANK SHALL BE TAKEN AS PER SITE CONDITIONS.

LEGEND  CUT AREA  FILL AREA		Prepared by :- WAPCOS LTD. 	Project Title :- NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
		Drawing Title :- X SECTION OF KULHARIA SUB-DY. (OFFTAKE FROM RD - 43+667 KM. (L), NORTH KOEL RIGHT MAIN CANAL)	
		Drawing No. :-¹⁷ WAP/ INFRA/ NORTHKOEL/ BC/ R-09/ XSEC /TYP-(FC)	1 of 12

TYPICAL X-SECTION OF KULHARIA SUB-DY
(OFFTAKE FROM RD - 37+917 KM. (LT), NORTH KOEL RIGHT MAIN CANAL)

DESIGN SECTION FOR FULL CUTTING

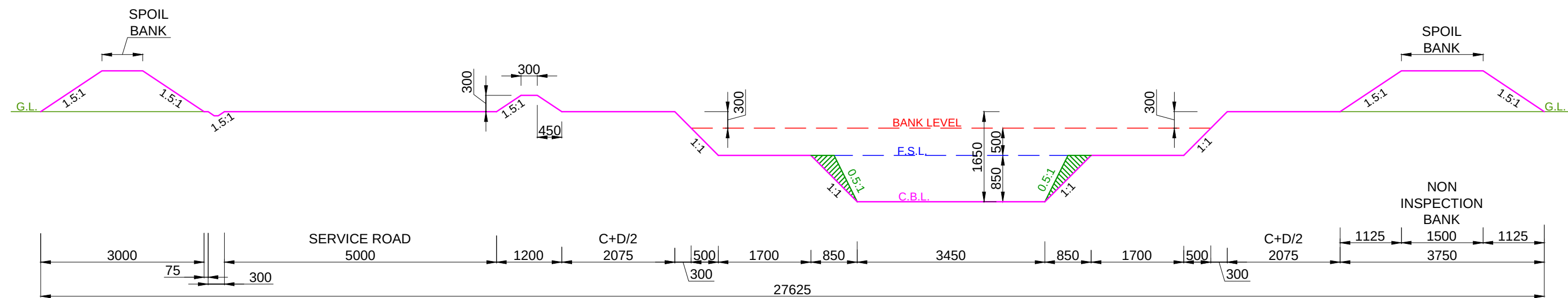


DESIGN SECTION FROM CH: 1.150 KM TO CH: 2.500 KM

- NOTE:-
- 1. THE BANK WIDTH HAS BEEN ADOPTED AS PER IS 7112 : 2002 (TABLE-1).
 - 2. THE OFFTAKING CHAINAGE AND LENGTH OF THE CANAL HAS BEEN TAKEN AS PER ACTUAL SURVEY.
 - 3. THIS IS A TYPICAL DRAWING , INSPECTION & NON-INSPECTION BANK SHALL BE TAKEN AS PER SITE CONDITIONS.

LEGEND CUT AREA FILL AREA		Prepared by :- WAPCOS LTD.	Project Title :- NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
			Drawing Title :- X SECTION OF KULHARIA SUB-DY. (OFFTAKE FROM RD - 43+667 KM. (L), NORTH KOEL RIGHT MAIN CANAL)
			Drawing No. :-¹⁸ WAP/ INFRA/ NORTHKOEL/ BC/ R-09/ XSEC /TYP-(FC) 2 of 12

TYPICAL X-SECTION OF KULHARIA SUB-DY
(OFFTAKE FROM RD - 37+917 KM. (LT), NORTH KOEL RIGHT MAIN CANAL)
DESIGN SECTION FOR FULL CUTTING



DESIGN SECTION FROM CH: 2.500 KM TO CH: 3.500 KM

- NOTE:-
- 1. THE BANK WIDTH HAS BEEN ADOPTED AS PER IS 7112 : 2002 (TABLE-1).
 - 2. THE OFFTAKING CHAINAGE AND LENGTH OF THE CANAL HAS BEEN TAKEN AS PER ACTUAL SURVEY.
 - 3. THIS IS A TYPICAL DRAWING , INSPECTION & NON-INSPECTION BANK SHALL BE TAKEN AS PER SITE CONDITIONS.

LEGEND CUT AREA FILL AREA		Prepared by :- WAPCOS LTD.	Project Title :- NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
			Drawing Title :- X SECTION OF KULHARIA SUB-DY. (OFFTAKE FROM RD - 43+667 KM. (L), NORTH KOEL RIGHT MAIN CANAL)
			Drawing No. :-¹⁹ WAP/ INFRA/ NORTHKOEL/ BC/ R-09/ XSEC /TYP-(FC)3 of 12

The diagram illustrates a cross-section of a road profile with the following features:

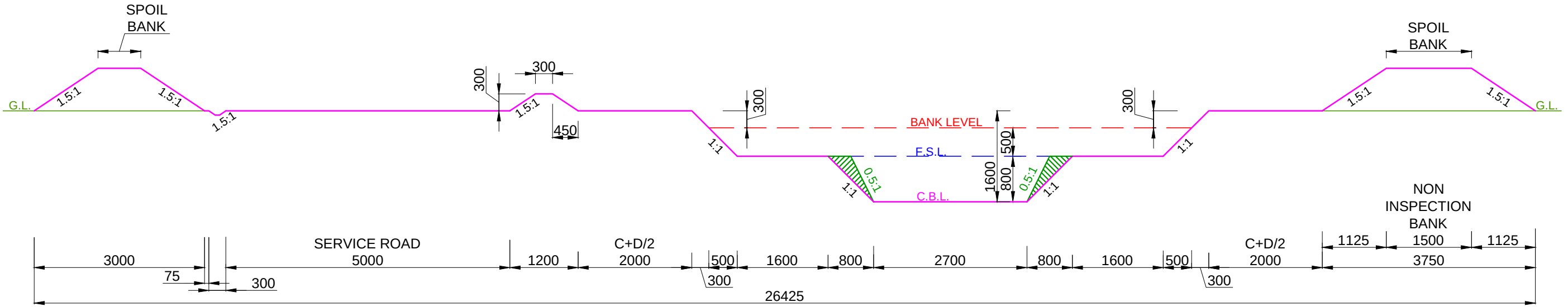
- SPOIL BANK**: Located at both ends of the profile.
- G.L.**: Ground Level, indicated by green lines.
- BANK LEVEL**: Indicated by a red dashed line.
- E.S.L.**: Existing Surface Level, indicated by a blue dashed line.
- C.B.L.**: Centerline Bank Level, indicated by a magenta solid line.
- SLOPES**: Various slopes are shown, including 1.5:1, 1:1, and 0.5:1.
- DIMENSIONS**: Vertical dimensions include 300, 450, 1600, 800, and 500. Horizontal dimensions include 3000, 75, 300, 5000, 1200, 500, 300, 1600, 800, 2700, 800, 1600, 500, 300, 1125, 1500, and 1125.
- SERVICE ROAD**: A section labeled "SERVICE ROAD" with a width of 5000.
- C+D/2**: A section labeled "C+D/2" with a width of 2000.
- NON INSPECTION BANK**: A section labeled "NON INSPECTION BANK" with a width of 3750.
- TOTAL WIDTH**: The total width of the profile is 26425.

NOTE:-

1. THE BANK WIDTH HAS BEEN ADOPTED AS PER IS 7112 : 2002 (TABLE-1).
2. THE OFFTAKING CHAINAGE AND LENGTH OF THE CANAL HAS BEEN TAKEN AS PER ACTUAL SURVEY.
3. THIS IS A TYPICAL DRAWING , INSPECTION & NON-INSPECTION BANK SHALL BE TAKEN AS PER SITE CONDITIONS.

5 of 12

TYPICAL X-SECTION OF KULHARIA SUB-DY
(OFFTAKE FROM RD - 37+917 KM. (LT), NORTH KOEL RIGHT MAIN CANAL)
DESIGN SECTION FOR FULL CUTTING

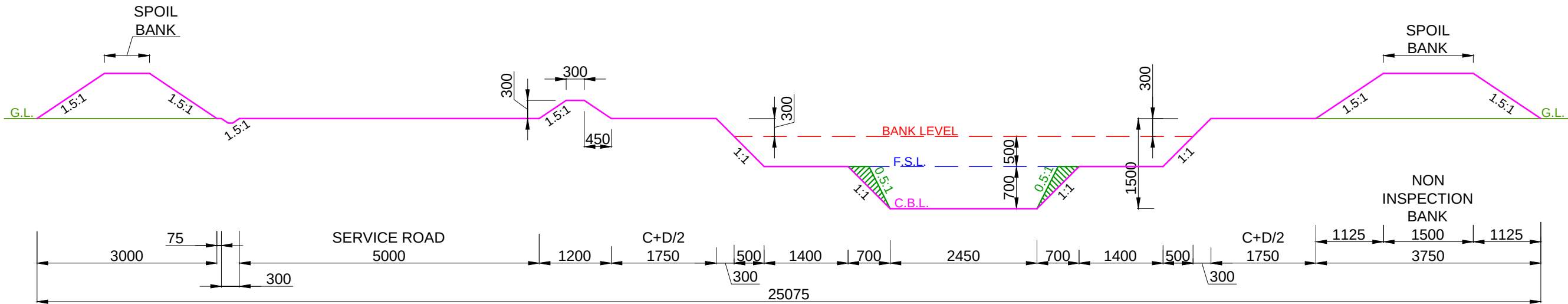


DESIGN SECTION FROM CH: 6.100 KM TO CH: 7.650 KM

- NOTE:-**
1. THE BANK WIDTH HAS BEEN ADOPTED AS PER IS 7112 : 2002 (TABLE-1).
 2. THE OFFTAKING CHAINAGE AND LENGTH OF THE CANAL HAS BEEN TAKEN AS PER ACTUAL SURVEY.
 3. THIS IS A TYPICAL DRAWING , INSPECTION & NON-INSPECTION BANK SHALL BE TAKEN AS PER SITE CONDITIONS.

LEGEND CUT AREA FILL AREA		Prepared by :- WAPCOS LTD.	Project Title :- NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
			Drawing Title :- X SECTION OF KULHARIA SUB-DY. (OFFTAKE FROM RD - 43+667 KM. (L), NORTH KOEL RIGHT MAIN CANAL)
			Drawing No. :-²¹ WAP/ INFRA/ NORTHKOEL/ BC/ R-09/ XSEC /TYP-(FC)5 of 12

TYPICAL X-SECTION OF KULHARIA SUB-DY
(OFFTAKE FROM RD - 37+917 KM. (LT), NORTH KOEL RIGHT MAIN CANAL)
DESIGN SECTION FOR FULL CUTTING

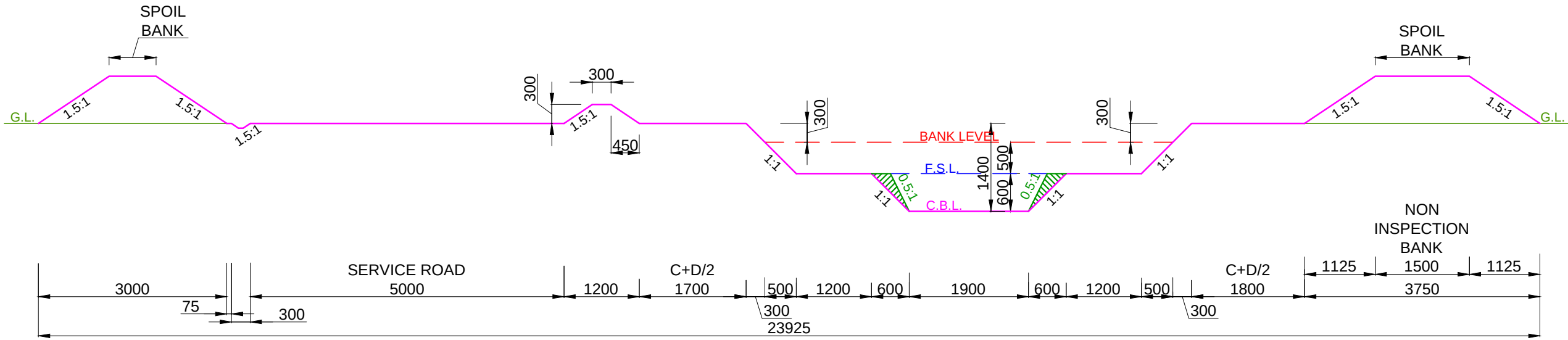


DESIGN SECTION FROM CH: 7.650 KM TO CH: 9.240 KM

- NOTE:-
- 1. THE BANK WIDTH HAS BEEN ADOPTED AS PER IS 7112 : 2002 (TABLE-1).
 - 2. THE OFFTAKING CHAINAGE AND LENGTH OF THE CANAL HAS BEEN TAKEN AS PER ACTUAL SURVEY.
 - 3. THIS IS A TYPICAL DRAWING , INSPECTION & NON-INSPECTION BANK SHALL BE TAKEN AS PER SITE CONDITIONS.

LEGEND CUT AREA FILL AREA		Prepared by :- WAPCOS LTD. 	Project Title :- NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
			Drawing Title :- X SECTION OF KULHARIA SUB-DY. (OFFTAKE FROM RD - 43+667 KM. (L), NORTH KOEL RIGHT MAIN CANAL)
			Drawing No. :-²² WAP/ INFRA/ NORTHKOEL/ BC/ R-09/ XSEC /TYP-(FC)6 of 12

TYPICAL X-SECTION OF KULHARIA SUB-DY
(OFFTAKE FROM RD - 37+917 KM. (LT), NORTH KOEL RIGHT MAIN CANAL)
DESIGN SECTION FOR FULL CUTTING



DESIGN SECTION FROM CH: 9.240 KM TO CH: 9.970 KM

- NOTE:-
1. THE BANK WIDTH HAS BEEN ADOPTED AS PER IS 7112 : 2002 (TABLE-1).
 2. THE OFFTAKING CHAINAGE AND LENGTH OF THE CANAL HAS BEEN TAKEN AS PER ACTUAL SURVEY.
 3. THIS IS A TYPICAL DRAWING , INSPECTION & NON-INSPECTION BANK SHALL BE TAKEN AS PER SITE CONDITIONS.

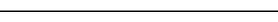
LEGEND CUT AREA FILL AREA		Prepared by :- WAPCOS LTD.	Project Title :- NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
			Drawing Title :- X SECTION OF KULHARIA SUB-DY. (OFFTAKE FROM RD - 43+667 KM. (L), NORTH KOEL RIGHT MAIN CANAL)
			Drawing No. :-²³ WAP/ INFRA/ NORTHKOEL/ BC/ R-09/ XSEC /TYP-(FC) 7 of 12

The diagram illustrates a cross-section of a road project with the following details:

- Ground Level (G.L.):** Represented by a green line.
- Bank Level:** Represented by a red dashed line.
- Full-Scale Level (F.S.L.):** Represented by a blue line.
- Canal Bank Level (C.B.L.):** Represented by a magenta line.
- Spoil Bank:** Located on the left side of the diagram.
- Service Road:** 5000 units wide.
- Canal:** 1625 units wide.
- Non-Inspection Bank:** 3750 units wide.
- Dimensions:** Various horizontal dimensions are provided, including 3000, 75, 300, 1200, 500, 1100, 550, 1600, 550, 1100, 500, 1625, 1125, 1500, and 1125.
- Slopes:** Indicated as 1.5:1 and 1:1.
- Total Length:** 23075 units.

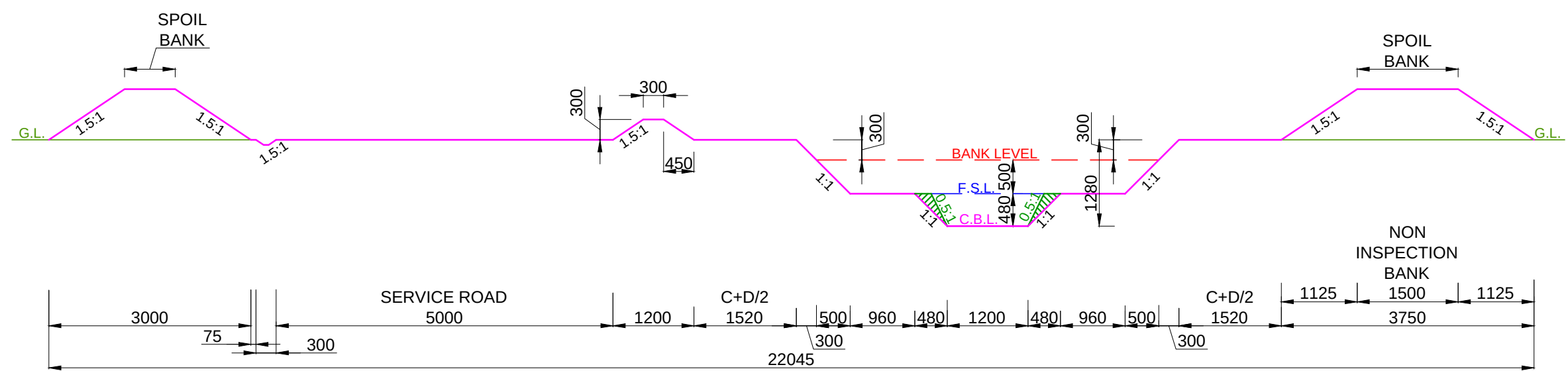
NOTE:-

1. THE BANK WIDTH HAS BEEN ADOPTED AS PER IS 7112 : 2002 (TABLE-1).
2. THE OFFTAKING CHAINAGE AND LENGTH OF THE CANAL HAS BEEN TAKEN AS PER ACTUAL SURVEY.
3. THIS IS A TYPICAL DRAWING , INSPECTION & NON-INSPECTION BANK SHALL BE TAKEN AS PER SITE CONDITIONS.

LEGEND		Prepared by :- WAPCOS LTD. 	Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND	
	CUT AREA		Drawing Title :-	X SECTION OF KULHARIA SUB-DY. (OFFTAKE FROM RD - 43+667 KM. (L), NORTH KOEL RIGHT MAIN CANAL)	
	FILL AREA		Drawing No. :- ²⁴	WAP/ INFRA/ NORTHKOEL/ BC/ R-09/ XSEC /TYP-(FC)8 of 12	

TYPICAL X-SECTION OF KULHARIA SUB-DY
(OFFTAKE FROM RD - 37+917 KM. (LT), NORTH KOEL RIGHT MAIN CANAL)

DESIGN SECTION FOR FULL CUTTING



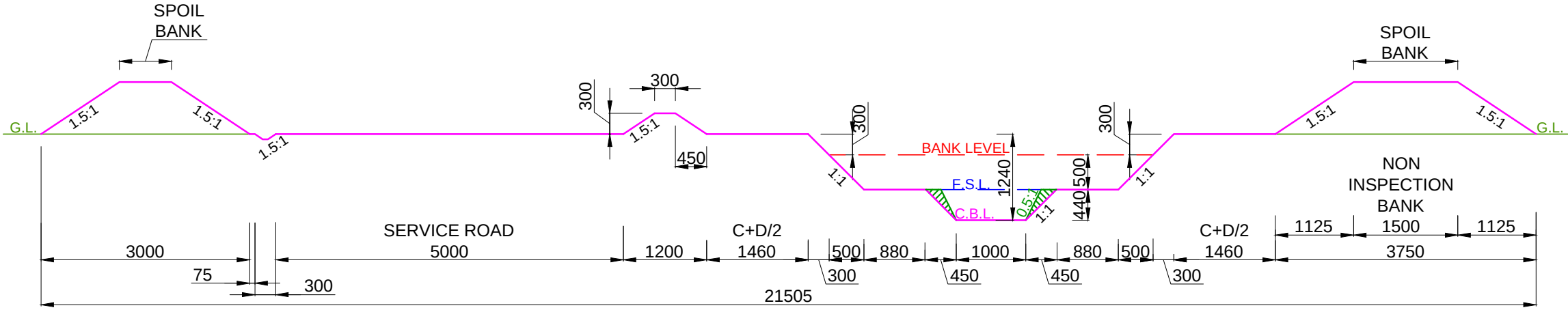
DESIGN SECTION FROM CH: 11.275 KM TO CH: 11.700 KM

- NOTE:-
- 1. THE BANK WIDTH HAS BEEN ADOPTED AS PER IS 7112 : 2002 (TABLE-1).
 - 2. THE OFFTAKING CHAINAGE AND LENGTH OF THE CANAL HAS BEEN TAKEN AS PER ACTUAL SURVEY.
 - 3. THIS IS A TYPICAL DRAWING , INSPECTION & NON-INSPECTION BANK SHALL BE TAKEN AS PER SITE CONDITIONS.

LEGEND CUT AREA FILL AREA		Prepared by :- WAPCOS LTD.	Project Title :- NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
			Drawing Title :- X SECTION OF KULHARIA SUB-DY. (OFFTAKE FROM RD - 43+667 KM. (L), NORTH KOEL RIGHT MAIN CANAL)
			Drawing No. :-²⁵ WAP/ INFRA/ NORTHKOEL/ BC/ R-09/ XSEC /TYP-(FC) 9 of 12

TYPICAL X-SECTION OF KULHARIA SUB-DY
(OFFTAKE FROM RD - 37+917 KM. (LT), NORTH KOEL RIGHT MAIN CANAL)

DESIGN SECTION FOR FULL CUTTING

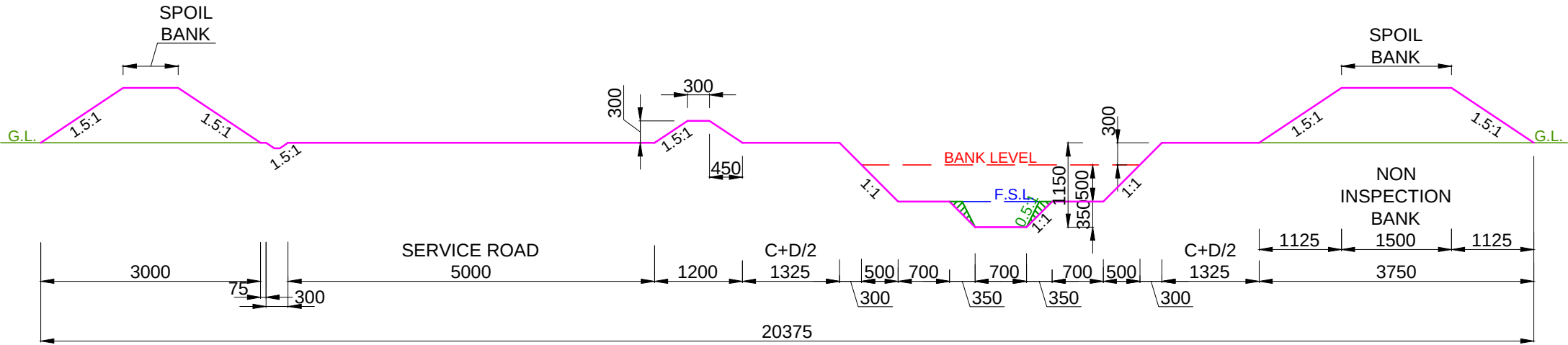


DESIGN SECTION FROM CH: 11.700 KM TO CH: 12.100 KM

- NOTE:-
- 1. THE BANK WIDTH HAS BEEN ADOPTED AS PER IS 7112 : 2002 (TABLE-1).
 - 2. THE OFFTAKING CHAINAGE AND LENGTH OF THE CANAL HAS BEEN TAKEN AS PER ACTUAL SURVEY.
 - 3. THIS IS A TYPICAL DRAWING , INSPECTION & NON-INSPECTION BANK SHALL BE TAKEN AS PER SITE CONDITIONS.

LEGEND CUT AREA FILL AREA		Prepared by :- WAPCOS LTD.	Project Title :- NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
			Drawing Title :- X SECTION OF KULHARIA SUB-DY. (OFFTAKE FROM RD - 43+667 KM. (L), NORTH KOEL RIGHT MAIN CANAL)
			Drawing No. :-²⁶ WAP/ INFRA/ NORTHKOEL/ BC/ R-09/ XSEC /TYP-(FC) 10 of 12

TYPICAL X-SECTION OF KULHARIA SUB-DY
(OFFTAKE FROM RD - 37+917 KM. (LT), NORTH KOEL RIGHT MAIN CANAL)
DESIGN SECTION FOR FULL CUTTING



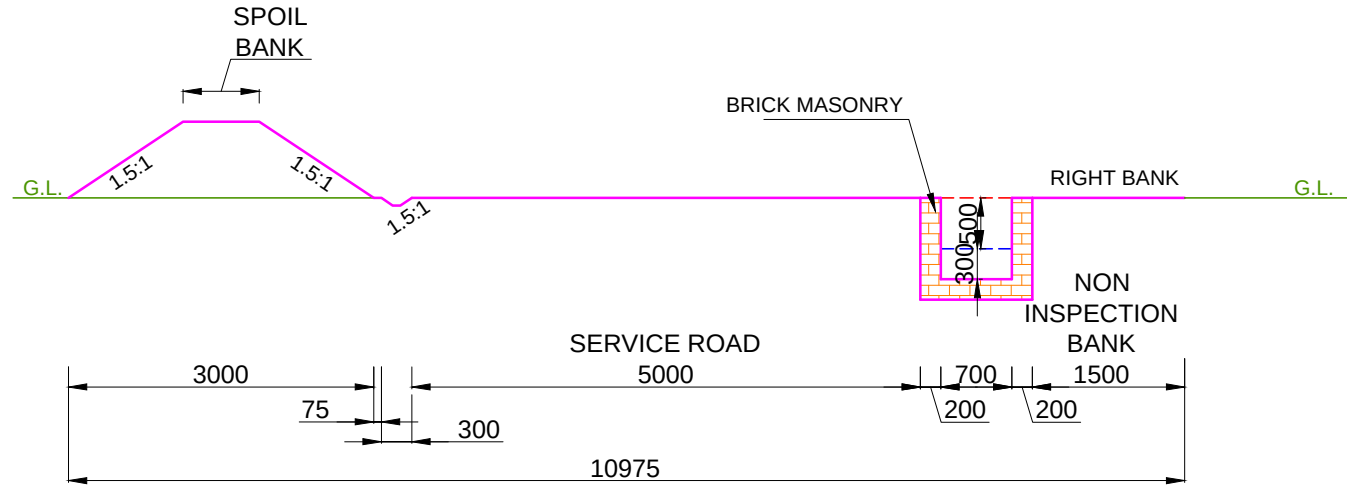
DESIGN SECTION FROM CH: 12.100 KM TO CH: 12.300 KM

- NOTE:-
- 1. THE BANK WIDTH HAS BEEN ADOPTED AS PER IS 7112 : 2002 (TABLE-1).
 - 2. THE OFFTAKING CHAINAGE AND LENGTH OF THE CANAL HAS BEEN TAKEN AS PER ACTUAL SURVEY.
 - 3. THIS IS A TYPICAL DRAWING , INSPECTION & NON-INSPECTION BANK SHALL BE TAKEN AS PER SITE CONDITIONS.

LEGEND CUT AREA FILL AREA		Prepared by :- WAPCOS LTD.	Project Title :- NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
			Drawing Title :- X SECTION OF KULHARIA SUB-DY. (OFFTAKE FROM RD - 43+667 KM. (L), NORTH KOEL RIGHT MAIN CANAL)
			Drawing No. :-²⁷ WAP/ INFRA/ NORTHKOEL/ BC/ R-09/ XSEC /TYP-(FC) 11 of 12

TYPICAL X-SECTION OF KULHARIA SUB-DY
(OFFTAKE FROM RD - 37+917 KM. (LT), NORTH KOEL RIGHT MAIN CANAL)

DESIGN SECTION FOR FULL CUTTING

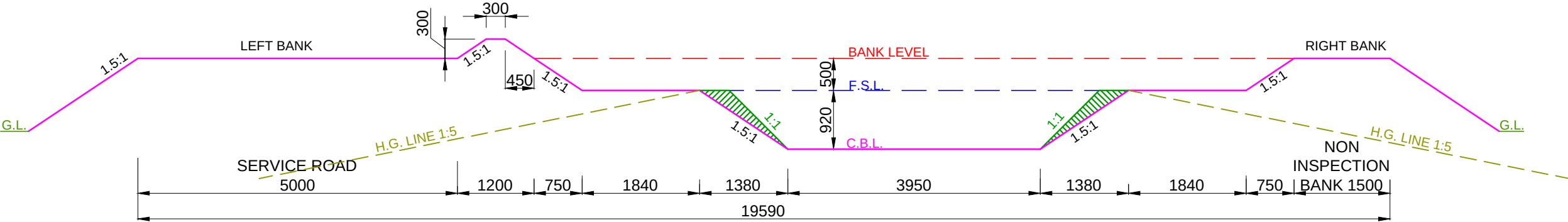


DESIGN SECTION FROM CH: 12.300 KM TO CH: 12.550 KM

- NOTE:-
- 1. THE BANK WIDTH HAS BEEN ADOPTED AS PER IS 7112 : 2002 (TABLE-1).
 - 2. THE OFFTAKING CHAINAGE AND LENGTH OF THE CANAL HAS BEEN TAKEN AS PER ACTUAL SURVEY.
 - 3. THIS IS A TYPICAL DRAWING , INSPECTION & NON-INSPECTION BANK SHALL BE TAKEN AS PER SITE CONDITIONS.

LEGEND CUT AREA FILL AREA		Prepared by :- WAPCOS LTD.	Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND				
			Drawing Title :-	X SECTION OF KULHARIA SUB-DY. (OFFTAKE FROM RD - 43+667 KM. (L), NORTH KOEL RIGHT MAIN CANAL)				
			Drawing No. :- ²⁸	WAP/ INFRA/ NORTHKOEL/ BC/ R-09/ XSEC /TYP-(FC)12 of 12				

TYPICAL X-SECTION OF KULHARIA SUB-DY
(OFFTAKE FROM RD - 37+917 KM. (LT), NORTH KOEL RIGHT MAIN CANAL)
DESIGN SECTION FOR FULL FILLING

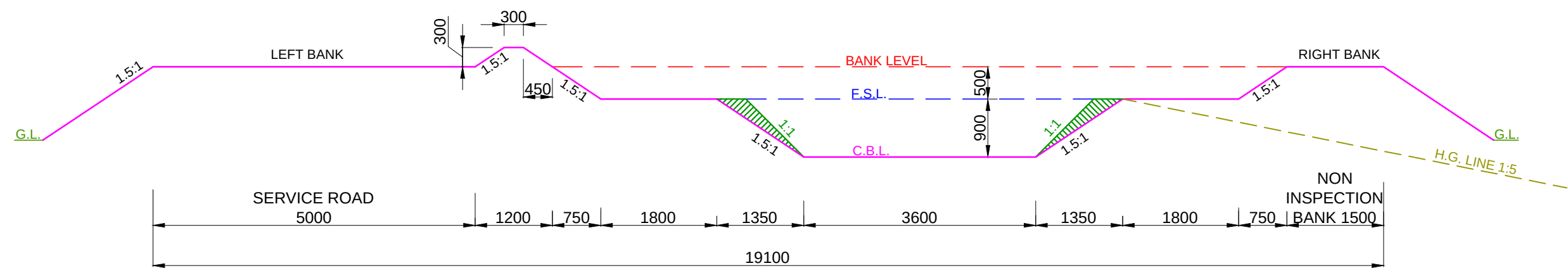


DESIGN SECTION FROM CH: 0.000 KM TO CH: 1.150 KM

- NOTE:-
- 1. THE BANK WIDTH HAS BEEN ADOPTED AS PER IS 7112 : 2002 (TABLE-1).
 - 2. THE OFFTAKING CHAINAGE AND LENGTH OF THE CANAL HAS BEEN TAKEN AS PER ACTUAL SURVEY.
 - 3. THIS IS A TYPICAL DRAWING , INSPECTION & NON-INSPECTION BANK SHALL BE TAKEN AS PER SITE CONDITIONS.

LEGEND CUT AREA FILL AREA		Prepared by :- WAPCOS LTD.	Project Title :- NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
			Drawing Title :- X SECTION OF KULHARIA SUB-DY. (OFFTAKE FROM RD - 43+667 KM. (L), NORTH KOEL RIGHT MAIN CANAL)
			Drawing No. :-²⁹ WAP/ INFRA/ NORTHKOEL/ BC/ R-09/ XSEC /TYP-(FF) 1 of 12

TYPICAL X-SECTION OF KULHARIA SUB-DY
(OFFTAKE FROM RD - 37+917 KM. (LT), NORTH KOEL RIGHT MAIN CANAL)
DESIGN SECTION FOR FULL FILLING

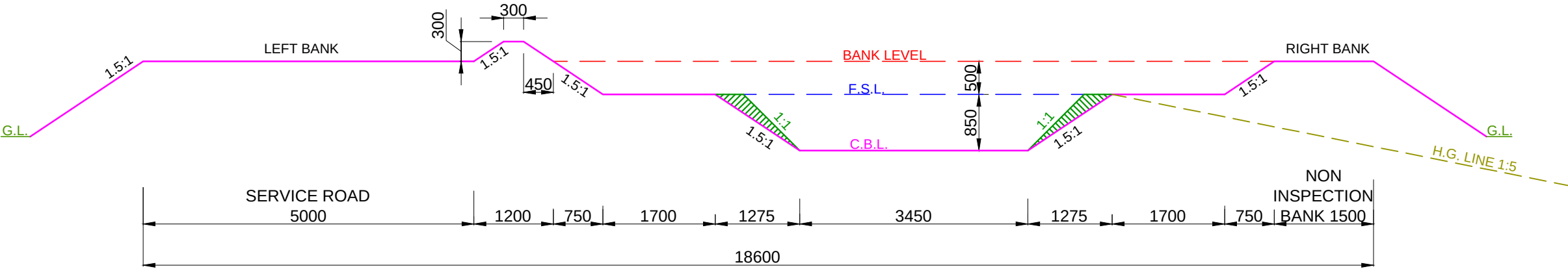


DESIGN SECTION FROM CH: 1.150 KM TO CH: 2.500 KM

- NOTE:-
- 1. THE BANK WIDTH HAS BEEN ADOPTED AS PER IS 7112 : 2002 (TABLE-1).
 - 2. THE OFFTAKING CHAINAGE AND LENGTH OF THE CANAL HAS BEEN TAKEN AS PER ACTUAL SURVEY.
 - 3. THIS IS A TYPICAL DRAWING , INSPECTION & NON-INSPECTION BANK SHALL BE TAKEN AS PER SITE CONDITIONS.

LEGEND CUT AREA FILL AREA		Prepared by :- WAPCOS LTD.	Project Title :- NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
			Drawing Title :- X SECTION OF KULHARIA SUB-DY. (OFFTAKE FROM RD - 43+667 KM. (L), NORTH KOEL RIGHT MAIN CANAL)
			Drawing No. :-³⁰ WAP/ INFRA/ NORTHKOEL/ BC/ R-09/ XSEC /TYP-(FF) 2 of 12

TYPICAL X-SECTION OF KULHARIA SUB-DY
(OFFTAKE FROM RD - 37+917 KM. (LT), NORTH KOEL RIGHT MAIN CANAL)
DESIGN SECTION FOR FULL FILLING

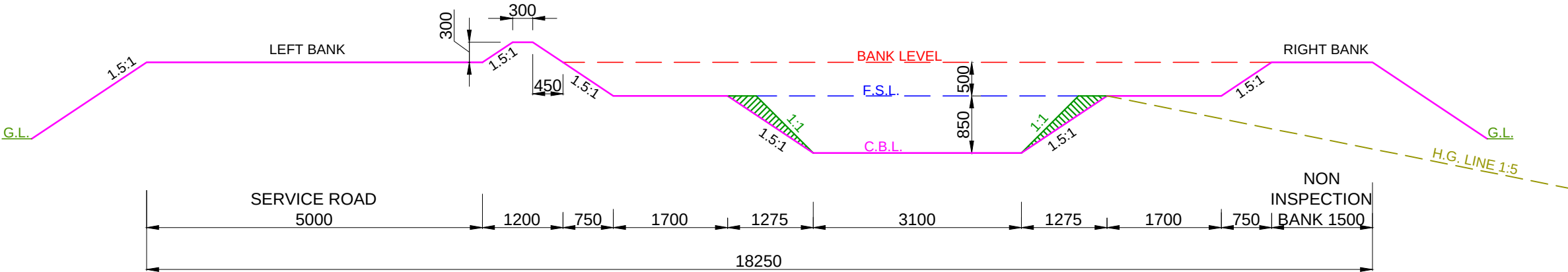


DESIGN SECTION FROM CH: 2.500 KM TO CH: 3.500 KM

- NOTE:-**
- 1. THE BANK WIDTH HAS BEEN ADOPTED AS PER IS 7112 : 2002 (TABLE-1).
 - 2. THE OFFTAKING CHAINAGE AND LENGTH OF THE CANAL HAS BEEN TAKEN AS PER ACTUAL SURVEY.
 - 3. THIS IS A TYPICAL DRAWING , INSPECTION & NON-INSPECTION BANK SHALL BE TAKEN AS PER SITE CONDITIONS.

LEGEND CUT AREA FILL AREA		Prepared by :- WAPCOS LTD.	Project Title :- NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
			Drawing Title :- X SECTION OF KULHARIA SUB-DY. (OFFTAKE FROM RD - 43+667 KM. (L), NORTH KOEL RIGHT MAIN CANAL)
			Drawing No. :-³¹ WAP/ INFRA/ NORTHKOEL/ BC/ R-09/ XSEC /TYP-(FF) 3 of 12

TYPICAL X-SECTION OF KULHARIA SUB-DY
(OFFTAKE FROM RD - 37+917 KM. (LT), NORTH KOEL RIGHT MAIN CANAL)
DESIGN SECTION FOR FULL FILLING

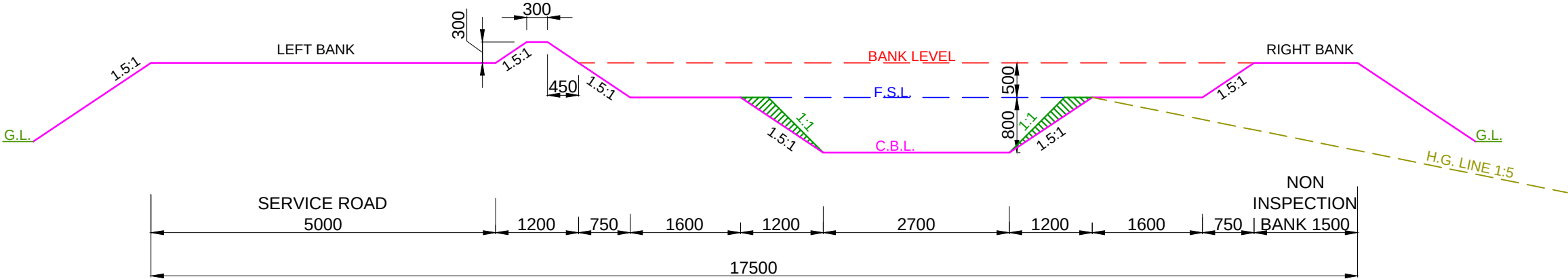


DESIGN SECTION FROM CH: 3.500 KM TO CH: 6.100 KM

- NOTE:-
- 1. THE BANK WIDTH HAS BEEN ADOPTED AS PER IS 7112 : 2002 (TABLE-1).
 - 2. THE OFFTAKING CHAINAGE AND LENGTH OF THE CANAL HAS BEEN TAKEN AS PER ACTUAL SURVEY.
 - 3. THIS IS A TYPICAL DRAWING , INSPECTION & NON-INSPECTION BANK SHALL BE TAKEN AS PER SITE CONDITIONS.

LEGEND CUT AREA FILL AREA		Prepared by :- WAPCOS LTD. 	Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND				
			Drawing Title :-	X SECTION OF KULHARIA SUB-DY. (OFFTAKE FROM RD - 43+667 KM. (L), NORTH KOEL RIGHT MAIN CANAL)				
			Drawing No. :- ³²	WAP/ INFRA/ NORTHKOEL/ BC/ R-09/ XSEC /TYP-(FF) 4 of 12				

TYPICAL X-SECTION OF KULHARIA SUB-DY
(OFFTAKE FROM RD - 37+917 KM. (LT), NORTH KOEL RIGHT MAIN CANAL)
DESIGN SECTION FOR FULL FILLING



DESIGN SECTION FROM CH: 6.100 KM TO CH: 7.650 KM

- NOTE:-
- 1. THE BANK WIDTH HAS BEEN ADOPTED AS PER IS 7112 : 2002 (TABLE-1).
 - 2. THE OFFTAKING CHAINAGE AND LENGTH OF THE CANAL HAS BEEN TAKEN AS PER ACTUAL SURVEY.
 - 3. THIS IS A TYPICAL DRAWING , INSPECTION & NON-INSPECTION BANK SHALL BE TAKEN AS PER SITE CONDITIONS.

LEGEND CUT AREA FILL AREA		Prepared by :- WAPCOS LTD.	Project Title :- NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
			Drawing Title :- X SECTION OF KULHARIA SUB-DY. (OFFTAKE FROM RD - 43+667 KM. (L), NORTH KOEL RIGHT MAIN CANAL)
			Drawing No. :-³³ WAP/ INFRA/ NORTHKOEL/ BC/ R-09/ XSEC /TYP-(FF) 5 of 12

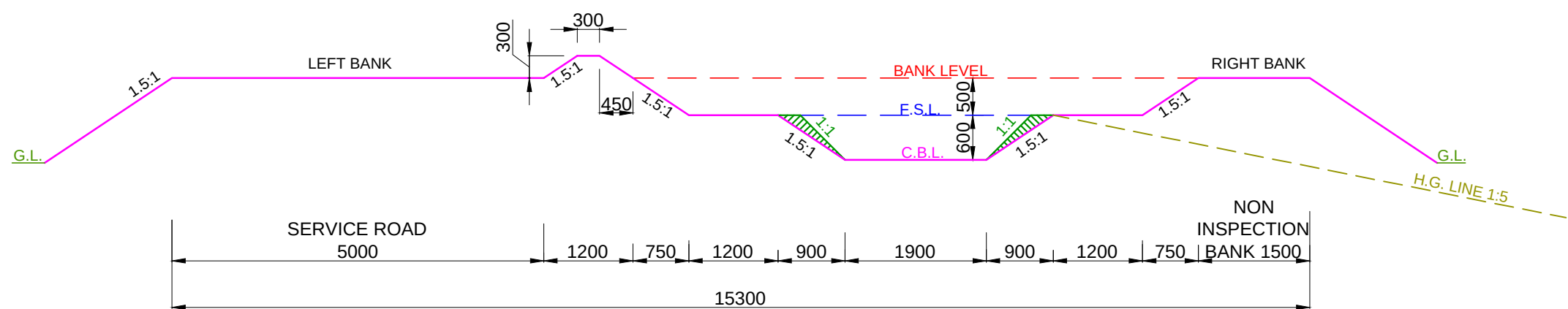
The diagram illustrates the cross-section of a canal with a total width of 16550mm. The central canal bed (C.B.L.) is 2450mm wide. The side slopes are 1.5:1, leading to a service road (5000mm) and a non-inspection bank (1500mm). Key dimensions include a 300mm top width, 450mm side slope, 700mm depth, and 500mm bottom width. The diagram is labeled with 'LEFT BANK', 'RIGHT BANK', 'BANK LEVEL', 'F.S.L.', 'C.B.L.', and 'G.L.'.

NOTE:-

1. THE BANK WIDTH HAS BEEN ADOPTED AS PER IS 7112 : 2002 (TABLE-1).
2. THE OFFTAKING CHAINAGE AND LENGTH OF THE CANAL HAS BEEN TAKEN AS PER ACTUAL SURVEY.
3. THIS IS A TYPICAL DRAWING , INSPECTION & NON-INSPECTION BANK SHALL BE TAKEN AS PER SITE CONDITIONS.

6 of 12

TYPICAL X-SECTION OF KULHARIA SUB-DY
(OFFTAKE FROM RD - 37+917 KM. (LT), NORTH KOEL RIGHT MAIN CANAL)
DESIGN SECTION FOR FULL FILLING



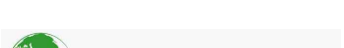
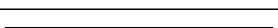
DESIGN SECTION FROM CH: 9.240 KM TO CH: 9.970 KM

- NOTE:-
- 1. THE BANK WIDTH HAS BEEN ADOPTED AS PER IS 7112 : 2002 (TABLE-1).
 - 2. THE OFFTAKING CHAINAGE AND LENGTH OF THE CANAL HAS BEEN TAKEN AS PER ACTUAL SURVEY.
 - 3. THIS IS A TYPICAL DRAWING , INSPECTION & NON-INSPECTION BANK SHALL BE TAKEN AS PER SITE CONDITIONS.

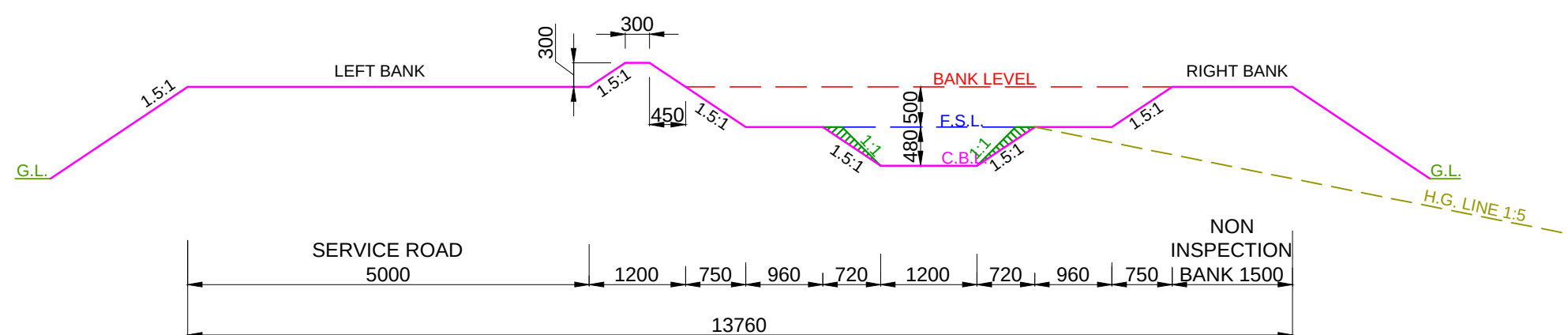
LEGEND CUT AREA FILL AREA		Prepared by :- WAPCOS LTD.	Project Title :- NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
			Drawing Title :- X SECTION OF KULHARIA SUB-DY. (OFFTAKE FROM RD - 43+667 KM. (L), NORTH KOEL RIGHT MAIN CANAL)
			Drawing No. :-³⁵ WAP/ INFRA/ NORTHKOEL/ BC/ R-09/ XSEC /TYP-(FF)7 of 12

NOTE:-

1. THE BANK WIDTH HAS BEEN ADOPTED AS PER IS 7112 : 2002 (TABLE-1).
2. THE OFFTAKING CHAINAGE AND LENGTH OF THE CANAL HAS BEEN TAKEN AS PER ACTUAL SURVEY.
3. THIS IS A TYPICAL DRAWING , INSPECTION & NON-INSPECTION BANK SHALL BE TAKEN AS PER SITE CONDITIONS.

LEGEND		Prepared by :- WAPCOS LTD. 	Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND	
	CUT AREA		Drawing Title :-	X SECTION OF KULHARIA SUB-DY. (OFFTAKE FROM RD - 43+667 KM. (L), NORTH KOEL RIGHT MAIN CANAL)	
	FILL AREA		Drawing No. :- ³⁶	WAP/ INFRA/ NORTHKOEL/ BC/ R-09/ XSEC /TYP-(FF)8 of 12	

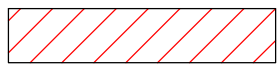
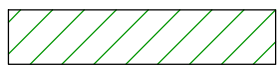
TYPICAL X-SECTION OF KULHARIA SUB-DY
(OFFTAKE FROM RD - 37+917 KM. (LT), NORTH KOEL RIGHT MAIN CANAL)
DESIGN SECTION FOR FULL FILLING



DESIGN SECTION FROM CH: 11.275 KM TO CH: 11.700 KM

NOTE:-

1. THE BANK WIDTH HAS BEEN ADOPTED AS PER IS 7112 : 2002 (TABLE-1).
2. THE OFFTAKING CHAINAGE AND LENGTH OF THE CANAL HAS BEEN TAKEN AS PER ACTUAL SURVEY.
3. THIS IS A TYPICAL DRAWING , INSPECTION & NON-INSPECTION BANK SHALL BE TAKEN AS PER SITE CONDITIONS.

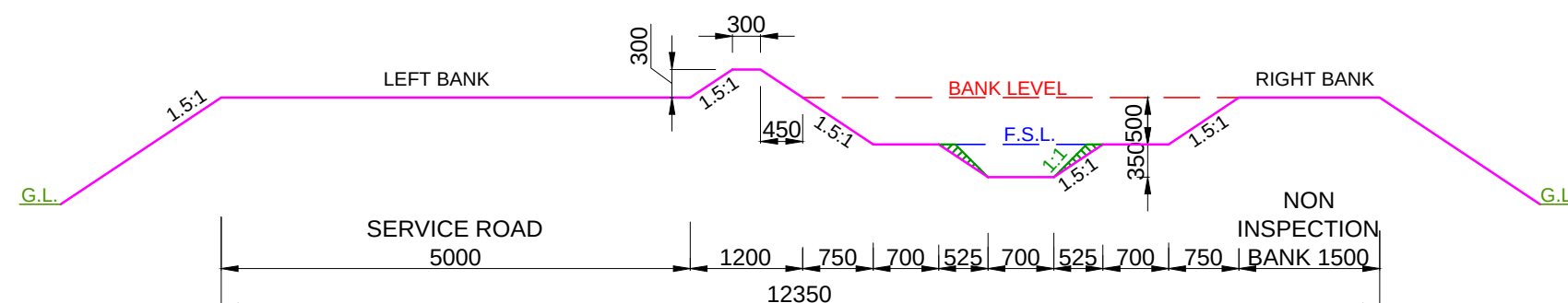
LEGEND		Prepared by :- WAPCOS LTD. 	Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND				
	CUT AREA		Drawing Title :-	X SECTION OF KULHARIA SUB-DY. (OFFTAKE FROM RD - 43+667 KM. (L), NORTH KOEL RIGHT MAIN CANAL)				
	FILL AREA		Drawing No. :- ³⁷	WAP/ INFRA/ NORTHKOEL/ BC/ R-09/ XSEC /TYP-(FF) 9 of 12				

The diagram illustrates a cross-section of a road with a central ditch. The left side features a 5000-unit wide service road and a 1.5:1 slope leading to a 300-unit wide top section. The central ditch has 1:1 side slopes and a 450-unit wide bottom. The right side includes a 1500-unit wide inspection bank and a 1.5:1 slope. Key levels are marked: G.L. (Ground Level), E.S.L. (Existing Surface Level), C.B.L. (Centerline Level), and H.G. (Highway Grade) line. Dimensions for various sections are provided: 1200, 750, 880, 660, 1000, 660, 880, 750, and 1500 units. A total width of 13280 units is shown at the bottom.

NOTE:-

- | | | | | | |
|--|-------------------------|--|------------------------------------|--|--|
| <p>LEGEND</p> | | <p>Prepared by :-</p> <p>WAPCOS LTD.</p>  | <p>Project Title :-</p> | <p>NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND</p> | |
|  | <p>CUT AREA</p> | | <p>Drawing Title :-</p> | <p>X SECTION OF KULHARIA SUB-DY. (OFFTAKE FROM RD - 43+667 KM. (L), NORTH KOEL RIGHT MAIN CANAL)</p> | |
|  | <p>FILL AREA</p> | | <p>Drawing No. :-³⁸</p> | <p>WAP/ INFRA/ NORTHKOEL/ BC/ R-09/ XSEC /TYP-(FF) 10 of 12</p> | |

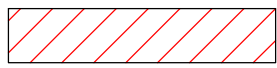
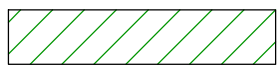
TYPICAL X-SECTION OF KULHARIA SUB-DY
(OFFTAKE FROM RD - 37+917 KM. (LT), NORTH KOEL RIGHT MAIN CANAL)
DESIGN SECTION FOR FULL FILLING



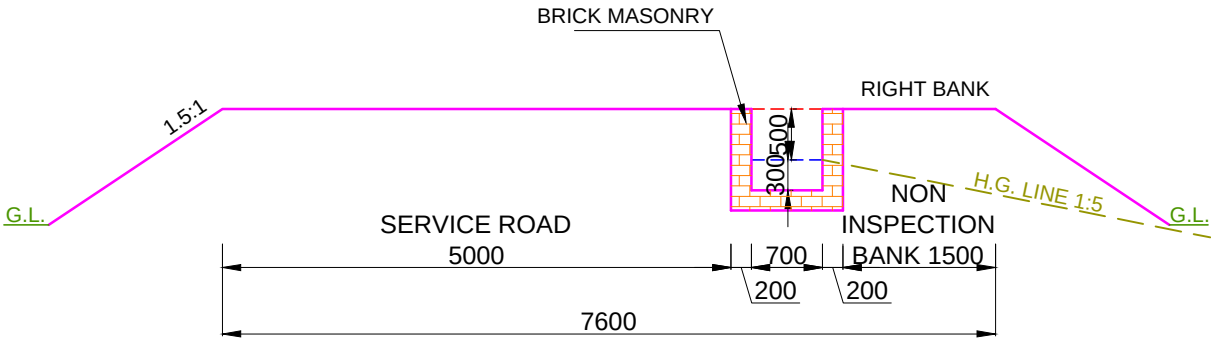
DESIGN SECTION FROM CH: 12.100 KM TO CH: 12.300 KM

NOTE:-

1. THE BANK WIDTH HAS BEEN ADOPTED AS PER IS 7112 : 2002 (TABLE-1).
2. THE OFFTAKING CHAINAGE AND LENGTH OF THE CANAL HAS BEEN TAKEN AS PER ACTUAL SURVEY.
3. THIS IS A TYPICAL DRAWING , INSPECTION & NON-INSPECTION BANK SHALL BE TAKEN AS PER SITE CONDITIONS.

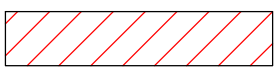
LEGEND		Prepared by :- WAPCOS LTD. 	Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND				
	CUT AREA		Drawing Title :-	X SECTION OF KULHARIA SUB-DY. (OFFTAKE FROM RD - 43+667 KM. (L), NORTH KOEL RIGHT MAIN CANAL)				
	FILL AREA		Drawing No. :- ³⁹	WAP/ INFRA/ NORTHKOEL/ BC/ R-09/ XSEC /TYP-(FF) 11 of 12				

TYPICAL X-SECTION OF KULHARIA SUB-DY
(OFFTAKE FROM RD - 37+917 KM. (LT), NORTH KOEL RIGHT MAIN CANAL)
DESIGN SECTION FOR FULL FILLING

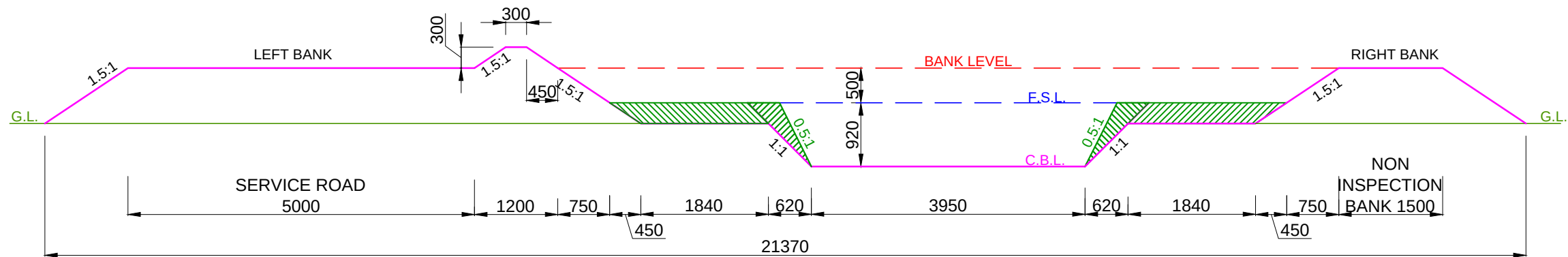


DESIGN SECTION FROM CH: 12.300 KM TO CH: 12.550 KM

- NOTE:-
- 1. THE BANK WIDTH HAS BEEN ADOPTED AS PER IS 7112 : 2002 (TABLE-1).
 - 2. THE OFFTAKING CHAINAGE AND LENGTH OF THE CANAL HAS BEEN TAKEN AS PER ACTUAL SURVEY.
 - 3. THIS IS A TYPICAL DRAWING , INSPECTION & NON-INSPECTION BANK SHALL BE TAKEN AS PER SITE CONDITIONS.

LEGEND		Prepared by :- WAPCOS LTD. 	Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND				
	CUT AREA		Drawing Title :-	X SECTION OF KULHARIA SUB-DY. (OFFTAKE FROM RD - 43+667 KM. (L), NORTH KOEL RIGHT MAIN CANAL)				
	FILL AREA		Drawing No. :- ⁴⁰	WAP/ INFRA/ NORTHKOEL/ BC/ R-09/ XSEC /TYP-(FF)12 of 12				

TYPICAL X-SECTION OF KULHARIA SUB-DY
(OFFTAKE FROM RD - 37+917 KM. (LT), NORTH KOEL RIGHT MAIN CANAL)
DESIGN SECTION FOR PARTLY CUTTING/ PARTLY FILLING

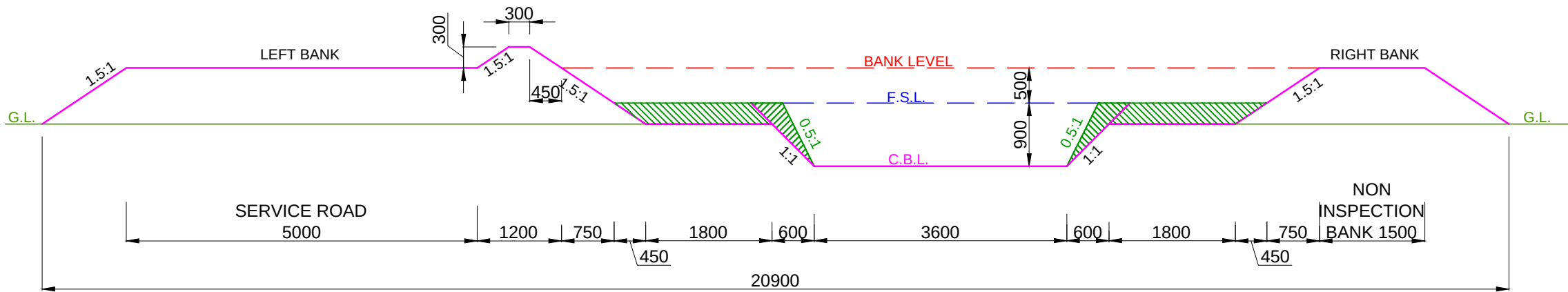


DESIGN SECTION FROM CH: 0.000 KM TO CH: 1.150 KM

- NOTE:-
- 1. THE BANK WIDTH HAS BEEN ADOPTED AS PER IS 7112 : 2002 (TABLE-1).
 - 2. THE OFFTAKING CHAINAGE AND LENGTH OF THE CANAL HAS BEEN TAKEN AS PER ACTUAL SURVEY.
 - 3. THIS IS A TYPICAL DRAWING , INSPECTION & NON-INSPECTION BANK SHALL BE TAKEN AS PER SITE CONDITIONS.

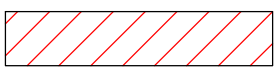
LEGEND CUT AREA FILL AREA		Prepared by :- WAPCOS LTD.	Project Title :- NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
			Drawing Title :- X SECTION OF KULHARIA SUB-DY. (OFFTAKE FROM RD - 43+667 KM. (L), NORTH KOEL RIGHT MAIN CANAL)
			Drawing No. :-⁴¹ WAP/ INFRA/ NORTHKOEL/ BC/ R-09/ XSEC /TYP-(PCF)1 of 12

TYPICAL X-SECTION OF KULHARIA SUB-DY
(OFFTAKE FROM RD - 37+917 KM. (LT), NORTH KOEL RIGHT MAIN CANAL)
DESIGN SECTION FOR PARTLY CUTTING/ PARTLY FILLING



DESIGN SECTION FROM CH: 1.150 KM TO CH: 2.500 KM

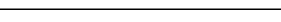
- NOTE:-
- 1. THE BANK WIDTH HAS BEEN ADOPTED AS PER IS 7112 : 2002 (TABLE-1).
 - 2. THE OFFTAKING CHAINAGE AND LENGTH OF THE CANAL HAS BEEN TAKEN AS PER ACTUAL SURVEY.
 - 3. THIS IS A TYPICAL DRAWING , INSPECTION & NON-INSPECTION BANK SHALL BE TAKEN AS PER SITE CONDITIONS.

LEGEND		Prepared by :- WAPCOS LTD. 	Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND				
	CUT AREA		Drawing Title :-	X SECTION OF KULHARIA SUB-DY. (OFFTAKE FROM RD - 43+667 KM. (L), NORTH KOEL RIGHT MAIN CANAL)				
	FILL AREA		Drawing No. :- ⁴²	WAP/ INFRA/ NORTHKOEL/ BC/ R-09/ XSEC /TYP-(PCF) 2 of 12				

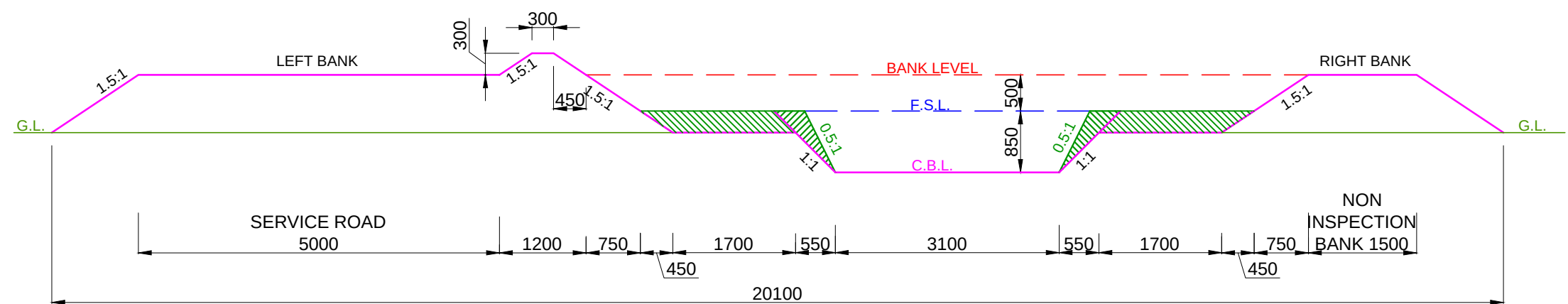
The diagram illustrates a cross-section of a road with a central drainage ditch. The left bank has a 1.5:1 slope and a 300mm wide top. The ditch has a 0.5:1 slope and a 1:1 bottom. The right bank also has a 1.5:1 slope. The ditch is 500mm deep. The service road is 5000mm wide. The total width of the road is 20450mm. The diagram also shows the ground level (G.L.), bank level, and finished surface level (F.S.L.).

Component	Width (mm)
Service Road	5000
Left Bank Top	1200
Left Bank Slope	750
Ditch Top	1700
Ditch Bottom	550
Right Bank Slope	3450
Right Bank Top	550
Right Bank Slope	1700
Right Bank Top	750
Non-Inspection Bank	1500
Total Width	20450

NOTE:-

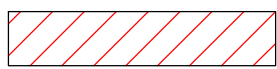
- | | | | |
|---|--|------------------------------|---|
| <div> <div>LEGEND</div> <div> <div>  <div>CUT AREA</div> </div> <div>  <div>FILL AREA</div> </div> </div> </div> <td rowspan="3"> <div> <div>Prepared by :-</div> <div> <div>WAPCOS LTD.</div> <div>  </div> </div> </div> </td> <td>Project Title :-</td> <td>NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND</td> | <div> <div>Prepared by :-</div> <div> <div>WAPCOS LTD.</div> <div>  </div> </div> </div> | Project Title :- | NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND |
| | | Drawing Title :- | X SECTION OF KULHARIA SUB-DY. (OFFTAKE FROM RD - 43+667 KM. (L), NORTH KOEL RIGHT MAIN CANAL) |
| | | Drawing No. :- ⁴³ | WAP/ INFRA/ NORTHKOEL/ BC/ R-09/ XSEC /TYP-(PCF) 3 of 12 |

TYPICAL X-SECTION OF KULHARIA SUB-DY
(OFFTAKE FROM RD - 37+917 KM. (LT), NORTH KOEL RIGHT MAIN CANAL)
DESIGN SECTION FOR PARTLY CUTTING/ PARTLY FILLING

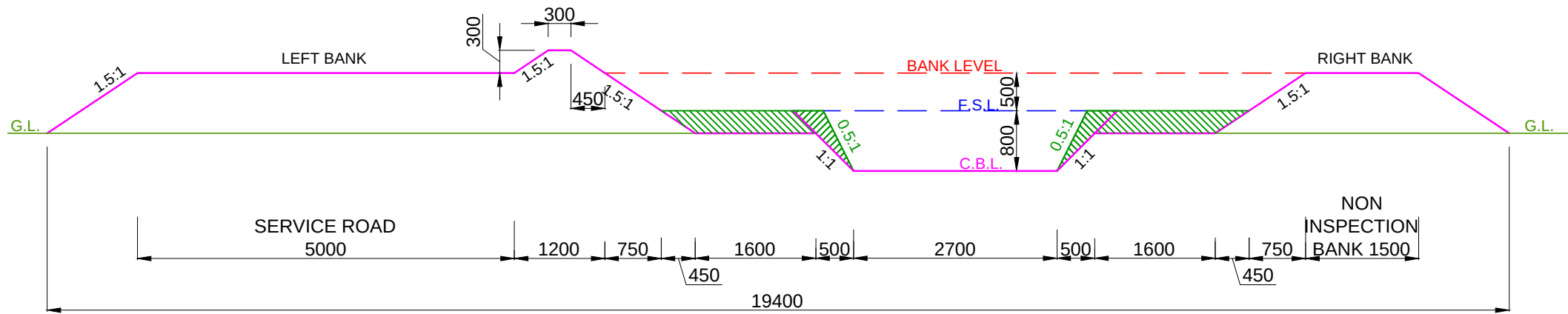


DESIGN SECTION FROM CH: 3.500 KM TO CH: 6.100 KM

- NOTE:-**
1. THE BANK WIDTH HAS BEEN ADOPTED AS PER IS 7112 : 2002 (TABLE-1).
 2. THE OFFTAKING CHAINAGE AND LENGTH OF THE CANAL HAS BEEN TAKEN AS PER ACTUAL SURVEY.
 3. THIS IS A TYPICAL DRAWING , INSPECTION & NON-INSPECTION BANK SHALL BE TAKEN AS PER SITE CONDITIONS.

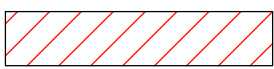
LEGEND		Prepared by :- WAPCOS LTD. 	Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND			
			Drawing Title :-	X SECTION OF KULHARIA SUB-DY. (OFFTAKE FROM RD - 43+667 KM. (L), NORTH KOEL RIGHT MAIN CANAL)			
			Drawing No. :- ⁴⁴	WAP/ INFRA/ NORTHKOEL/ BC/ R-09/ XSEC /TYP-(PCF) 4 of 12			
	CUT AREA						
	FILL AREA						

TYPICAL X-SECTION OF KULHARIA SUB-DY
(OFFTAKE FROM RD - 37+917 KM. (LT), NORTH KOEL RIGHT MAIN CANAL)
DESIGN SECTION FOR PARTLY CUTTING/ PARTLY FILLING

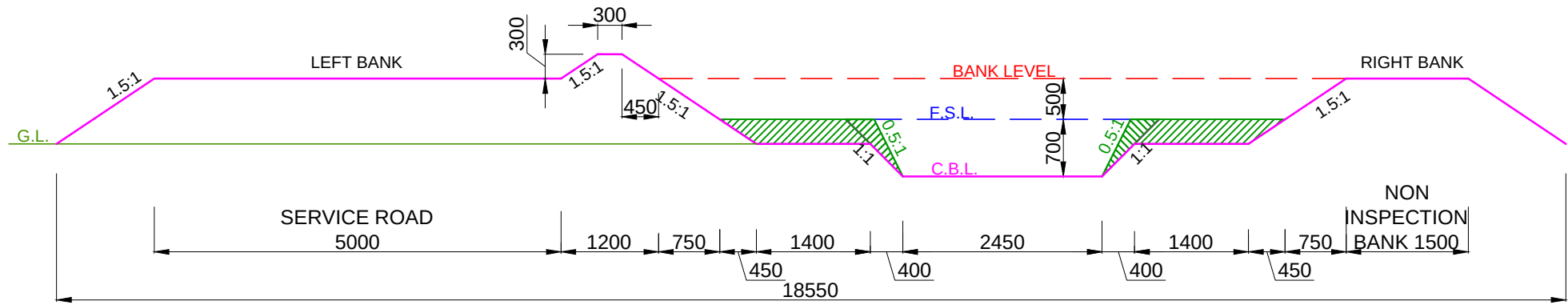


DESIGN SECTION FROM CH: 6.100 KM TO CH: 7.650 KM

- NOTE:-
1. THE BANK WIDTH HAS BEEN ADOPTED AS PER IS 7112 : 2002 (TABLE-1).
 2. THE OFFTAKING CHAINAGE AND LENGTH OF THE CANAL HAS BEEN TAKEN AS PER ACTUAL SURVEY.
 3. THIS IS A TYPICAL DRAWING , INSPECTION & NON-INSPECTION BANK SHALL BE TAKEN AS PER SITE CONDITIONS.

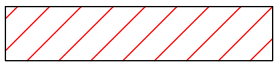
LEGEND		Prepared by :- WAPCOS LTD. 	Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND				
	CUT AREA		Drawing Title :-	X SECTION OF KULHARIA SUB-DY. (OFFTAKE FROM RD - 43+667 KM. (L), NORTH KOEL RIGHT MAIN CANAL)				
	FILL AREA		Drawing No. :- ⁴⁵	WAP/ INFRA/ NORTHKOEL/ BC/ R-09/ XSEC /TYP-(PCF) 5 of 12				

TYPICAL X-SECTION OF KULHARIA SUB-DY
(OFFTAKE FROM RD - 37+917 KM. (LT), NORTH KOEL RIGHT MAIN CANAL)
DESIGN SECTION FOR PARTLY CUTTING/ PARTLY FILLING



DESIGN SECTION FROM CH: 7.650 KM TO CH: 9.240 KM

- NOTE:-**
1. THE BANK WIDTH HAS BEEN ADOPTED AS PER IS 7112 : 2002 (TABLE-1).
 2. THE OFFTAKING CHAINAGE AND LENGTH OF THE CANAL HAS BEEN TAKEN AS PER ACTUAL SURVEY.
 3. THIS IS A TYPICAL DRAWING , INSPECTION & NON-INSPECTION BANK SHALL BE TAKEN AS PER SITE CONDITIONS.

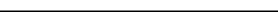
LEGEND		Prepared by :- WAPCOS LTD. 	Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND				
	CUT AREA		Drawing Title :-	X SECTION OF KULHARIA SUB-DY. (OFFTAKE FROM RD - 43+667 KM. (L), NORTH KOEL RIGHT MAIN CANAL)				
	FILL AREA		Drawing No. :- ⁴⁶	WAP/ INFRA/ NORTHKOEL/ BC/ R-09/ XSEC /TYP-(PCF) 6 of 12				

The diagram illustrates a cross-section of a road with a central ditch and side banks. The total width of the road is 17400mm. The left side features a 5000mm wide service road and a 1.5:1 sloped bank. The central ditch is 1900mm wide with 0.5:1 side slopes. The right side includes a 1500mm wide non-inspection bank and a 1.5:1 sloped bank. The diagram also shows the ground level (G.L.), bank level, and center line (C.B.L.).

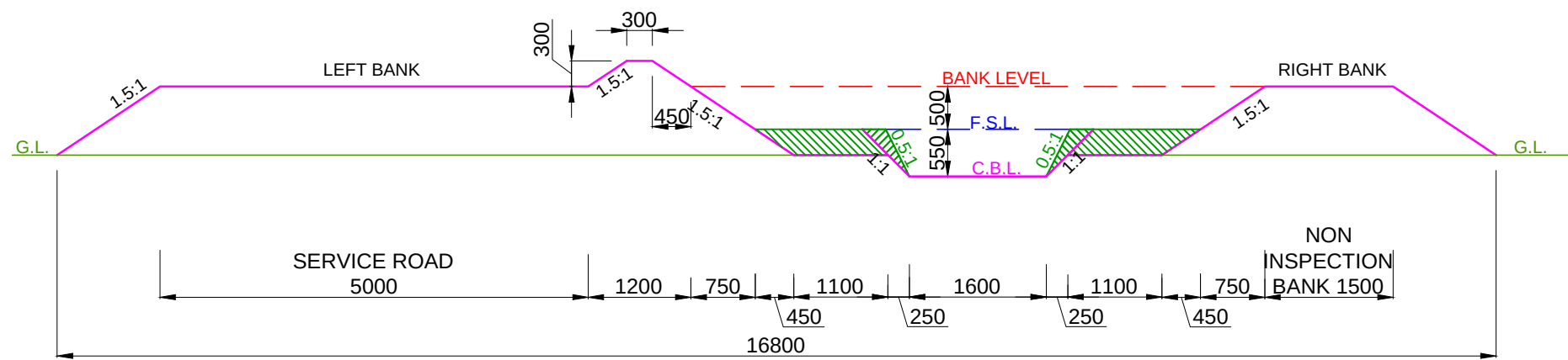
Component	Width (mm)	Slope	Height (mm)
Service Road	5000	-	-
Left Bank Top	300	-	-
Left Bank Slope	-	1.5:1	-
Ditch Left Slope	-	0.5:1	-
Ditch Bottom	1900	-	-
Ditch Right Slope	-	0.5:1	-
Right Bank Slope	-	1.5:1	-
Non-Inspection Bank	1500	-	-
Total Road Width	17400	-	-

NOTE:-

1. THE BANK WIDTH HAS BEEN ADOPTED AS PER IS 7112 : 2002 (TABLE-1).
2. THE OFFTAKING CHAINAGE AND LENGTH OF THE CANAL HAS BEEN TAKEN AS PER ACTUAL SURVEY.
3. THIS IS A TYPICAL DRAWING , INSPECTION & NON-INSPECTION BANK SHALL BE TAKEN AS PER SITE CONDITIONS.

LEGEND		Prepared by :- WAPCOS LTD. 	Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND	
	CUT AREA		Drawing Title :-	X SECTION OF KULHARIA SUB-DY. (OFFTAKE FROM RD - 43+667 KM. (L), NORTH KOEL RIGHT MAIN CANAL)	
	FILL AREA		Drawing No. :- ⁴⁷	WAP/ INFRA/ NORTHKOEL/ BC/ R-09/ XSEC /TYP-(PCF)7 of 12	

TYPICAL X-SECTION OF KULHARIA SUB-DY
(OFFTAKE FROM RD - 37+917 KM. (LT), NORTH KOEL RIGHT MAIN CANAL)
DESIGN SECTION FOR PARTLY CUTTING/ PARTLY FILLING

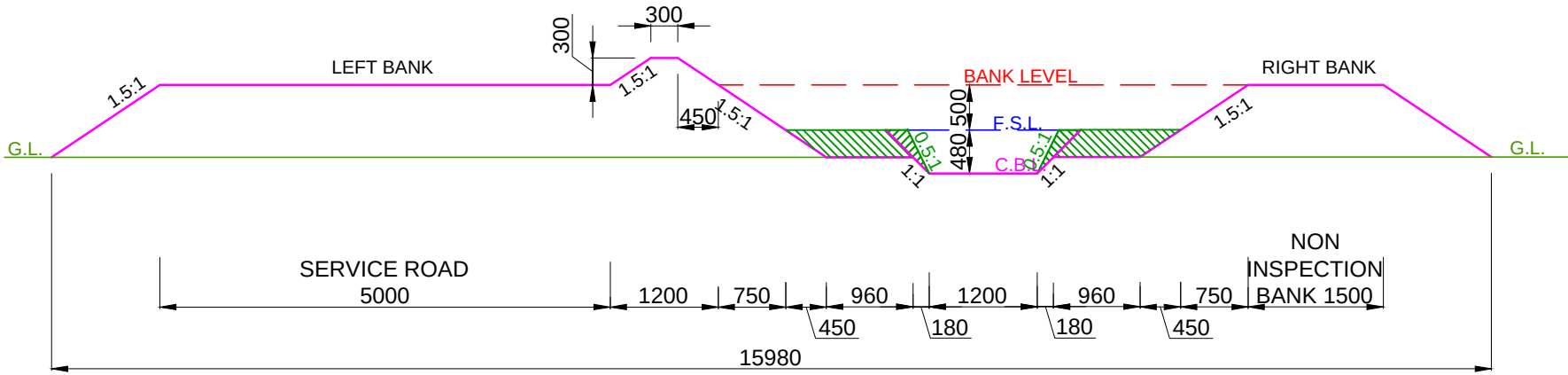


DESIGN SECTION FROM CH: 9.970 KM TO CH: 11.275 KM

- NOTE:-
1. THE BANK WIDTH HAS BEEN ADOPTED AS PER IS 7112 : 2002 (TABLE-1).
 2. THE OFFTAKING CHAINAGE AND LENGTH OF THE CANAL HAS BEEN TAKEN AS PER ACTUAL SURVEY.
 3. THIS IS A TYPICAL DRAWING , INSPECTION & NON-INSPECTION BANK SHALL BE TAKEN AS PER SITE CONDITIONS.

LEGEND CUT AREA FILL AREA		Prepared by :- WAPCOS LTD.	Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND				
			Drawing Title :-	X SECTION OF KULHARIA SUB-DY. (OFFTAKE FROM RD - 43+667 KM. (L), NORTH KOEL RIGHT MAIN CANAL)				
			Drawing No. :- ⁴⁸	WAP/ INFRA/ NORTHKOEL/ BC/ R-09/ XSEC /TYP-(PCF)				

TYPICAL X-SECTION OF KULHARIA SUB-DY
(OFFTAKE FROM RD - 37+917 KM. (LT), NORTH KOEL RIGHT MAIN CANAL)
DESIGN SECTION FOR PARTLY CUTTING/ PARTLY FILLING

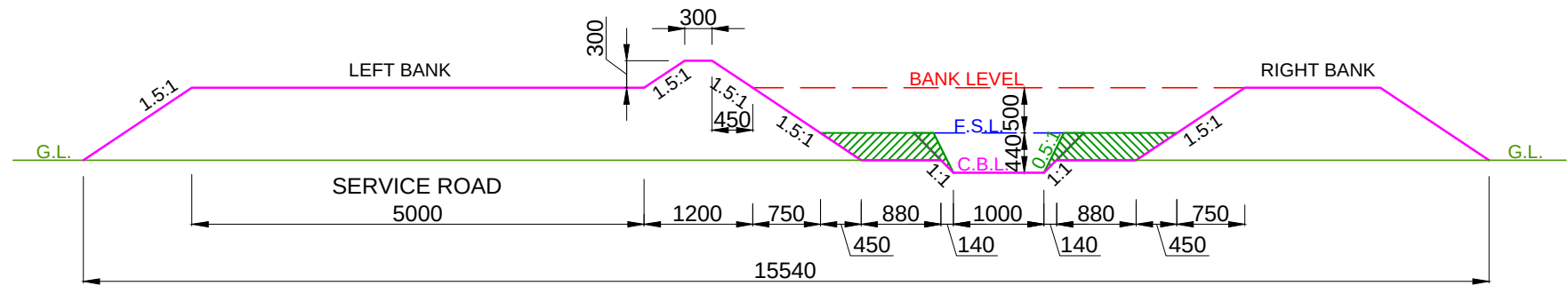


DESIGN SECTION FROM CH: 11.275 KM TO CH: 11.700 KM

- NOTE:-
- 1. THE BANK WIDTH HAS BEEN ADOPTED AS PER IS 7112 : 2002 (TABLE-1).
 - 2. THE OFFTAKING CHAINAGE AND LENGTH OF THE CANAL HAS BEEN TAKEN AS PER ACTUAL SURVEY.
 - 3. THIS IS A TYPICAL DRAWING , INSPECTION & NON-INSPECTION BANK SHALL BE TAKEN AS PER SITE CONDITIONS.

LEGEND CUT AREA FILL AREA		Prepared by :- WAPCOS LTD.	Project Title :- NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
			Drawing Title :- X SECTION OF KULHARIA SUB-DY. (OFFTAKE FROM RD - 43+667 KM. (L), NORTH KOEL RIGHT MAIN CANAL)
			Drawing No. :-⁴⁹ WAP/ INFRA/ NORTHKOEL/ BC/ R-09/ XSEC /TYP-(PCF)9 of 12

TYPICAL X-SECTION OF KULHARIA SUB-DY
(OFFTAKE FROM RD - 37+917 KM. (LT), NORTH KOEL RIGHT MAIN CANAL)
DESIGN SECTION FOR PARTLY CUTTING/ PARTLY FILLING



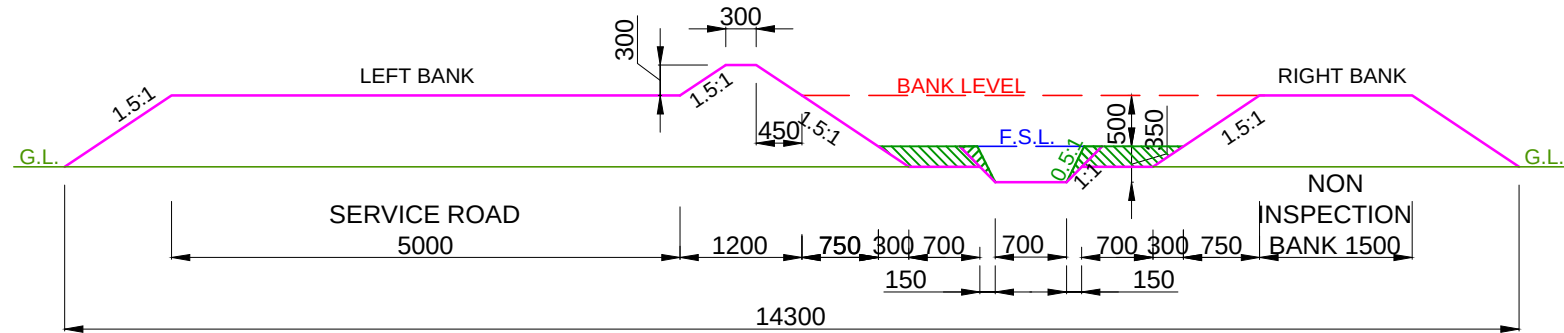
DESIGN SECTION FROM CH: 11.700 KM TO CH: 12.100 KM

- NOTE:-
- 1. THE BANK WIDTH HAS BEEN ADOPTED AS PER IS 7112 : 2002 (TABLE-1).
 - 2. THE OFFTAKING CHAINAGE AND LENGTH OF THE CANAL HAS BEEN TAKEN AS PER ACTUAL SURVEY.
 - 3. THIS IS A TYPICAL DRAWING , INSPECTION & NON-INSPECTION BANK SHALL BE TAKEN AS PER SITE CONDITIONS.

LEGEND CUT AREA FILL AREA		Prepared by :- WAPCOS LTD.	Project Title :- NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
			Drawing Title :- X SECTION OF KULHARIA SUB-DY. (OFFTAKE FROM RD - 43+667 KM. (L), NORTH KOEL RIGHT MAIN CANAL)
			Drawing No. :-⁵⁰ WAP/ INFRA/ NORTHKOEL/ BC/ R-09/ XSEC /TYP-(PCF)

10 of 12

TYPICAL X-SECTION OF KULHARIA SUB-DY
(OFFTAKE FROM RD - 37+917 KM. (LT), NORTH KOEL RIGHT MAIN CANAL)
DESIGN SECTION FOR PARTLY CUTTING/ PARTLY FILLING

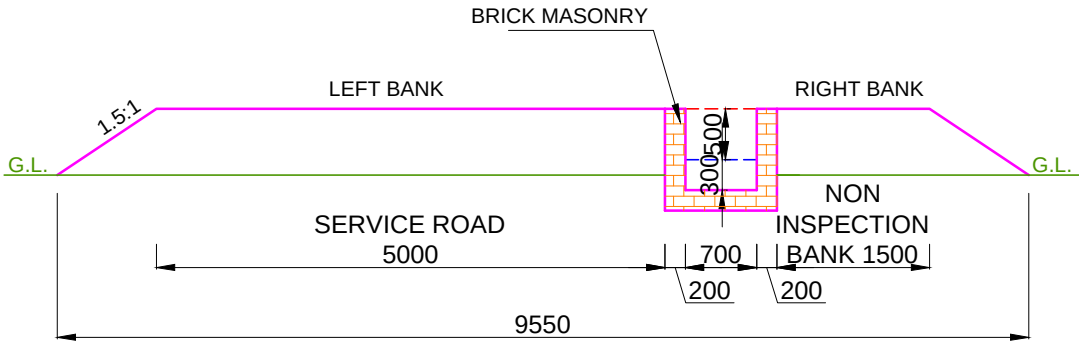


DESIGN SECTION FROM CH: 12.100 KM TO CH: 12.300 KM

- NOTE:-
1. THE BANK WIDTH HAS BEEN ADOPTED AS PER IS 7112 : 2002 (TABLE-1).
 2. THE OFFTAKING CHAINAGE AND LENGTH OF THE CANAL HAS BEEN TAKEN AS PER ACTUAL SURVEY.
 3. THIS IS A TYPICAL DRAWING , INSPECTION & NON-INSPECTION BANK SHALL BE TAKEN AS PER SITE CONDITIONS.

LEGEND CUT AREA FILL AREA		Prepared by :- WAPCOS LTD.	Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND				
			Drawing Title :-	X SECTION OF KULHARIA SUB-DY. (OFFTAKE FROM RD - 43+667 KM. (L), NORTH KOEL RIGHT MAIN CANAL)				
			Drawing No. :- ⁵¹	WAP/ INFRA/ NORTHKOEL/ BC/ R-09/ XSEC /TYP-(PCF) 11 of 12				

TYPICAL X-SECTION OF KULHARIA SUB-DY
(OFFTAKE FROM RD - 37+917 KM. (LT), NORTH KOEL RIGHT MAIN CANAL)
DESIGN SECTION FOR PARTLY CUTTING/ PARTLY FILLING



DESIGN SECTION FROM CH: 12.300 KM TO CH: 12.550 KM

- NOTE:-
1. THE BANK WIDTH HAS BEEN ADOPTED AS PER IS 7112 : 2002 (TABLE-1).
 2. THE OFFTAKING CHAINAGE AND LENGTH OF THE CANAL HAS BEEN TAKEN AS PER ACTUAL SURVEY.
 3. THIS IS A TYPICAL DRAWING , INSPECTION & NON-INSPECTION BANK SHALL BE TAKEN AS PER SITE CONDITIONS.

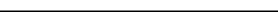
LEGEND CUT AREA FILL AREA		Prepared by :- WAPCOS LTD.	Project Title :- NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
			Drawing Title :- X SECTION OF KULHARIA SUB-DY. (OFFTAKE FROM RD - 43+667 KM. (L), NORTH KOEL RIGHT MAIN CANAL)
			Drawing No. :-⁵² WAP/ INFRA/ NORTHKOEL/ BC/ R-09/ XSEC /TYP-(PCF)12 of 12

***TYPICAL X-SECTION
OF BARKI PARHI***

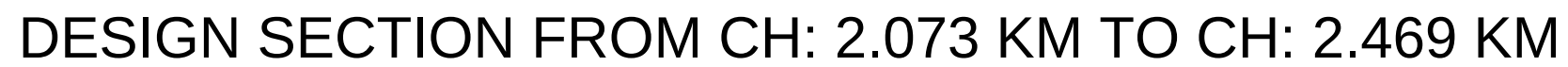
The diagram illustrates a cross-section of a road with a central service road and side inspection banks. The total width of the road is 19325mm. The central service road is 5000mm wide, consisting of a 1200mm wide C+D/2 section and 1400mm wide C+D/2 sections on either side. The side inspection banks are 3750mm wide, with a 1500mm non-inspection bank in the center. The diagram includes various dimensions for slopes (1.5:1, 1:1), heights (300, 450, 1200, 1500), and widths (3000, 75, 300, 1125, 1500, 1125). Labels include 'SPOIL BANK', 'G.L.', 'BANK LEVEL', 'F.S.L.', 'C.B.L.', 'SERVICE ROAD', 'C+D/2', 'NON INSPECTION BANK', and '19325'.

NOTE:-

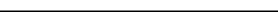
1. THE BANK WIDTH HAS BEEN ADOPTED AS PER IS 7112 : 2002 (TABLE-1).
2. THE OFFTAKING CHAINAGE AND LENGTH OF THE CANAL HAS BEEN TAKEN AS PER ACTUAL SURVEY.
3. THIS IS A TYPICAL DRAWING , INSPECTION & NON-INSPECTION BANK SHALL BE TAKEN AS PER SITE CONDITIONS.

A	LEGEND		Prepared by :- WAPCOS LTD. 	Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
		CUT AREA		Drawing Title :-	X - SECTION OF BARKI PARHI MR. (OFFTAKE FROM RD - 0+295 KM. (R), KULHARIA SUB-DISTRIBUTARY CANAL)
		FILL AREA		Drawing No. :- ⁵⁴	WAP/ INFRA/ NORTHKOEL/ BC/ R-09-01/ XSEC /TYP-(FC) 1 of 3

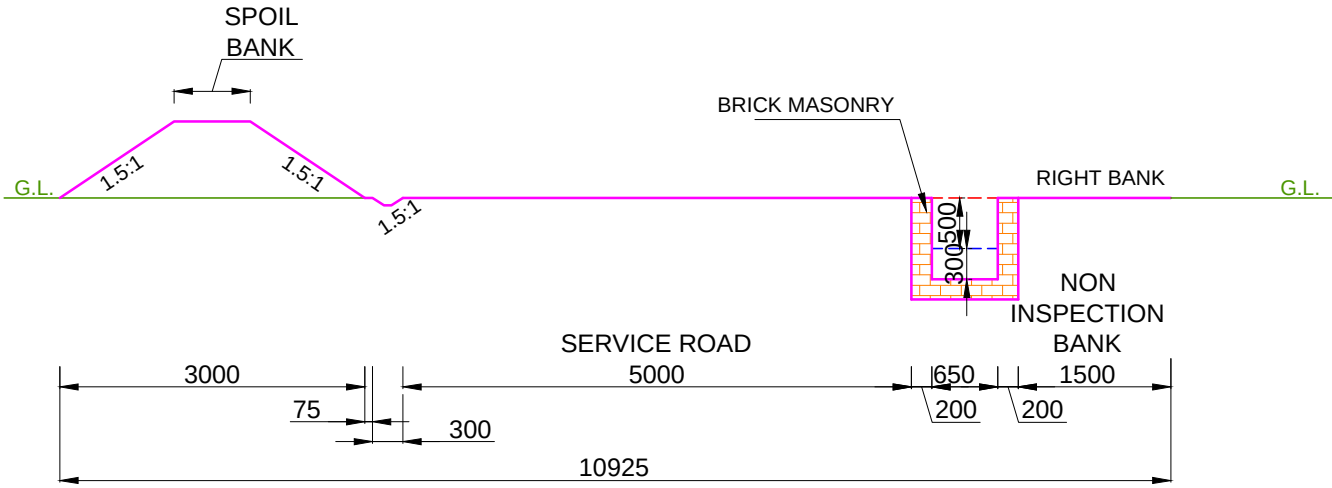
DESIGN SECTION FOR FULL CUTTING



1. THE BANK WIDTH HAS BEEN ADOPTED AS PER IS 7112 : 2002 (TABLE-1).
2. THE OFFTAKING CHAINAGE AND LENGTH OF THE CANAL HAS BEEN TAKEN AS PER ACTUAL SURVEY.
3. THIS IS A TYPICAL DRAWING , INSPECTION & NON-INSPECTION BANK SHALL BE TAKEN AS PER SITE CONDITIONS.

A	LEGEND		Prepared by :- WAPCOS LTD. 	Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
		CUT AREA		Drawing Title :-	X - SECTION OF BARKI PARHI MR. (OFFTAKE FROM RD - 0+295 KM. (R), KULHARIA SUB-DISTRIBUTARY CANAL)
		FILL AREA		Drawing No. :- ⁵⁵	WAP/ INFRA/ NORTHKOEL/ BC/ R-09-01/ XSEC /TYP-(FC) 2 of 3

TYPICAL X - SECTION OF BARKI PARHI MINOR
(OFFTAKE FROM RD - 0+295 KM. (RT), KULHARIA SUB-DISTRIBUTARY CANAL)
DESIGN SECTION FOR FULL CUTTING

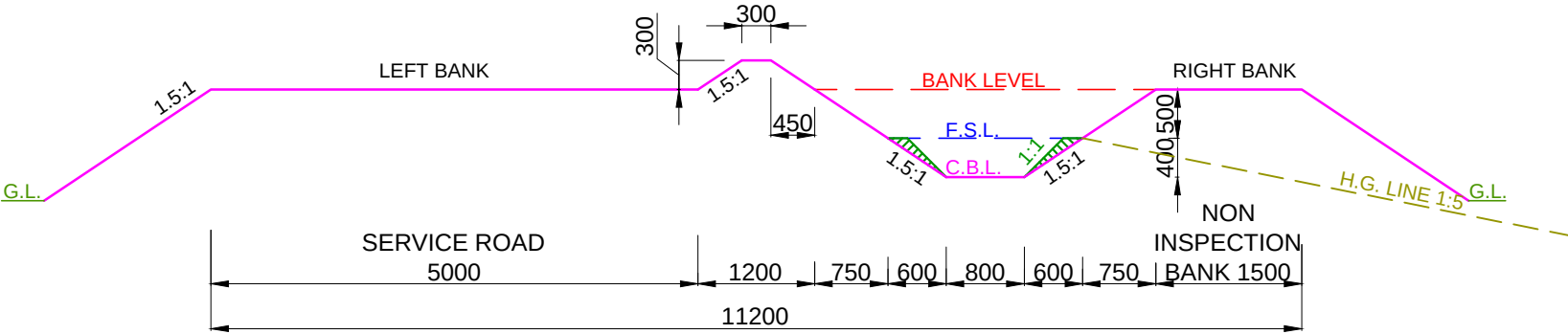


DESIGN SECTION FROM CH: 2.469 KM TO CH: 2.800 KM

- NOTE:-
- 1. THE BANK WIDTH HAS BEEN ADOPTED AS PER IS 7112 : 2002 (TABLE-1).
 - 2. THE OFFTAKING CHAINAGE AND LENGTH OF THE CANAL HAS BEEN TAKEN AS PER ACTUAL SURVEY.
 - 3. THIS IS A TYPICAL DRAWING , INSPECTION & NON-INSPECTION BANK SHALL BE TAKEN AS PER SITE CONDITIONS.

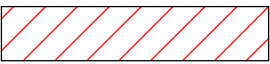
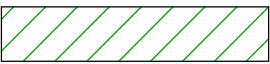
LEGEND CUT AREA FILL AREA	Prepared by :- WAPCOS LTD. 	Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND				
		Drawing Title :-	X - SECTION OF BARKI PARHI MR. (OFFTAKE FROM RD - 0+295 KM. (R), KULHARIA SUB-DISTRIBUTARY CANAL)				
		Drawing No. :- ⁵⁶	WAP/ INFRA/ NORTHKOEL/ BC/ R-09-01/ XSEC /TYP-(FC) 3 of 3				

TYPICAL X - SECTION OF BARKI PARHI MINOR
(OFFTAKE FROM RD - 0+295 KM. (RT), KULHARIA SUB-DISTRIBUTARY CANAL)
DESIGN SECTION FOR FULL FILLING



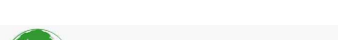
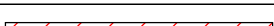
DESIGN SECTION FROM CH: 0.000 KM TO CH: 2.073 KM

- NOTE:-
- 1. THE BANK WIDTH HAS BEEN ADOPTED AS PER IS 7112 : 2002 (TABLE-1).
 - 2. THE OFFTAKING CHAINAGE AND LENGTH OF THE CANAL HAS BEEN TAKEN AS PER ACTUAL SURVEY.
 - 3. THIS IS A TYPICAL DRAWING , INSPECTION & NON-INSPECTION BANK SHALL BE TAKEN AS PER SITE CONDITIONS.

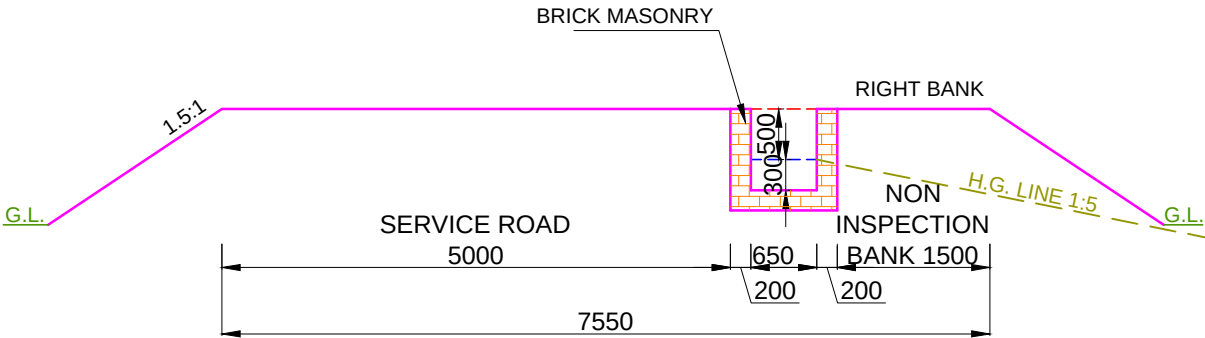
LEGEND		Prepared by :- WAPCOS LTD. 	Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND				
	CUT AREA		Drawing Title :-	X - SECTION OF BARKI PARHI MR. (OFFTAKE FROM RD - 0+295 KM. (R), KULHARIA SUB-DISTRIBUTARY CANAL)				
	FILL AREA		Drawing No. :- ⁵⁷	WAP/ INFRA/ NORTHKOEL/ BC/ R-09-01/ XSEC /TYP-(FF) 1 of 3				

The diagram illustrates a cross-section of a road with a total width of 14220mm. The road is divided into several sections: a 5000mm service road on the left, a 1200mm section, a 750mm section, a 600mm section, a 700mm section, a 600mm section, a 750mm section, and a 1500mm inspection bank on the right. The road has 1.5:1 slopes on both sides. The diagram also shows the ground level (G.L.), bank level, and a non-inspection area.

NOTE:-

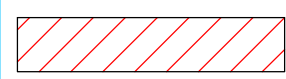
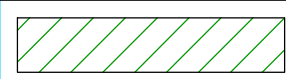
- | | | | | |
|--|------------------|--|------------------------------|---|
| <p>LEGEND</p> | | <p>Prepared by :-</p> <p>WAPCOS LTD.</p>  | Project Title :- | NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND |
|  | CUT AREA | | Drawing Title :- | X - SECTION OF BARKI PARHI MR. (OFFTAKE FROM RD - 0+295 KM. (R), KULHARIA SUB-DISTRIBUTARY CANAL) |
|  | FILL AREA | | Drawing No. :- ⁵⁸ | WAP/ INFRA/ NORTHKOEL/ BC/ R-09-01/ XSEC /TYP-(FF) 2 of 3 |

TYPICAL X - SECTION OF BARKI PARHI MINOR
(OFFTAKE FROM RD - 0+295 KM. (RT), KULHARIA SUB-DISTRIBUTARY CANAL)
DESIGN SECTION FOR FULL FILLING

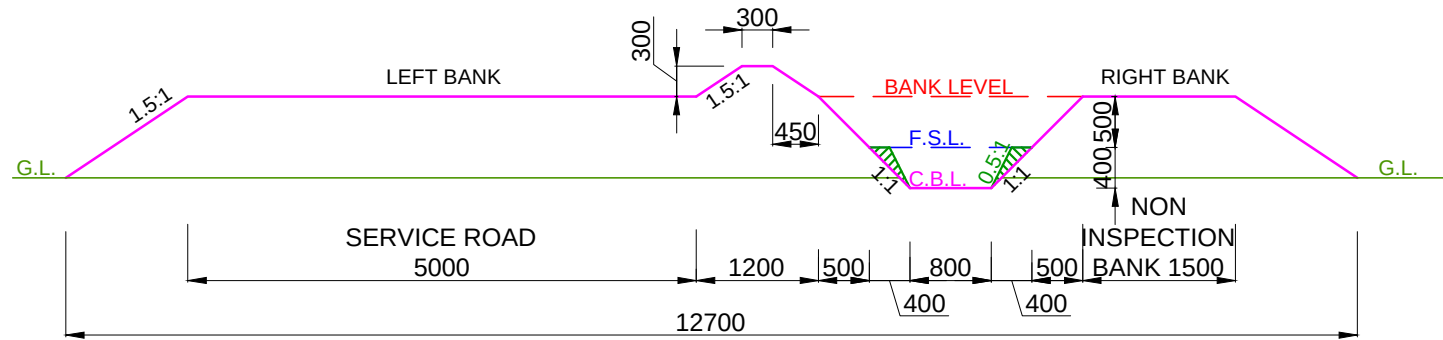


DESIGN SECTION FROM CH: 2.469 KM TO CH: 2.800 KM

- NOTE:-
- 1. THE BANK WIDTH HAS BEEN ADOPTED AS PER IS 7112 : 2002 (TABLE-1).
 - 2. THE OFFTAKING CHAINAGE AND LENGTH OF THE CANAL HAS BEEN TAKEN AS PER ACTUAL SURVEY.
 - 3. THIS IS A TYPICAL DRAWING , INSPECTION & NON-INSPECTION BANK SHALL BE TAKEN AS PER SITE CONDITIONS.

LEGEND		Prepared by :- WAPCOS LTD. 	Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND				
	CUT AREA		Drawing Title :-	X - SECTION OF BARKI PARHI MR. (OFFTAKE FROM RD - 0+295 KM. (R), KULHARIA SUB-DISTRIBUTARY CANAL)				
	FILL AREA		Drawing No. :- ⁵⁹	WAP/ INFRA/ NORTHKOEL/ BC/ R-09-01/ XSEC /TYP-(FF) 3 of 3				

TYPICAL X - SECTION OF BARKI PARHI MINOR
(OFFTAKE FROM RD - 0+295 KM. (RT), KULHARIA SUB-DISTRIBUTARY CANAL)
DESIGN SECTION FOR PARTLY CUTTING/ PARTLY FILLING

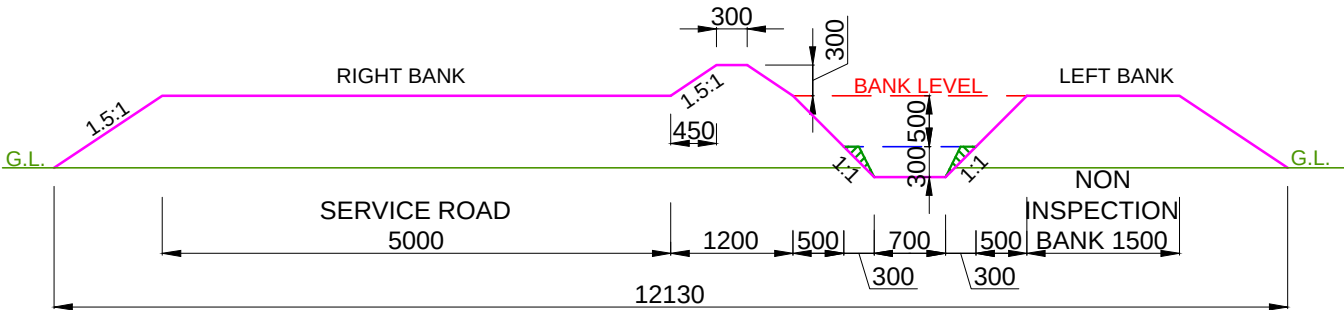


DESIGN SECTION FROM CH: 0.000 KM TO CH: 2.073 KM

- NOTE:-
- 1. THE BANK WIDTH HAS BEEN ADOPTED AS PER IS 7112 : 2002 (TABLE-1).
 - 2. THE OFFTAKING CHAINAGE AND LENGTH OF THE CANAL HAS BEEN TAKEN AS PER ACTUAL SURVEY.
 - 3. THIS IS A TYPICAL DRAWING , INSPECTION & NON-INSPECTION BANK SHALL BE TAKEN AS PER SITE CONDITIONS.

LEGEND CUT AREA FILL AREA		Prepared by :- WAPCOS LTD.	Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND				
			Drawing Title :-	X - SECTION OF BARKI PARHI MR. (OFFTAKE FROM RD - 0+295 KM. (R), KULHARIA SUB-DISTRIBUTARY CANAL)				
			Drawing No. :- ⁶⁰	WAP/ INFRA/ NORTHKOEL/ BC/ R-09-01/ XSEC /TYP-(PCF) 1 of 3				

TYPICAL X - SECTION OF BARKI PARHI MINOR
(OFFTAKE FROM RD - 0+295 KM. (RT), KULHARIA SUB-DISTRIBUTARY CANAL)
DESIGN SECTION FOR PARTLY CUTTING/ PARTLY FILLING

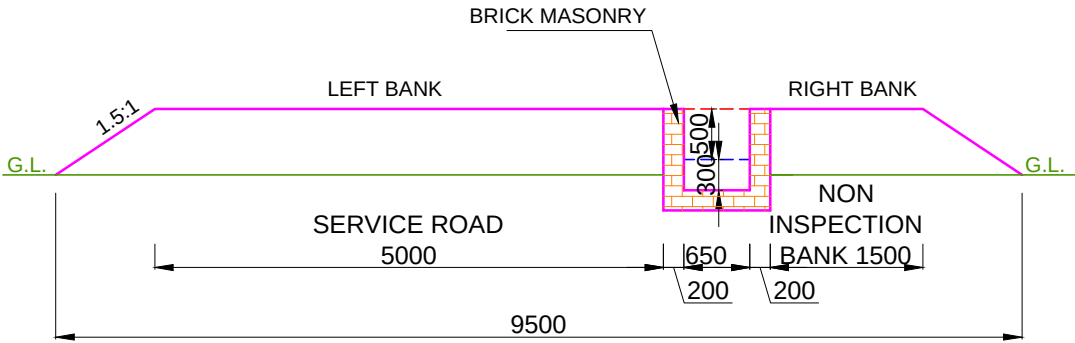


DESIGN SECTION FROM CH: 2.073 KM TO CH: 2.469 KM

- NOTE:-
- 1. THE BANK WIDTH HAS BEEN ADOPTED AS PER IS 7112 : 2002 (TABLE-1).
 - 2. THE OFFTAKING CHAINAGE AND LENGTH OF THE CANAL HAS BEEN TAKEN AS PER ACTUAL SURVEY.
 - 3. THIS IS A TYPICAL DRAWING , INSPECTION & NON-INSPECTION BANK SHALL BE TAKEN AS PER SITE CONDITIONS.

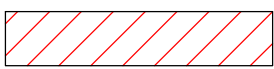
LEGEND CUT AREA FILL AREA		Prepared by :- WAPCOS LTD.	Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND				
			Drawing Title :-	X - SECTION OF BARKI PARHI MR. (OFFTAKE FROM RD - 0+295 KM. (R), KULHARIA SUB-DISTRIBUTARY CANAL)				
			Drawing No. :- ⁶¹	WAP/ INFRA/ NORTHKOEL/ BC/ R-09-01/ XSEC /TYP-(PCF) 2 of 3				

TYPICAL X - SECTION OF BARKI PARHI MINOR
(OFFTAKE FROM RD - 0+295 KM. (RT), KULHARIA SUB-DISTRIBUTARY CANAL)
DESIGN SECTION FOR PARTLY CUTTING/ PARTLY FILLING



DESIGN SECTION FROM CH: 2.469 KM TO CH: 2.800 KM

- NOTE:-**
- 1. THE BANK WIDTH HAS BEEN ADOPTED AS PER IS 7112 : 2002 (TABLE-1).
 - 2. THE OFFTAKING CHAINAGE AND LENGTH OF THE CANAL HAS BEEN TAKEN AS PER ACTUAL SURVEY.
 - 3. THIS IS A TYPICAL DRAWING , INSPECTION & NON-INSPECTION BANK SHALL BE TAKEN AS PER SITE CONDITIONS.

LEGEND		Prepared by :- WAPCOS LTD. 	Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND				
	CUT AREA		Drawing Title :-	X - SECTION OF BARKI PARHI MR. (OFFTAKE FROM RD - 0+295 KM. (R), KULHARIA SUB-DISTRIBUTARY CANAL)				
	FILL AREA		Drawing No. :- ⁶²	WAP/ INFRA/ NORTHKOEL/ BC/ R-09-01/ XSEC /TYP-(PCF) 3 of 3				

***TYPICAL X-SECTION
SATTAR MINOR***

The diagram illustrates the cross-section of a road project with the following components and dimensions:

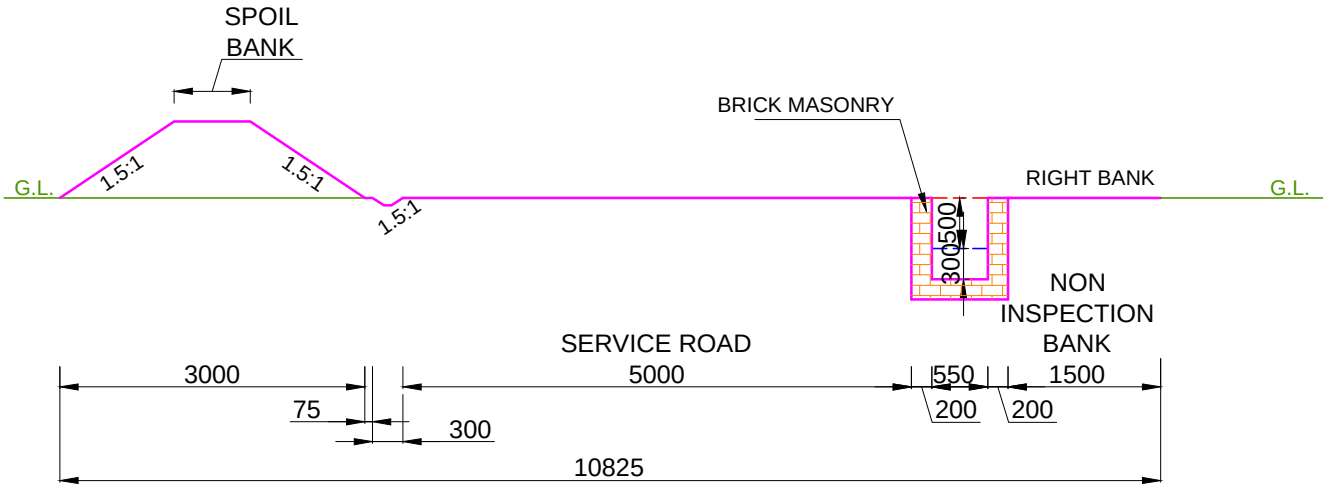
- SPOIL BANK:** Located at the far left and right, with a width of 3000 and a height of 300. Slopes are indicated as 1.5:1.
- SERVICE ROAD:** A 5000-wide section with a height of 450. Slopes are indicated as 1.5:1.
- C+D/2:** A central section with a width of 1340 and a height of 500. Slopes are indicated as 1.5:1.
- NON INSPECTION BANK:** A 3750-wide section with a height of 1160. Slopes are indicated as 1.5:1.
- Dimensions:**
 - Overall width: 18875
 - Overall height: 1160
 - Service Road width: 5000
 - C+D/2 width: 1340
 - Non Inspection Bank width: 3750
 - Spoil Bank width: 3000
 - Service Road height: 450
 - C+D/2 height: 500
 - Non Inspection Bank height: 1160
 - Slopes: 1.5:1
- Labels:**
 - G.L. (Ground Level)
 - BANK LEVEL

NOTE:-

1. THE BANK WIDTH HAS BEEN ADOPTED AS PER IS 7112 : 2002 (TABLE-1).
2. THE OFFTAKING CHAINAGE AND LENGTH OF THE CANAL HAS BEEN TAKEN AS PER ACTUAL SURVEY.
3. THIS IS A TYPICAL DRAWING , INSPECTION & NON-INSPECTION BANK SHALL BE TAKEN AS PER SITE CONDITIONS.

LEGEND		Prepared by :- WAPCOS LTD. 	Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
	CUT AREA		Drawing Title :-	X - SECTION OF SATTAR MR. (OFFTAKE FROM RD - 3+480 KM. (R), KULHARIA SUB-DISTRIBUTARY CANAL)
	FILL AREA		Drawing No. :- ⁶⁴	WAP/ INFRA/ NORTHKOEL/ BC/ R-09-02/ XSEC /TYP-(FC) 1 of 2

TYPICAL X - SECTION OF SATTAR MINOR
(OFFTAKE FROM RD - 3+480 KM. (RT, KULHARIA SUB-DISTRIBUTARY CANAL)
DESIGN SECTION FOR FULL CUTTING

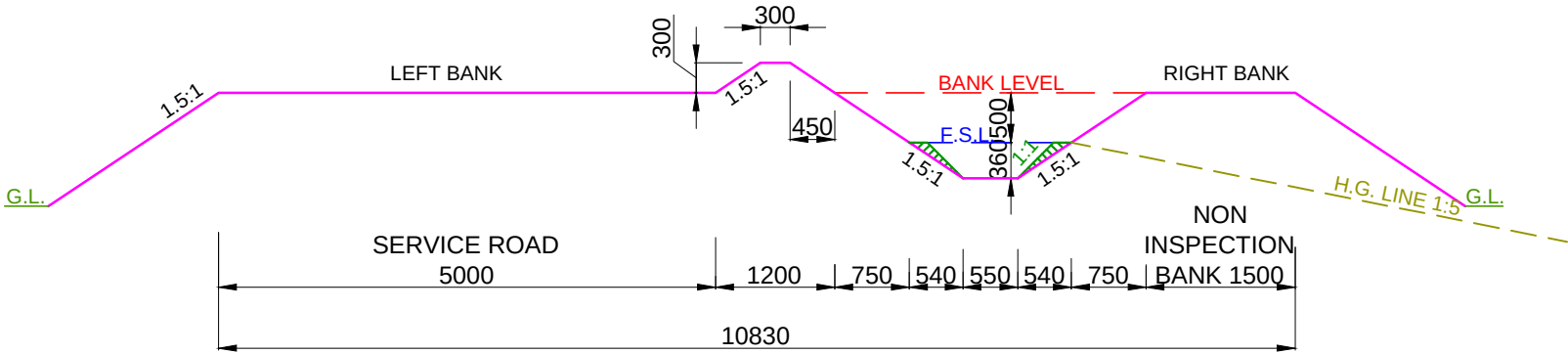


DESIGN SECTION FROM CH: 0.400 KM TO CH: 1.100 KM

- NOTE:-
- 1. THE BANK WIDTH HAS BEEN ADOPTED AS PER IS 7112 : 2002 (TABLE-1).
 - 2. THE OFFTAKING CHAINAGE AND LENGTH OF THE CANAL HAS BEEN TAKEN AS PER ACTUAL SURVEY.
 - 3. THIS IS A TYPICAL DRAWING , INSPECTION & NON-INSPECTION BANK SHALL BE TAKEN AS PER SITE CONDITIONS.

LEGEND CUT AREA FILL AREA	Prepared by :- WAPCOS LTD.	Project Title :- NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND				
		Drawing Title :- X - SECTION OF SATTAR MR. (OFFTAKE FROM RD - 3+480 KM. (R), KULHARIA SUB-DISTRIBUTARY CANAL)				
		Drawing No. :-⁶⁵	WAP/ INFRA/ NORTHKOEL/ BC/ R-09-02/ XSEC /TYP-(FC) 2 of 2			

TYPICAL X - SECTION OF SATTAR MINOR
(OFFTAKE FROM RD - 3+480 KM. (RT, KULHARIA SUB-DISTRIBUTARY CANAL)
DESIGN SECTION FOR FULL FILLING

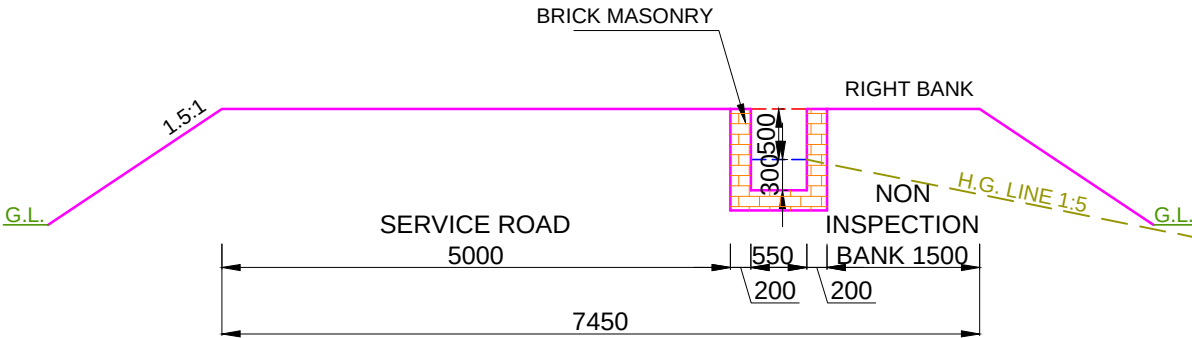


DESIGN SECTION FROM CH: 0.000 KM TO CH: 0.400 KM

- NOTE:-
- 1. THE BANK WIDTH HAS BEEN ADOPTED AS PER IS 7112 : 2002 (TABLE-1).
 - 2. THE OFFTAKING CHAINAGE AND LENGTH OF THE CANAL HAS BEEN TAKEN AS PER ACTUAL SURVEY.
 - 3. THIS IS A TYPICAL DRAWING , INSPECTION & NON-INSPECTION BANK SHALL BE TAKEN AS PER SITE CONDITIONS.

LEGEND CUT AREA FILL AREA		Prepared by :- WAPCOS LTD.	Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND				
			Drawing Title :-	X - SECTION OF SATTAR MR. (OFFTAKE FROM RD - 3+480 KM. (R), KULHARIA SUB-DISTRIBUTARY CANAL)				
			Drawing No. :- ⁶⁶	WAP/ INFRA/ NORTHKOEL/ BC/ R-09-02/ XSEC /TYP-(FF) 1 of 2				

TYPICAL X - SECTION OF SATTAR MINOR
(OFFTAKE FROM RD - 3+480 KM. (RT, KULHARIA SUB-DISTRIBUTARY CANAL)
DESIGN SECTION FOR FULL FILLING

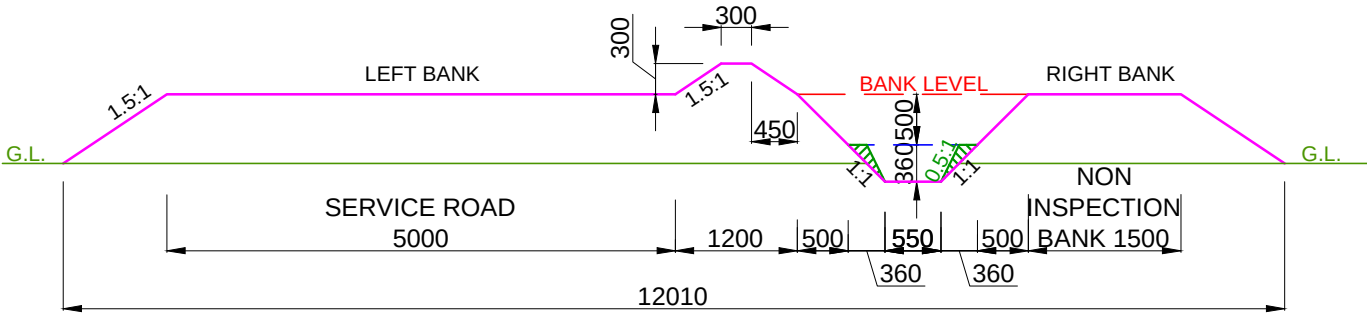


DESIGN SECTION FROM CH: 0.400 KM TO CH: 1.100 KM

- NOTE:-
- 1. THE BANK WIDTH HAS BEEN ADOPTED AS PER IS 7112 : 2002 (TABLE-1).
 - 2. THE OFFTAKING CHAINAGE AND LENGTH OF THE CANAL HAS BEEN TAKEN AS PER ACTUAL SURVEY.
 - 3. THIS IS A TYPICAL DRAWING , INSPECTION & NON-INSPECTION BANK SHALL BE TAKEN AS PER SITE CONDITIONS.

LEGEND		Prepared by :- WAPCOS LTD.	Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND				
	CUT AREA		Drawing Title :-	X - SECTION OF SATTAR MR. (OFFTAKE FROM RD - 3+480 KM. (R), KULHARIA SUB-DISTRIBUTARY CANAL)				
	FILL AREA		Drawing No. :- ⁶⁷	WAP/ INFRA/ NORTHKOEL/ BC/ R-09-02/ XSEC /TYP-(FF) 2 of 2				

TYPICAL X - SECTION OF SATTAR MINOR
(OFFTAKE FROM RD - 3+480 KM. (RT, KULHARIA SUB-DISTRIBUTARY CANAL)
DESIGN SECTION FOR PARTLY CUTTING/ PARTLY FILLING

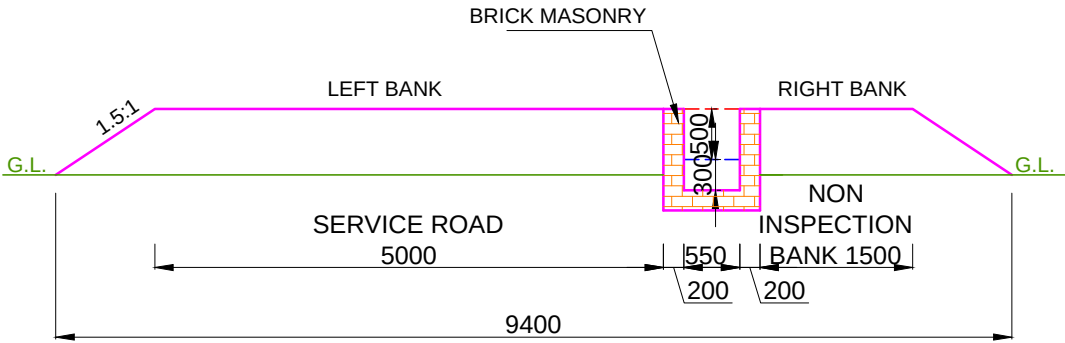


DESIGN SECTION FROM CH: 0.000 KM TO CH: 0.400 KM

- NOTE:-
- 1. THE BANK WIDTH HAS BEEN ADOPTED AS PER IS 7112 : 2002 (TABLE-1).
 - 2. THE OFFTAKING CHAINAGE AND LENGTH OF THE CANAL HAS BEEN TAKEN AS PER ACTUAL SURVEY.
 - 3. THIS IS A TYPICAL DRAWING , INSPECTION & NON-INSPECTION BANK SHALL BE TAKEN AS PER SITE CONDITIONS.

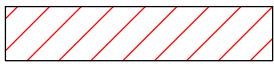
LEGEND CUT AREA FILL AREA		Prepared by :- WAPCOS LTD.	Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND				
			Drawing Title :-	X - SECTION OF SATTAR MR. (OFFTAKE FROM RD - 3+480 KM. (R), KULHARIA SUB-DISTRIBUTARY CANAL)				
			Drawing No. :- ⁶⁸	WAP/ INFRA/ NORTHKOEL/ BC/ R-09-02/ XSEC /TYP-(PCF) 1 of 2				

TYPICAL X - SECTION OF SATTAR MINOR
(OFFTAKE FROM RD - 3+480 KM. (RT, KULHARIA SUB-DISTRIBUTARY CANAL)
DESIGN SECTION FOR PARTLY CUTTING/ PARTLY FILLING



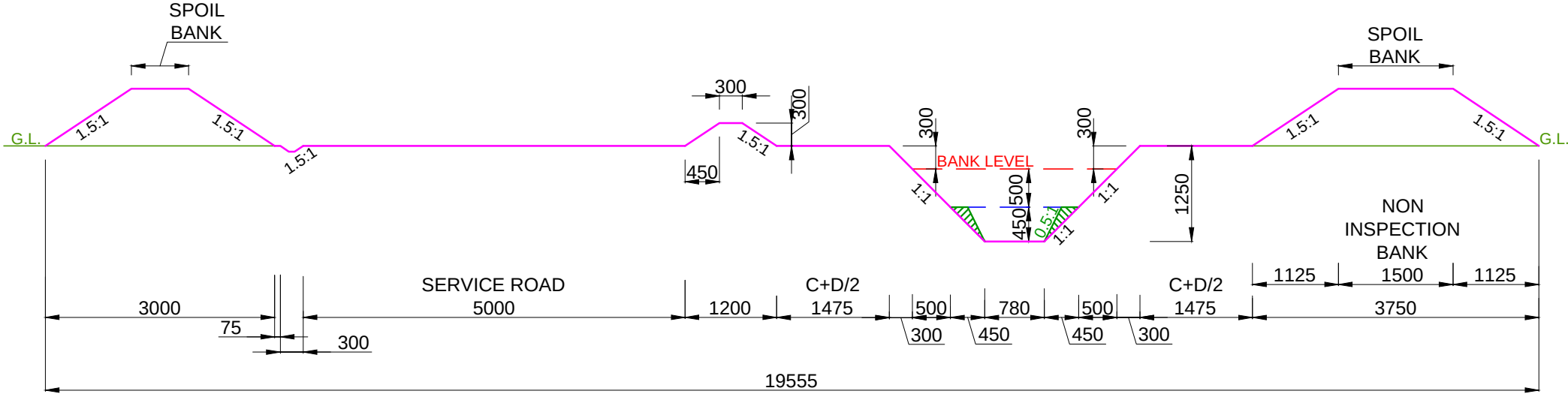
DESIGN SECTION FROM CH: 0.400 KM TO CH: 1.100 KM

- NOTE:-
- 1. THE BANK WIDTH HAS BEEN ADOPTED AS PER IS 7112 : 2002 (TABLE-1).
 - 2. THE OFFTAKING CHAINAGE AND LENGTH OF THE CANAL HAS BEEN TAKEN AS PER ACTUAL SURVEY.
 - 3. THIS IS A TYPICAL DRAWING , INSPECTION & NON-INSPECTION BANK SHALL BE TAKEN AS PER SITE CONDITIONS.

LEGEND		Prepared by :- WAPCOS LTD. 	Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND				
	CUT AREA		Drawing Title :-	X - SECTION OF SATTAR MR. (OFFTAKE FROM RD - 3+480 KM. (R), KULHARIA SUB-DISTRIBUTARY CANAL)				
	FILL AREA		Drawing No. :- ⁶⁹	WAP/ INFRA/ NORTHKOEL/ BC/ R-09-02/ XSEC /TYP-(PCF) 2 of 2				

***TYPICAL X-SECTION
MOHAR KARMA MINOR***

TYPICAL X - SECTION OF MOHAR KARMA MINOR
(OFFTAKE FROM RD - 9+220 KM. (LT), KULHARIA SUB-DISTRIBUTARY CANAL)
DESIGN SECTION FOR FULL CUTTING



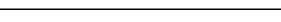
DESIGN SECTION FROM CH: 0.000 KM TO CH: 0.800 KM

- NOTE:-
- 1. THE BANK WIDTH HAS BEEN ADOPTED AS PER IS 7112 : 2002 (TABLE-1).
 - 2. THE OFFTAKING CHAINAGE AND LENGTH OF THE CANAL HAS BEEN TAKEN AS PER ACTUAL SURVEY.
 - 3. THIS IS A TYPICAL DRAWING , INSPECTION & NON-INSPECTION BANK SHALL BE TAKEN AS PER SITE CONDITIONS.

LEGEND CUT AREA FILL AREA		Prepared by :- WAPCOS LTD.	Project Title :- NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
			Drawing Title :- X - SECTION OF MOHAR KARMA MR. (OFFTAKE FROM RD - 9+220 KM. (L), KULHARIA SUB-DISTRIBUTARY CANAL)
			Drawing No. :-⁷¹ WAP/ INFRA/ NORTHKOEL/ BC/ R-09-03/ XSEC /TYP-(FC)1 of 3

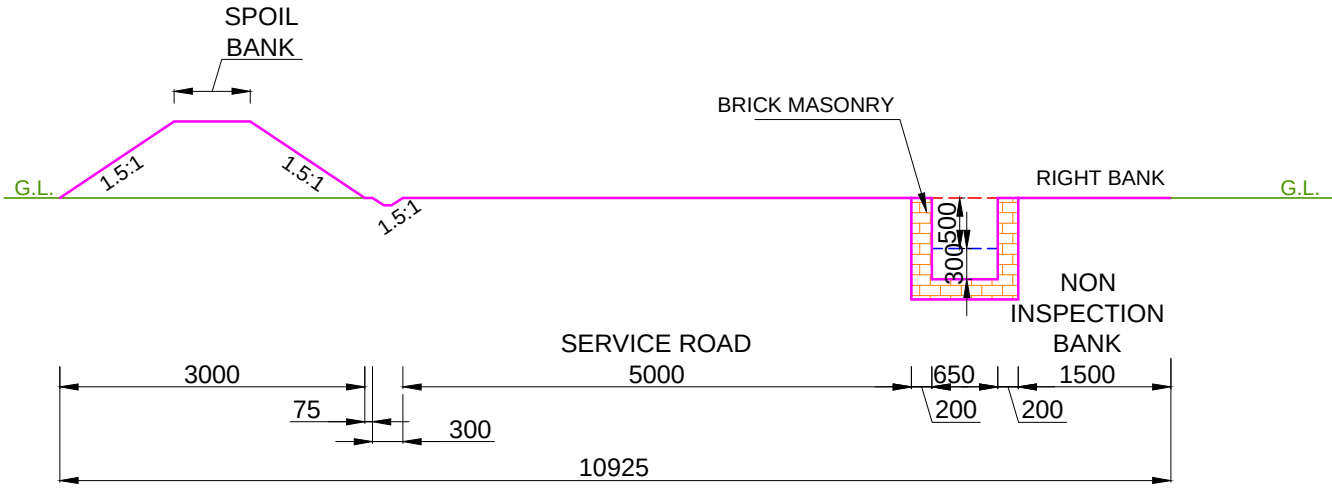
The diagram illustrates a cross-section of a road with a total width of 19775mm. The central section consists of a 5000mm wide service road. On either side of the service road are areas with 1.5:1 slopes, labeled 'SPOIL BANK' on the left and 'NON INSPECTION BANK' on the right. The right side also features a 'NON INSPECTION BANK' section. The diagram includes various dimensions for the road width, offsets, and slopes. Key labels include 'BANK LEVEL', 'F.S.L.' (Finished Surface Level), and 'C.B.L.' (Center Bank Level). The total width is 19775mm, and the service road width is 5000mm. The right side has a 3750mm wide section, and the left side has a 3000mm wide section. The diagram also shows a 19775mm total width, which is the sum of all the horizontal dimensions provided.

NOTE:-

- | | | | |
|---|--|------------------------------|---|
| <div> <div>LEGEND</div> <div> <div>  <div>CUT AREA</div> </div> <div>  <div>FILL AREA</div> </div> </div> </div> <td rowspan="3"> <div> <div>Prepared by :-</div> <div> <div>WAPCOS LTD.</div> <div>  </div> </div> </div> </td> <td>Project Title :-</td> <td>NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND</td> | <div> <div>Prepared by :-</div> <div> <div>WAPCOS LTD.</div> <div>  </div> </div> </div> | Project Title :- | NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND |
| | | Drawing Title :- | X - SECTION OF MOHAR KARMA MR. (OFFTAKE FROM RD - 9+220 KM. (L), KULHARIA SUB-DISTRIBUTARY CANAL) |
| | | Drawing No. :- ⁷² | WAP/ INFRA/ NORTHKOEL/ BC/ R-09-03/ XSEC /TYP-(FC) 2 of 3 |

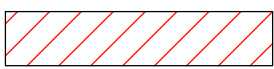
TYPICAL X - SECTION OF MOHAR KARMA MINOR
(OFFTAKE FROM RD - 9+220 KM. (LT), KULHARIA SUB-DISTRIBUTARY CANAL)

DESIGN SECTION FOR FULL CUTTING



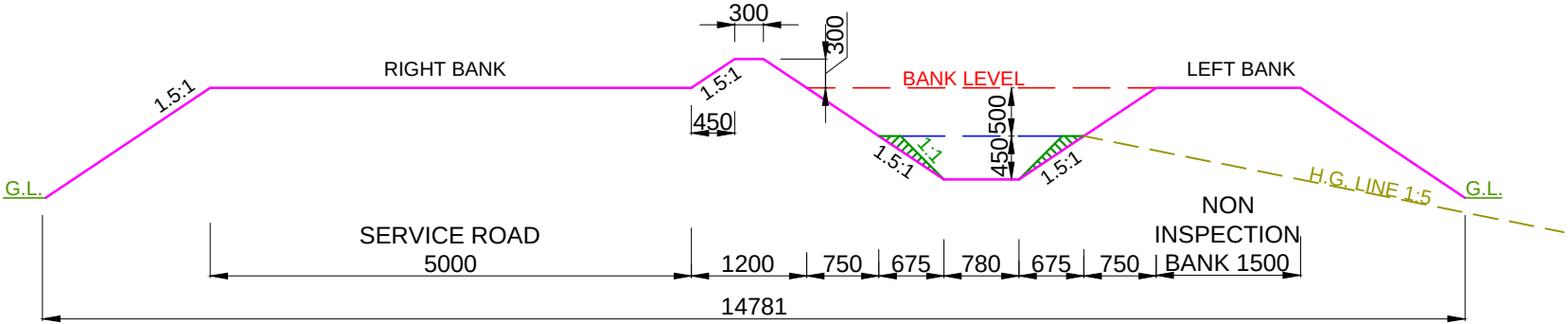
DESIGN SECTION FROM CH: 1.450 KM TO CH: 2.065 KM

- NOTE:-
- 1. THE BANK WIDTH HAS BEEN ADOPTED AS PER IS 7112 : 2002 (TABLE-1).
 - 2. THE OFFTAKING CHAINAGE AND LENGTH OF THE CANAL HAS BEEN TAKEN AS PER ACTUAL SURVEY.
 - 3. THIS IS A TYPICAL DRAWING , INSPECTION & NON-INSPECTION BANK SHALL BE TAKEN AS PER SITE CONDITIONS.

LEGEND		Prepared by :- WAPCOS LTD. 	Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND				
	CUT AREA		Drawing Title :-	X - SECTION OF MOHAR KARMA MR. (OFFTAKE FROM RD - 9+220 KM. (L), KULHARIA SUB-DISTRIBUTARY CANAL)				
	FILL AREA		Drawing No. :- ⁷³	WAP/ INFRA/ NORTHKOEL/ BC/ R-09-03/ XSEC /TYP-(FC) 3 of 3				

TYPICAL X - SECTION OF MOHAR KARMA MINOR
(OFFTAKE FROM RD - 9+220 KM. (LT), KULHARIA SUB-DISTRIBUTARY CANAL)

DESIGN SECTION FOR FULL FILLING

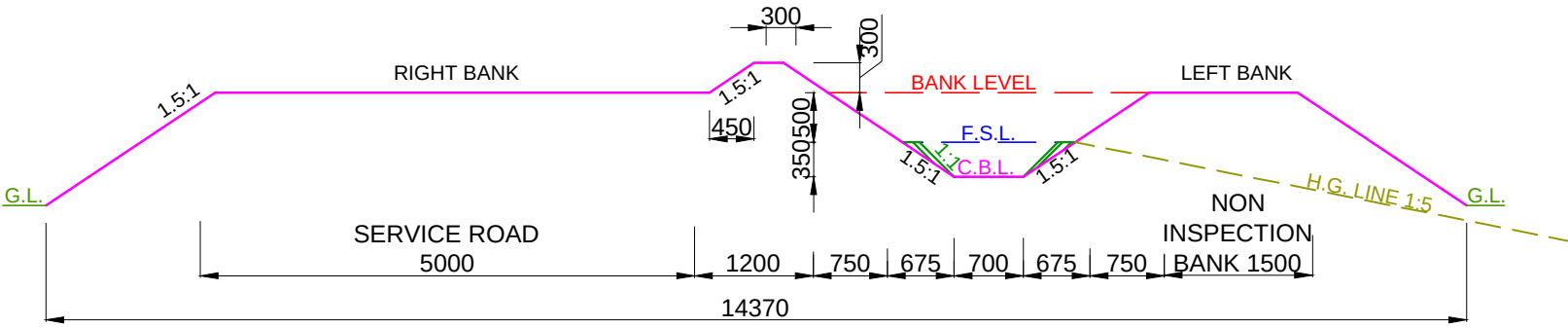


DESIGN SECTION FROM CH: 0.000 KM TO CH: 0.800 KM

- NOTE:-
- 1. THE BANK WIDTH HAS BEEN ADOPTED AS PER IS 7112 : 2002 (TABLE-1).
 - 2. THE OFFTAKING CHAINAGE AND LENGTH OF THE CANAL HAS BEEN TAKEN AS PER ACTUAL SURVEY.
 - 3. THIS IS A TYPICAL DRAWING , INSPECTION & NON-INSPECTION BANK SHALL BE TAKEN AS PER SITE CONDITIONS.

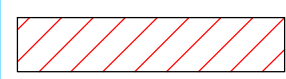
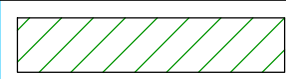
LEGEND CUT AREA FILL AREA		Prepared by :- WAPCOS LTD.	Project Title :- NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
			Drawing Title :- X - SECTION OF MOHAR KARMA MR. (OFFTAKE FROM RD - 9+220 KM. (L), KULHARIA SUB-DISTRIBUTARY CANAL)
			Drawing No. :-⁷⁴ WAP/ INFRA/ NORTHKOEL/ BC/ R-09-03/ XSEC /TYP-(FF)1 of 3

TYPICAL X - SECTION OF MOHAR KARMA MINOR
(OFFTAKE FROM RD - 9+220 KM. (LT), KULHARIA SUB-DISTRIBUTARY CANAL)
DESIGN SECTION FOR FULL FILLING

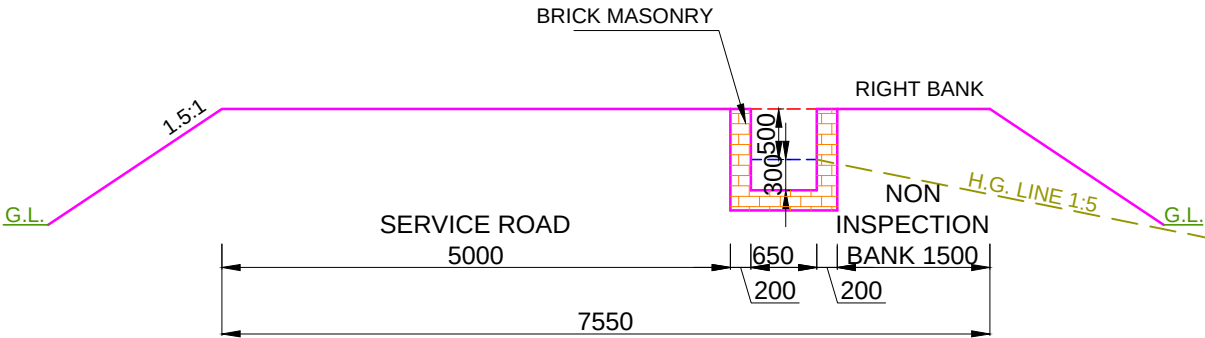


DESIGN SECTION FROM CH: 0.800 KM TO CH: 1.450 KM

- NOTE:-
- 1. THE BANK WIDTH HAS BEEN ADOPTED AS PER IS 7112 : 2002 (TABLE-1).
 - 2. THE OFFTAKING CHAINAGE AND LENGTH OF THE CANAL HAS BEEN TAKEN AS PER ACTUAL SURVEY.
 - 3. THIS IS A TYPICAL DRAWING , INSPECTION & NON-INSPECTION BANK SHALL BE TAKEN AS PER SITE CONDITIONS.

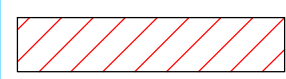
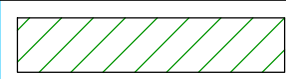
LEGEND		Prepared by :- WAPCOS LTD. 	Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND				
	CUT AREA		Drawing Title :-	X - SECTION OF MOHAR KARMA MR. (OFFTAKE FROM RD - 9+220 KM. (L), KULHARIA SUB-DISTRIBUTARY CANAL)				
	FILL AREA		Drawing No. :- ⁷⁵	WAP/ INFRA/ NORTHKOEL/ BC/ R-09-03/ XSEC /TYP-(FF) 2 of 3				

TYPICAL X - SECTION OF MOHAR KARMA MINOR
(OFFTAKE FROM RD - 9+220 KM. (LT), KULHARIA SUB-DISTRIBUTARY CANAL)
DESIGN SECTION FOR FULL FILLING

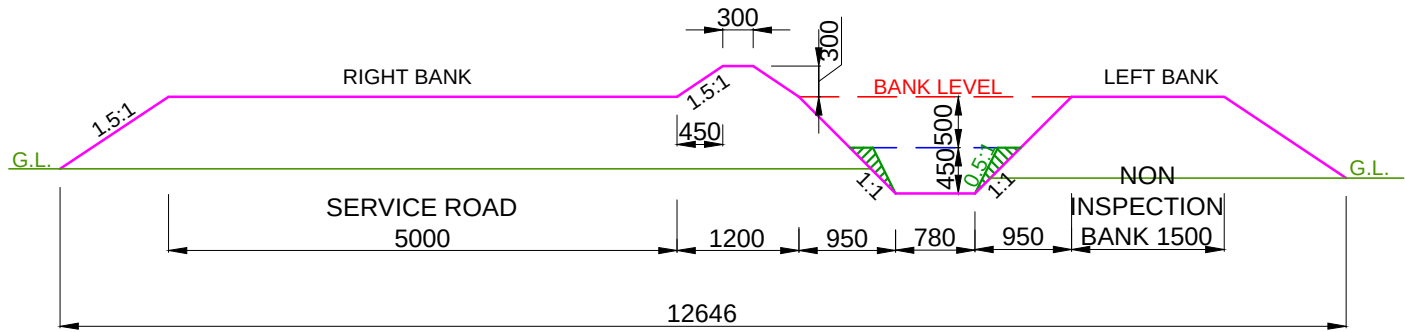


DESIGN SECTION FROM CH: 1.450 KM TO CH: 2.065 KM

- NOTE:-
- 1. THE BANK WIDTH HAS BEEN ADOPTED AS PER IS 7112 : 2002 (TABLE-1).
 - 2. THE OFFTAKING CHAINAGE AND LENGTH OF THE CANAL HAS BEEN TAKEN AS PER ACTUAL SURVEY.
 - 3. THIS IS A TYPICAL DRAWING , INSPECTION & NON-INSPECTION BANK SHALL BE TAKEN AS PER SITE CONDITIONS.

LEGEND		Prepared by :- WAPCOS LTD. 	Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND				
	CUT AREA		Drawing Title :-	X - SECTION OF MOHAR KARMA MR. (OFFTAKE FROM RD - 9+220 KM. (L), KULHARIA SUB-DISTRIBUTARY CANAL)				
	FILL AREA		Drawing No. :- ⁷⁶	WAP/ INFRA/ NORTHKOEL/ BC/ R-09-03/ XSEC /TYP-(FF) 3 of 3				

TYPICAL X - SECTION OF MOHAR KARMA MINOR
(OFFTAKE FROM RD - 9+220 KM. (LT), KULHARIA SUB-DISTRIBUTARY CANAL)
DESIGN SECTION FOR PARTLY CUTTING/ PARTLY FILLING

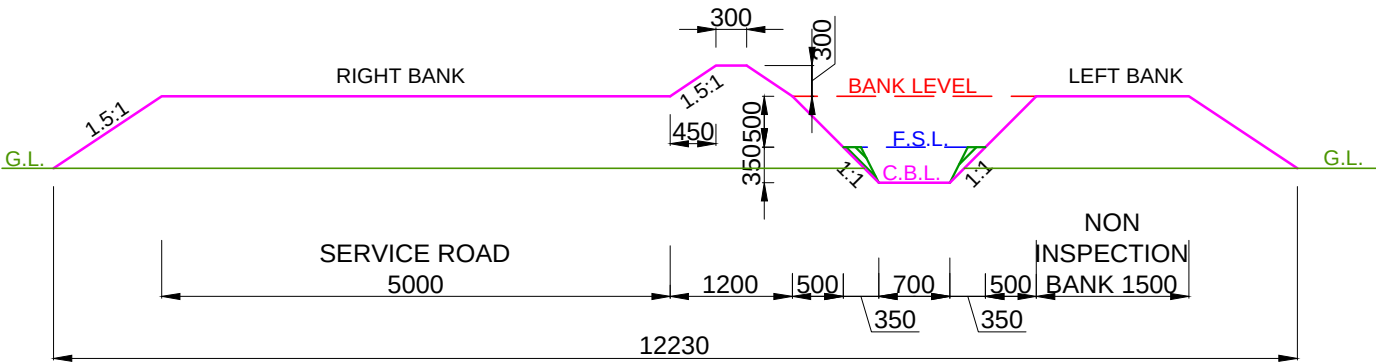


DESIGN SECTION FROM CH: 0.000 KM TO CH: 0.800 KM

- NOTE:-
- 1. THE BANK WIDTH HAS BEEN ADOPTED AS PER IS 7112 : 2002 (TABLE-1).
 - 2. THE OFFTAKING CHAINAGE AND LENGTH OF THE CANAL HAS BEEN TAKEN AS PER ACTUAL SURVEY.
 - 3. THIS IS A TYPICAL DRAWING , INSPECTION & NON-INSPECTION BANK SHALL BE TAKEN AS PER SITE CONDITIONS.

LEGEND CUT AREA FILL AREA		Prepared by :- WAPCOS LTD.	Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND				
			Drawing Title :-	X - SECTION OF MOHAR KARMA MR. (OFFTAKE FROM RD - 9+220 KM. (L), KULHARIA SUB-DISTRIBUTARY CANAL)				
			Drawing No. :- ⁷⁷	WAP/ INFRA/ NORTHKOEL/ BC/ R-09-03/ XSEC /TYP-(PCF) 1 of 3				

TYPICAL X - SECTION OF MOHAR KARMA MINOR
(OFFTAKE FROM RD - 9+220 KM. (LT), KULHARIA SUB-DISTRIBUTARY CANAL)
DESIGN SECTION FOR PARTLY CUTTING/ PARTLY FILLING

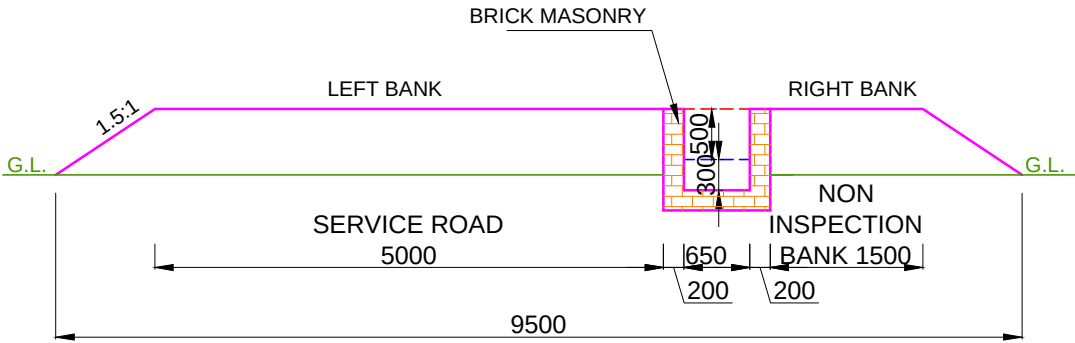


DESIGN SECTION FROM CH: 0.800 KM TO CH: 1.450 KM

- NOTE:-
- 1. THE BANK WIDTH HAS BEEN ADOPTED AS PER IS 7112 : 2002 (TABLE-1).
 - 2. THE OFFTAKING CHAINAGE AND LENGTH OF THE CANAL HAS BEEN TAKEN AS PER ACTUAL SURVEY.
 - 3. THIS IS A TYPICAL DRAWING , INSPECTION & NON-INSPECTION BANK SHALL BE TAKEN AS PER SITE CONDITIONS.

LEGEND CUT AREA FILL AREA		Prepared by :- WAPCOS LTD.	Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND				
			Drawing Title :-	X - SECTION OF MOHAR KARMA MR. (OFFTAKE FROM RD - 9+220 KM. (L), KULHARIA SUB-DISTRIBUTARY CANAL)				
			Drawing No. :- ⁷⁸	WAP/ INFRA/ NORTHKOEL/ BC/ R-09-03/ XSEC /TYP-(PCF) 2 of 3				

TYPICAL X - SECTION OF MOHAR KARMA MINOR
(OFFTAKE FROM RD - 9+220 KM. (LT), KULHARIA SUB-DISTRIBUTARY CANAL)
DESIGN SECTION FOR PARTLY CUTTING/ PARTLY FILLING



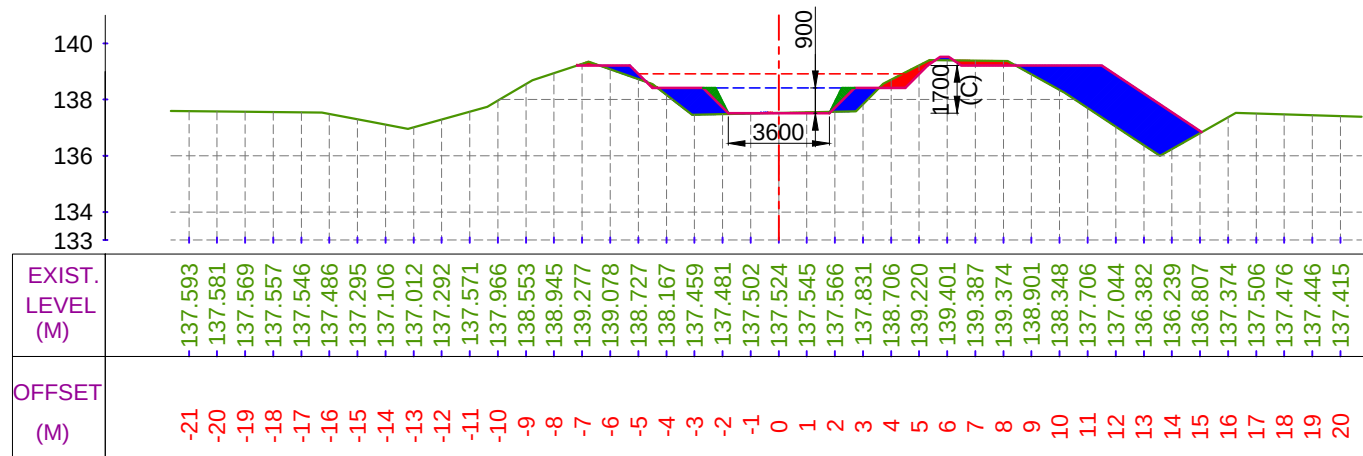
DESIGN SECTION FROM CH: 1.450 KM TO CH: 2.065 KM

- NOTE:-
- 1. THE BANK WIDTH HAS BEEN ADOPTED AS PER IS 7112 : 2002 (TABLE-1).
 - 2. THE OFFTAKING CHAINAGE AND LENGTH OF THE CANAL HAS BEEN TAKEN AS PER ACTUAL SURVEY.
 - 3. THIS IS A TYPICAL DRAWING , INSPECTION & NON-INSPECTION BANK SHALL BE TAKEN AS PER SITE CONDITIONS.

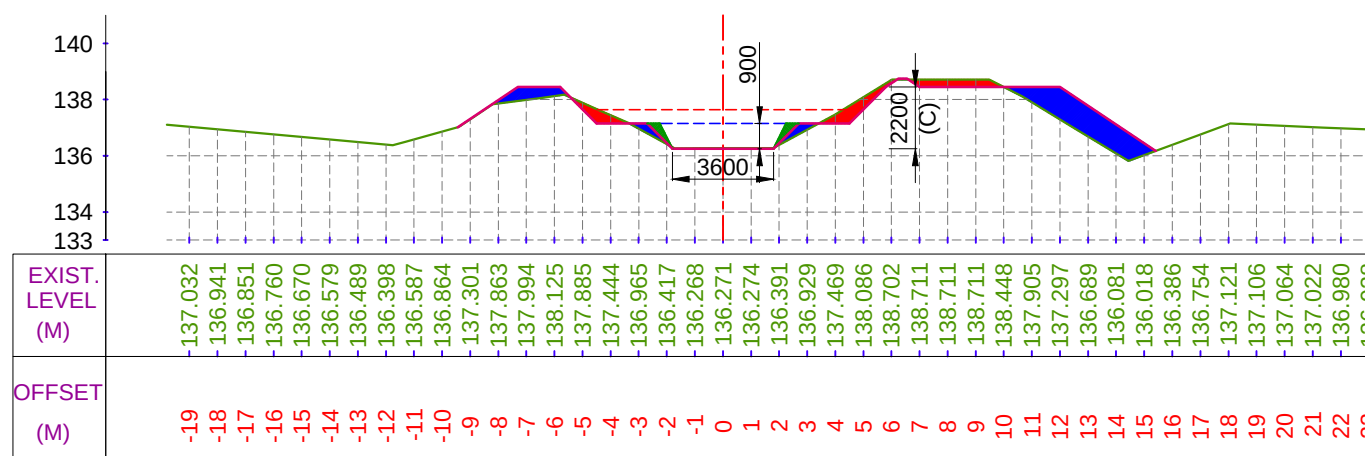
LEGEND CUT AREA FILL AREA		Prepared by :- WAPCOS LTD.	Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND				
			Drawing Title :-	X - SECTION OF MOHAR KARMA MR. (OFFTAKE FROM RD - 9+220 KM. (L), KULHARIA SUB-DISTRIBUTARY CANAL)				
			Drawing No. :- ⁷⁹	WAP/ INFRA/ NORTHKOEL/ BC/ R-09-03/ XSEC /TYP-(PCF) 3 of 3				

***CROSS-SECTION
OF KULHARIA SUB DY***

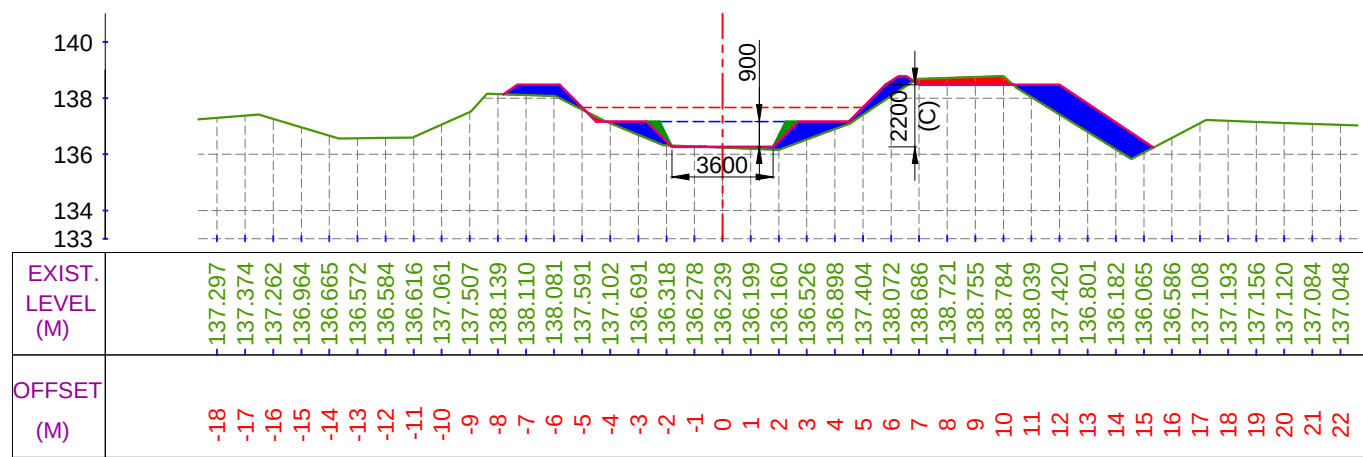
X SECTION OF KULHARIA SUB DY.



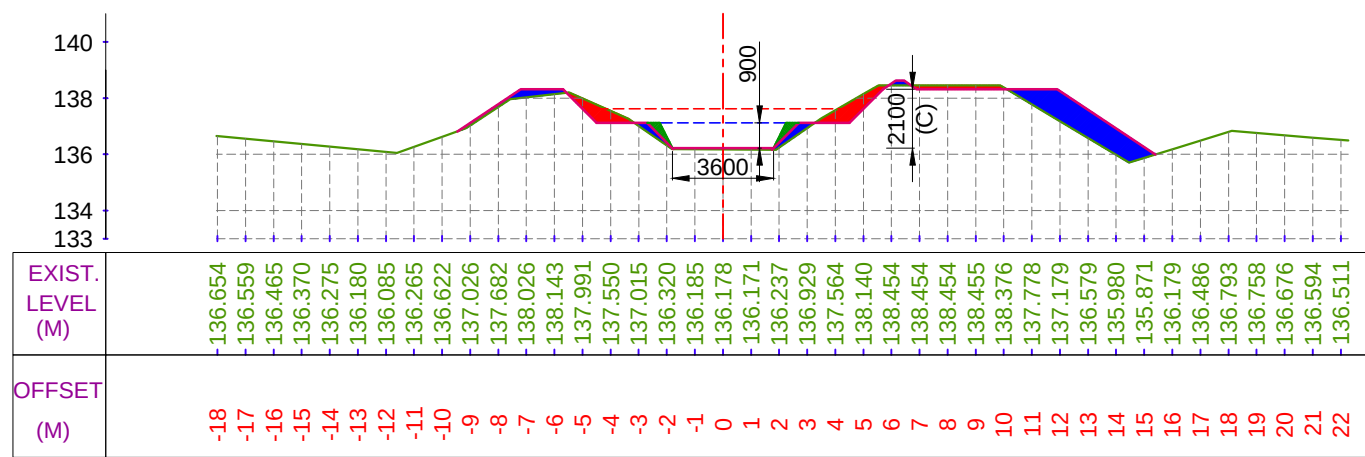
CUTTING AREA (SQ.M) = 1.047 CH. (KM):- 1+300
FILLING AREA (SQ.M) = 10.403 DESIGNED BED LEVEL =137.515 M



CUTTING AREA (SQ.M) = 2.300 CH. (KM):- 1+500
FILLING AREA (SQ.M) = 5.622 DESIGNED BED LEVEL = 136.245 M



CUTTING AREA (SQ.M) = 0.960 CH. (KM):- 1+400
FILLING AREA (SQ.M) = 7.519 DESIGNED BED LEVEL = 136.270 M

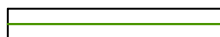


CUTTING AREA (SQ.M) = 2.313 CH. (KM):- 1+600
FILLING AREA (SQ.M) = 5.223 DESIGNED BED LEVEL = 136.220 M

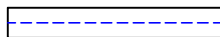
LEGEND



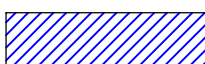
CUT AREA



EXISTING BED LINE



F.S.L.



FILL AREA



DESIGNED BED LINE



H.G. LINE

Prepared by :-

WAPCOS LTD.



Project Title :-

NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND

Drawing Title :-

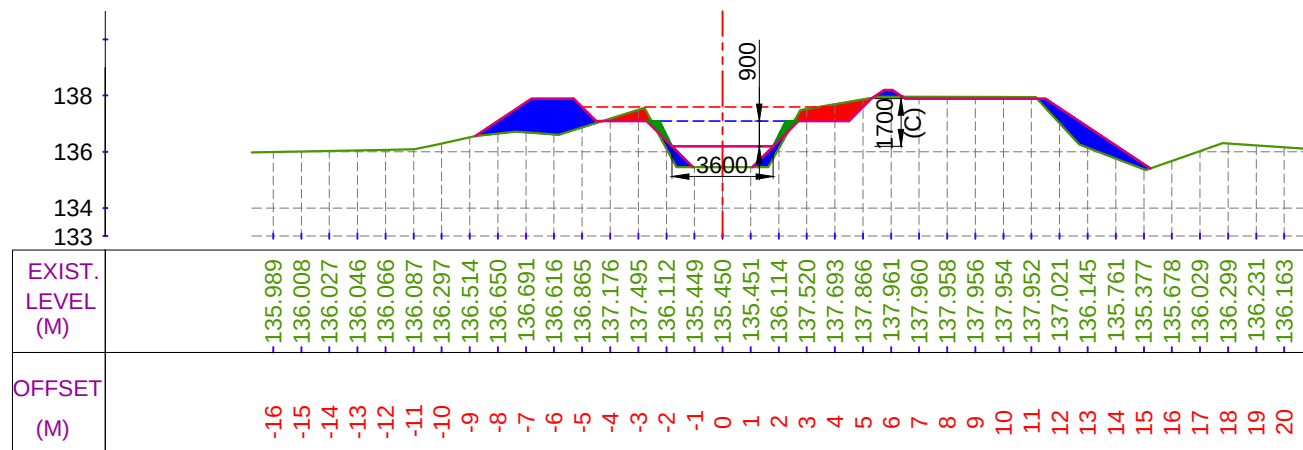
X SEC OF KULHARIA SUB DY. (OFFTAKE FROM RD - 43+667 KM. (L), NORTH KOEL RIGHT MAIN CANAL)

Drawing No. :-

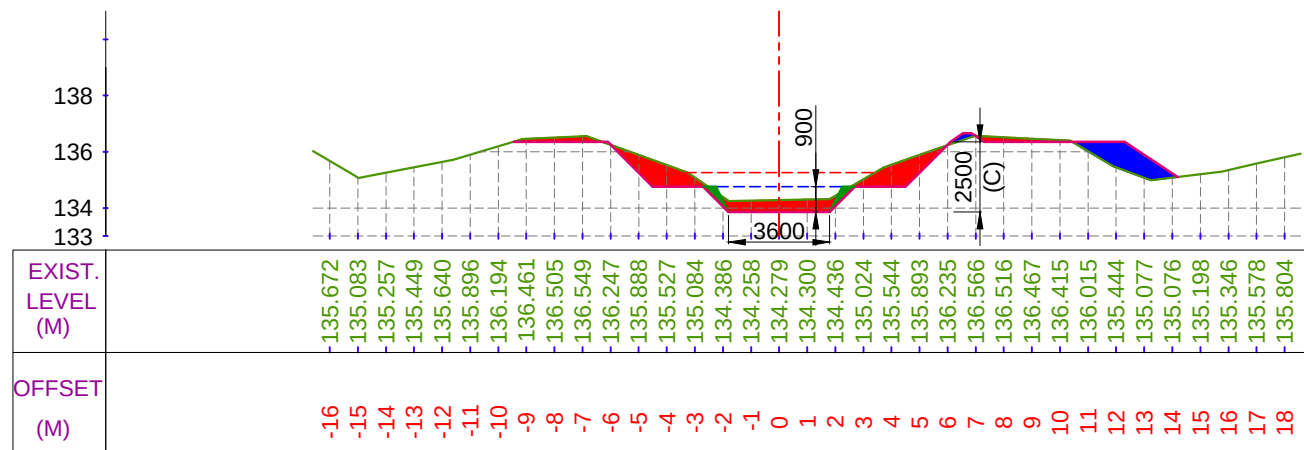
WAP/ INFRA/ NORTHKOEL/ BC/ R-09/ XSEC-

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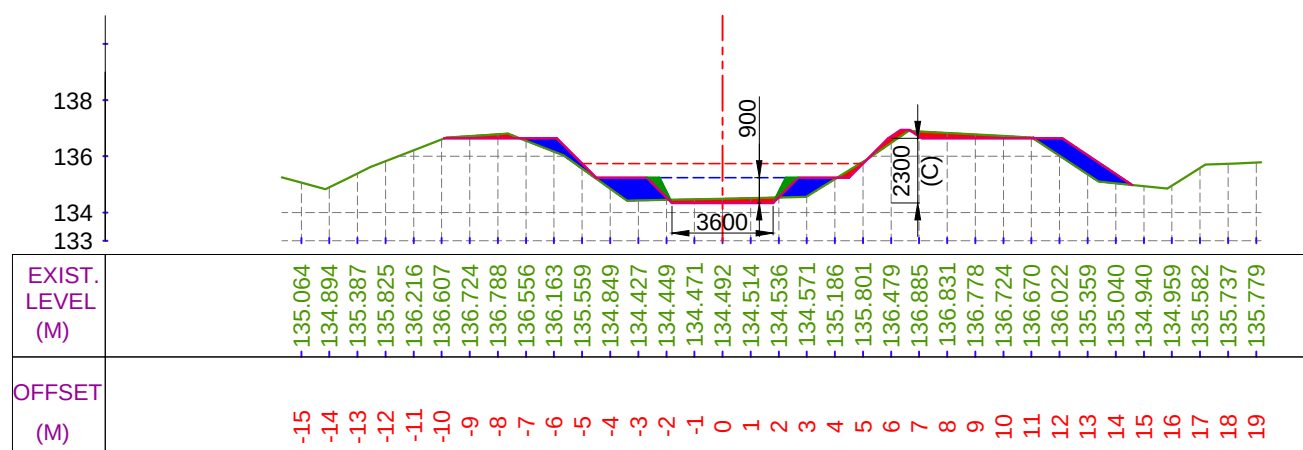
X SECTION OF KULHARIA SUB DY.



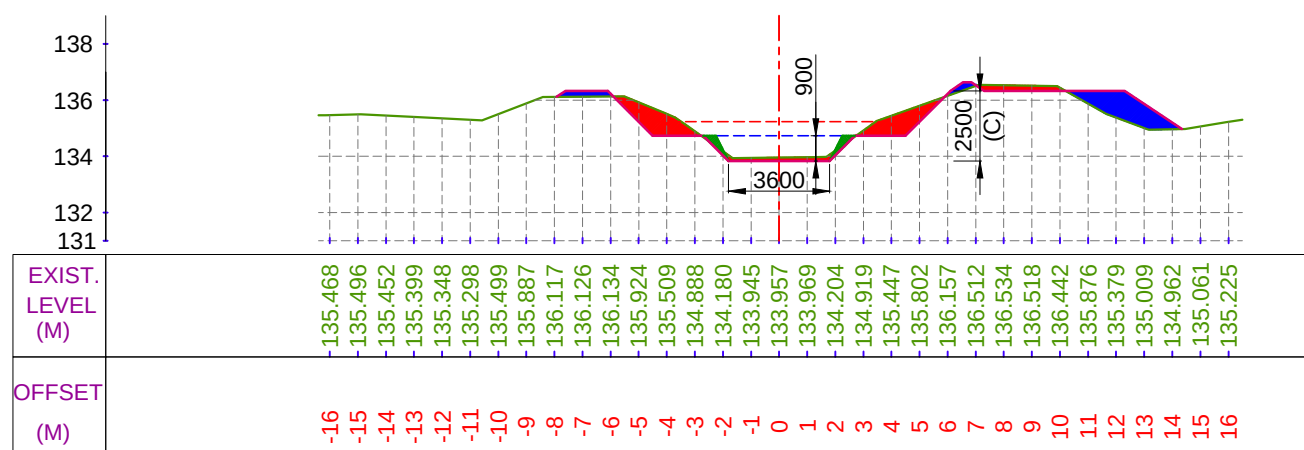
CUTTING AREA (SQ.M) = 1.946 CH. (KM):- 1+700
 FILLING AREA (SQ.M) = 6.338 DESIGNED BED LEVEL = 136.195 M



CUTTING AREA (SQ.M) = 5.983 CH. (KM):- 1+900
 FILLING AREA (SQ.M) = 2.370 DESIGNED BED LEVEL = 133.858 M



CUTTING AREA (SQ.M) = 1.751 CH. (KM):- 1+800
 FILLING AREA (SQ.M) = 4.491 DESIGNED BED LEVEL = 134.340 M



CUTTING AREA (SQ.M) = 4.310 CH. (KM):- 2+000
 FILLING AREA (SQ.M) = 3.062 DESIGNED BED LEVEL = 133.833 M

LEGEND

	CUT AREA		EXISTING BED LINE
	FILL AREA		F.S.L.
			DESIGNED BED LINE
			H.G. LINE

Prepared by :-

WAPCOS LTD.



Project Title :-

NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND

Drawing Title :-

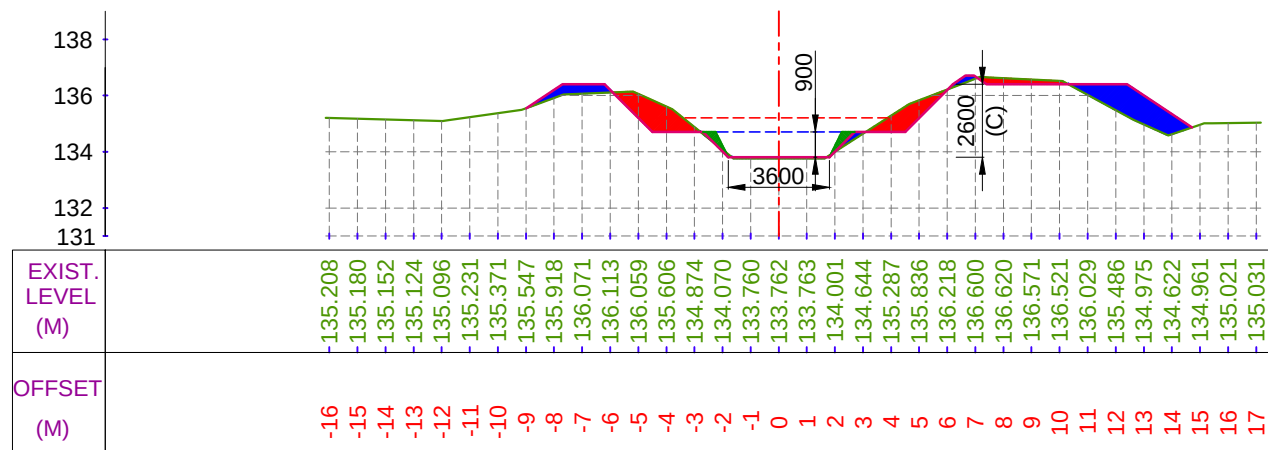
X SEC OF KULHARIA SUB DY. (OFFTAKE FROM RD - 43+667 KM. (L), NORTH KOEL RIGHT MAIN CANAL)

Drawing No. :-

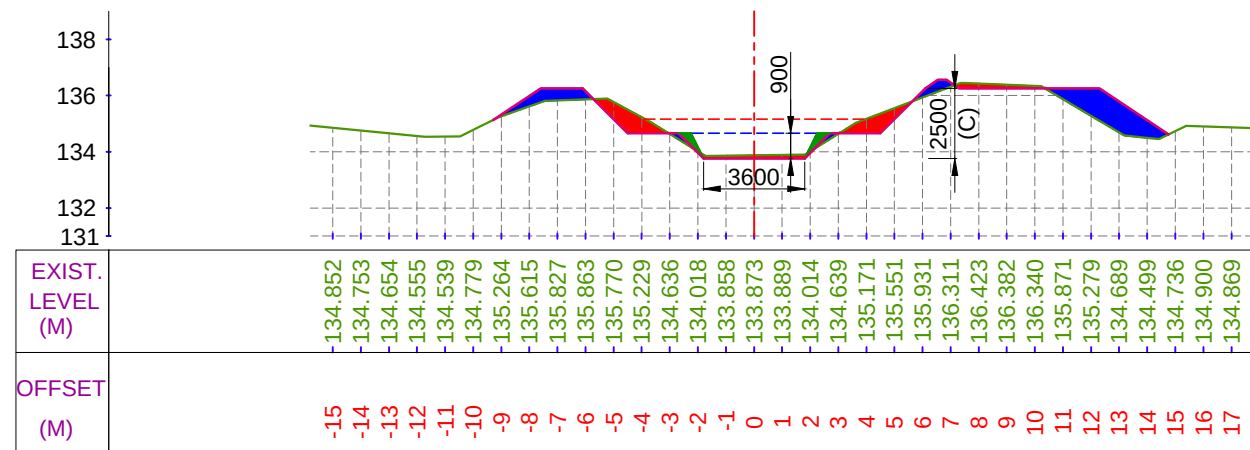
WAP/ INFRA/ NORTHKOEL/ BC/ R-09/ XSEC-

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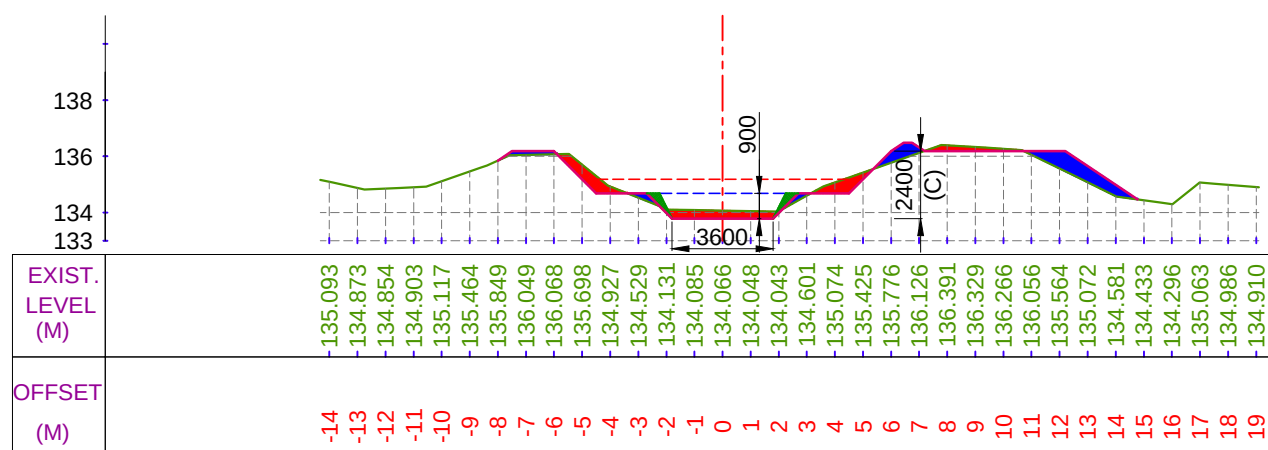
X SECTION OF KULHARIA SUB DY.



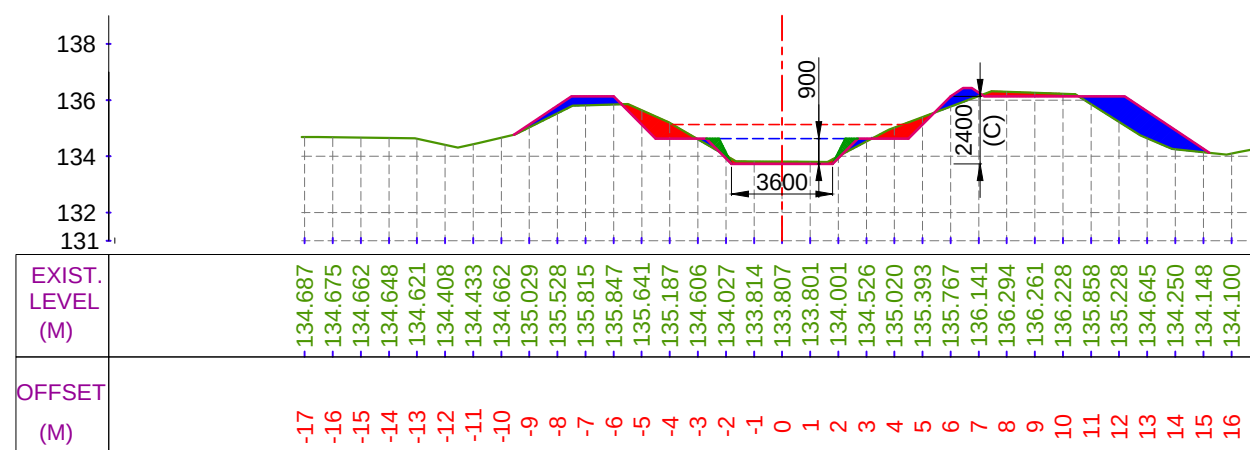
CUTTING AREA (SQ.M) = 3.879 CH. (KM):- 2+100
 FILLING AREA (SQ.M) = 4.287 DESIGNED BED LEVEL = 133.808 M



CUTTING AREA (SQ.M) = 3.066 CH. (KM):- 2+300
 FILLING AREA (SQ.M) = 4.781 DESIGNED BED LEVEL = 133.758 M



CUTTING AREA (SQ.M) = 3.054 CH. (KM):- 2+200
 FILLING AREA (SQ.M) = 2.792 DESIGNED BED LEVEL = 133.783 M



CUTTING AREA (SQ.M) = 2.530 CH. (KM):- 2+400
 FILLING AREA (SQ.M) = 4.509 DESIGNED BED LEVEL = 133.733 M

LEGEND

	CUT AREA		EXISTING BED LINE
			F.S.L.
	FILL AREA		DESIGNED BED LINE
			H.G. LINE

Prepared by :-

WAPCOS LTD.



Project Title :-

NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND

Drawing Title :-

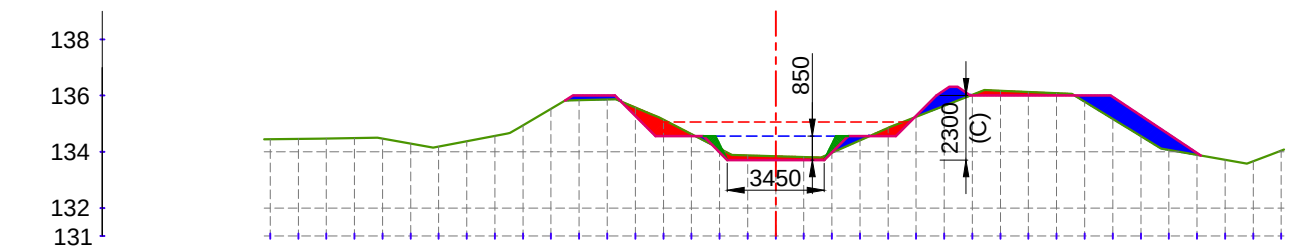
X SEC OF KULHARIA SUB DY. (OFFTAKE FROM RD - 43+667 KM. (L), NORTH KOEL RIGHT MAIN CANAL)

Drawing No. :-

WAP/ INFRA/ NORTHKOEL/ BC/ R-09/ XSEC-

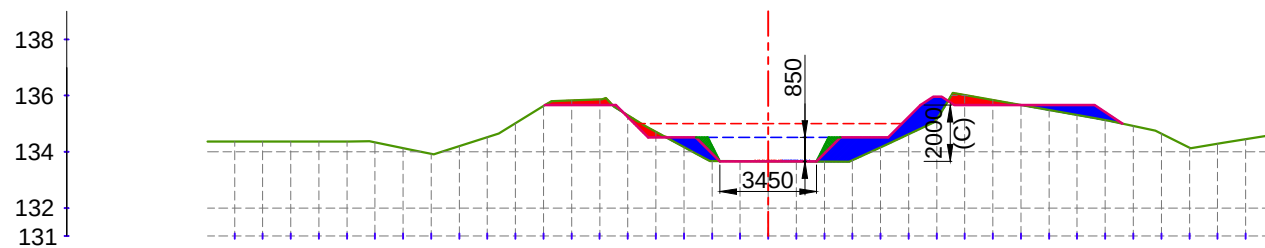
6 of 32

X SECTION OF KULHARIA SUB DY.



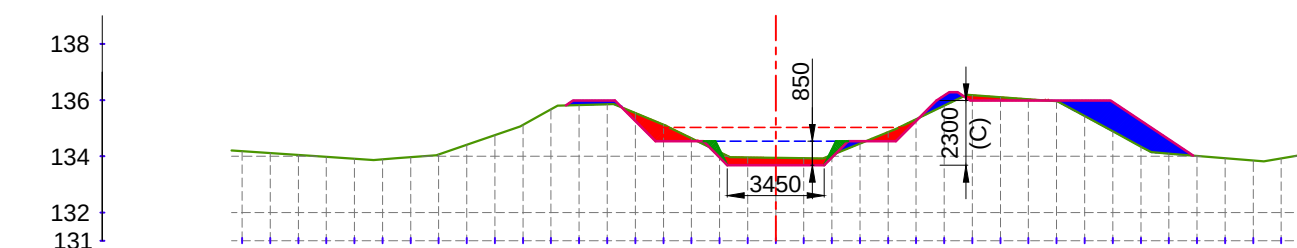
EXIST. LEVEL (M)	134.450 134.462 134.475 134.488 134.467 134.291 134.190 134.379 134.568 134.943 135.534 135.838 135.863 135.580 135.143 134.628 134.112 133.869 133.842 133.816 133.970 134.412 134.855 135.248 135.636 136.025 136.169 136.127 136.084 135.782 135.173 134.560 134.064 133.889 133.714 133.664 134.042
OFFSET (M)	-18 -17 -16 -15 -14 -13 -12 -11 -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18

CUTTING AREA (SQ.M) = 2.208 CH. (KM):- 2+500
 FILLING AREA (SQ.M) = 3.588 DESIGNED BED LEVEL = 133.708 M



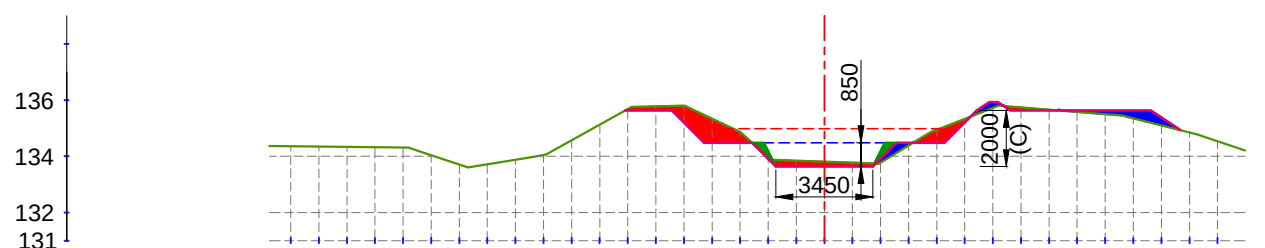
EXIST. LEVEL (M)	134.362	134.364	134.366	134.368	134.370	134.331	134.128	133.925	134.199	134.522	135.016	135.627	135.825	135.861	135.299	134.709	134.169	133.672	133.667	133.661	133.655	133.650	133.698	134.157	134.626	135.167	136.019	135.841	135.663	135.485	135.308	135.131	134.918	134.644	134.142	134.282	134.446
OFFSET (M)	-19	-18	-17	-16	-15	-14	-13	-12	-11	-10	-9	-8	-7	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17

CUTTING AREA (SQ.M) = 1.243 CH. (KM):- 2+700
 FILLING AREA (SQ.M) = 4.104 DESIGNED BED LEVEL = 133.658 M



EXIST. LEVEL (M)	134.180	134.112	134.045	133.978	133.911	133.890	133.969	134.068	134.410	134.752	135.116	135.680	135.829	135.855	135.542	135.127	134.643	134.153	133.961	133.946	133.930	134.051	134.457	134.864	135.321	135.801	136.172	136.102	136.032	135.963	135.434	134.896	134.349	134.094	134.012	133.930	133.848	133.922	134.094
OFFSET (M)	-19	-18	-17	-16	-15	-14	-13	-12	-11	-10	-9	-8	-7	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19

CUTTING AREA (SQ.M) = 2.664 CH. (KM):- 2+600
 FILLING AREA (SQ.M) = 3.835 DESIGNED BED LEVEL = 133.683 M



EXIST. LEVEL (M)	134.360	134.348	134.336	134.324	134.312	134.041	133.708	133.715	133.878	134.043	134.571	135.129	135.686	135.781	135.807	135.342	134.871	133.964	133.845	133.811	133.777	133.773	134.383	134.947	135.337	135.727	135.743	135.660	135.579	135.497	135.350	135.101	134.852	134.537
OFFSET (M)	-19	-18	-17	-16	-15	-14	-13	-12	-11	-10	-9	-8	-7	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14

CUTTING AREA (SQ.M) = 3.309 CH. (KM):- 2+800
 FILLING AREA (SQ.M) = 1.191 DESIGNED BED LEVEL = 133.633 M

LEGEND

	CUT AREA		EXISTING BED LINE
			F.S.L.
	FILL AREA		DESIGNED BED LINE
			H.G. LINE

Prepared by :-

WAPCOS LTD.



Project Title :-

NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND

Drawing Title :-

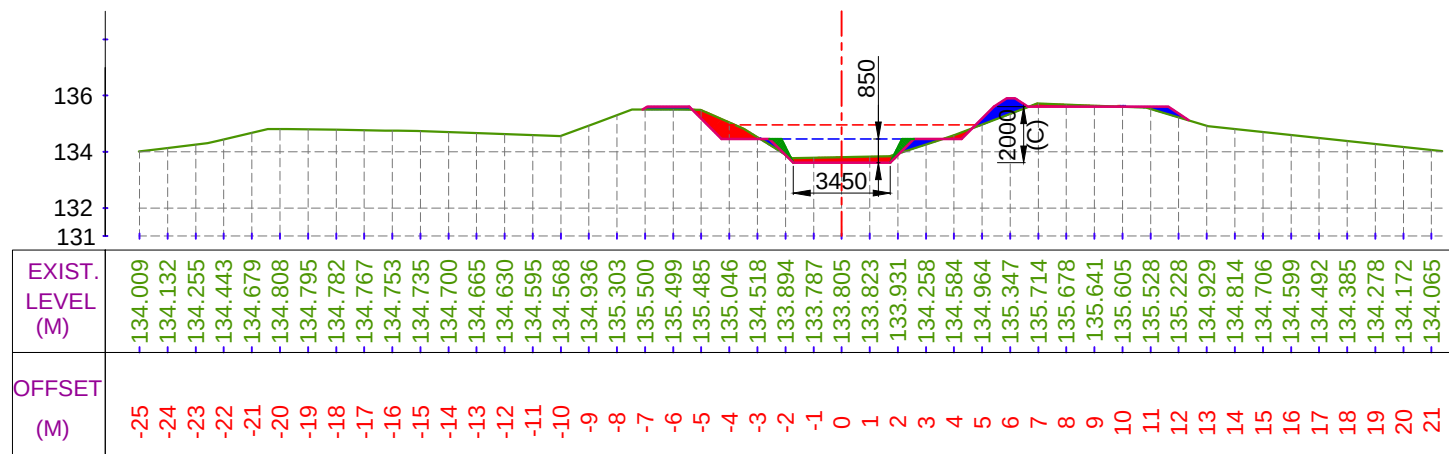
X SEC OF KULHARIA SUB DY. (OFFTAKE FROM RD - 43+667 KM. (L), NORTH KOEL RIGHT MAIN CANAL)

Drawing No. :-

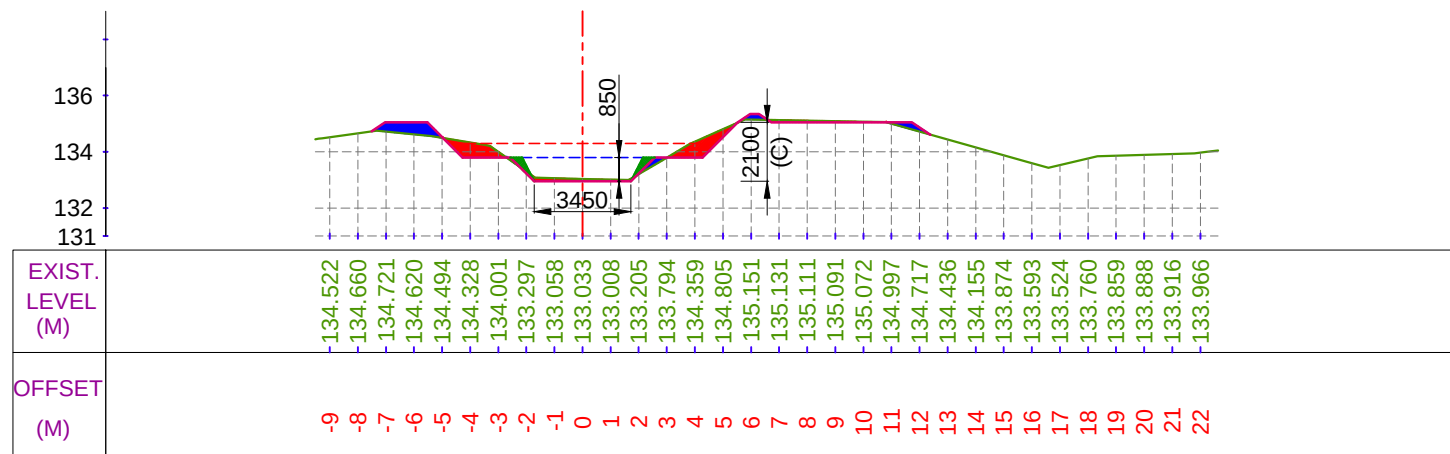
WAP/ INFRA/ NORTHKOEL/ BC/ R-09/ XSEC-

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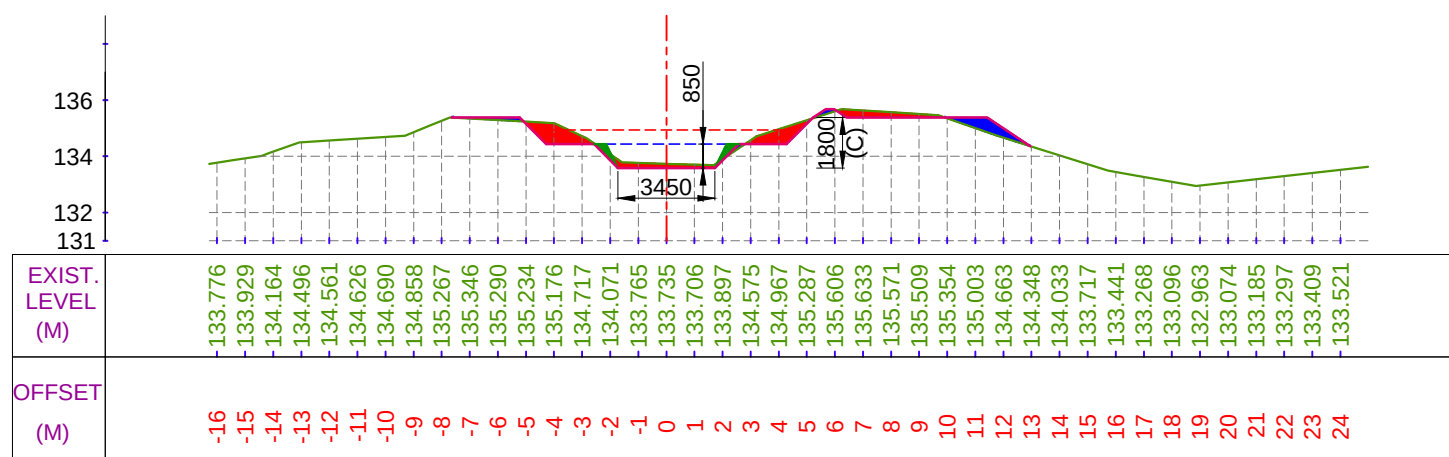
X SECTION OF KULHARIA SUB DY.



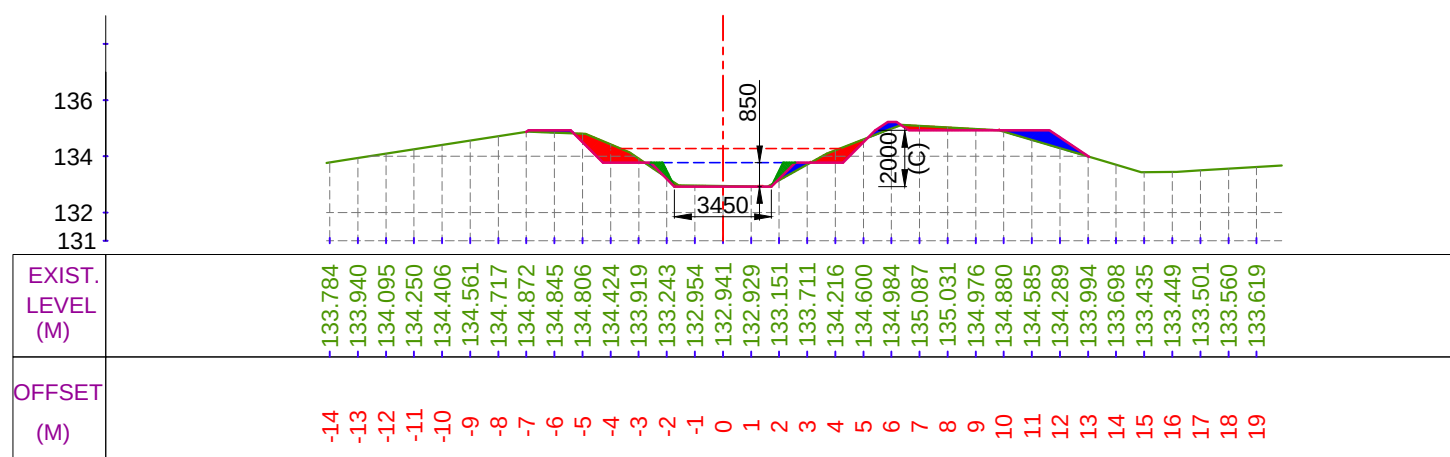
CUTTING AREA (SQ.M) = 1.934 CH. (KM):- 2+900
FILLING AREA (SQ.M) = 1.473 DESIGNED BED LEVEL = 133.608 M



CUTTING AREA (SQ.M) = 2.198 CH. (KM):- 3+100
FILLING AREA (SQ.M) = 1.285 DESIGNED BED LEVEL = 132.948 M



CUTTING AREA (SQ.M) = 3.167 CH. (KM):- 3+000
FILLING AREA (SQ.M) = 1.125 DESIGNED BED LEVEL = 133.583 M



CUTTING AREA (SQ.M) = 2.101 CH. (KM):- 3+200
FILLING AREA (SQ.M) = 1.377 DESIGNED BED LEVEL = 132.923 M

LEGEND

	CUT AREA		EXISTING BED LINE
	FILL AREA		F.S.L.
			DESIGNED BED LINE
			H.G. LINE

Prepared by :-

WAPCOS LTD.



Project Title :-

NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND

Drawing Title :-

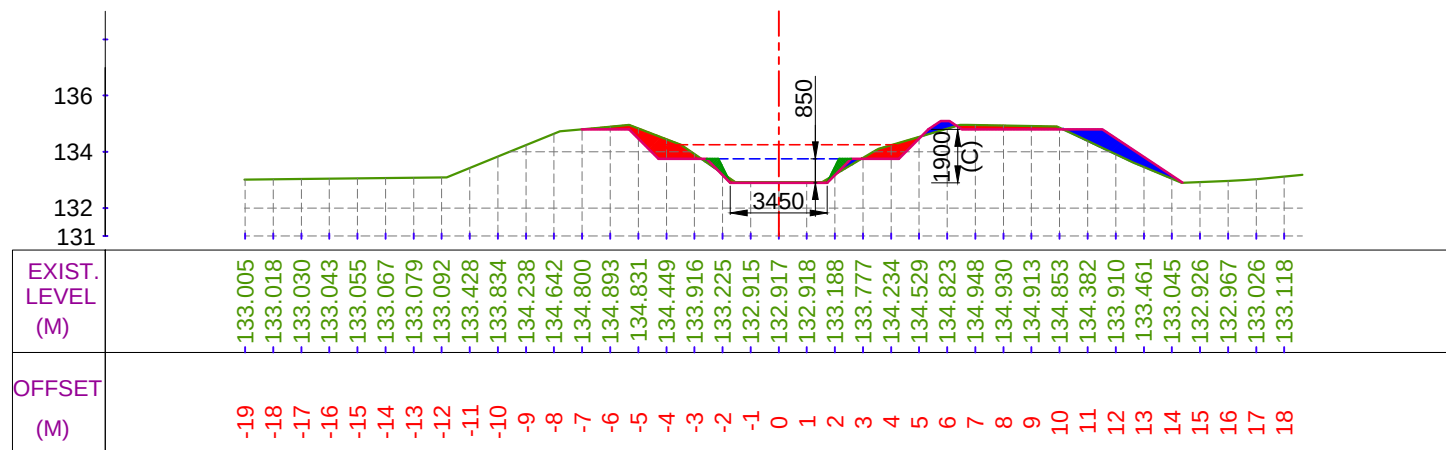
X SEC OF KULHARIA SUB DY. (OFFTAKE FROM RD - 43+667 KM. (L), NORTH KOEL RIGHT MAIN CANAL)

Drawing No. :-

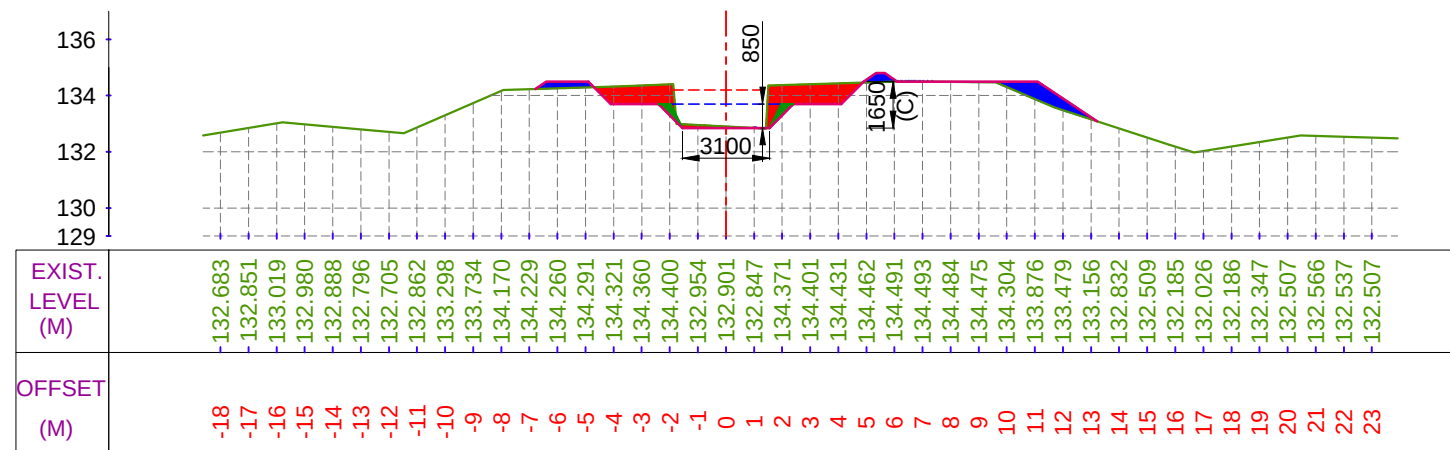
WAP/ INFRA/ NORTHKOEL/ BC/ R-09/ XSEC-

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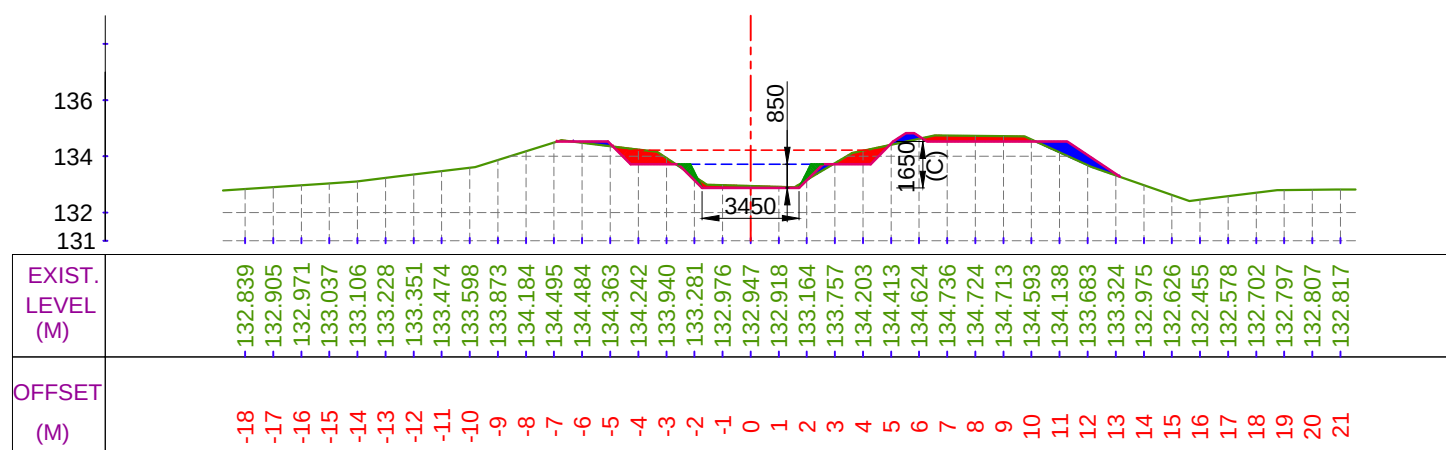
X SECTION OF KULHARIA SUB DY.



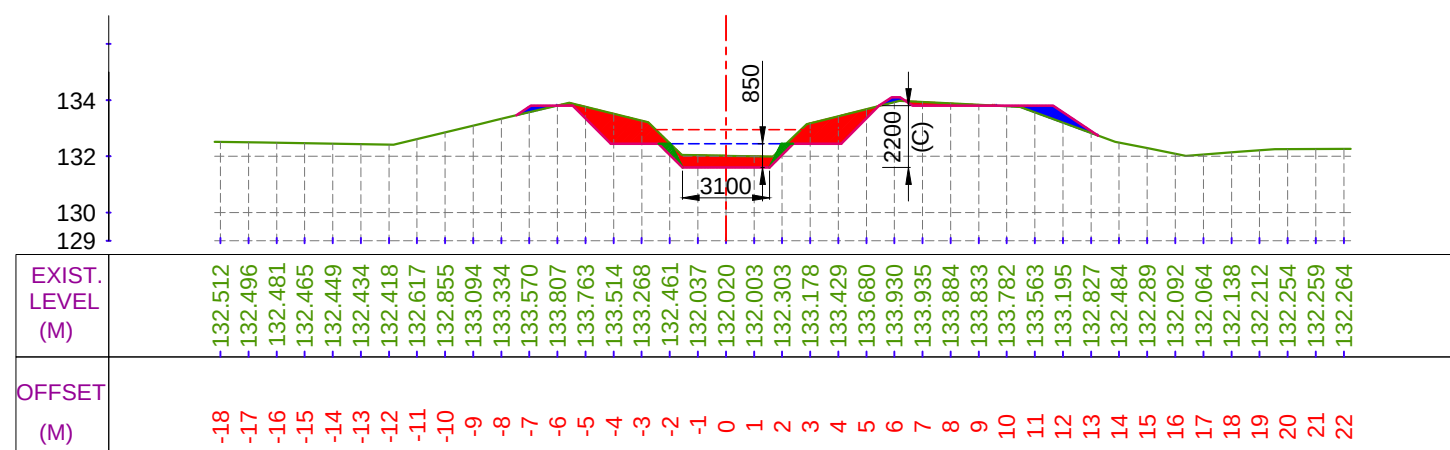
CUTTING AREA (SQ.M) = 2.565 CH. (KM):- 3+300
 FILLING AREA (SQ.M) = 1.877 DESIGNED BED LEVEL = 132.898 M



CUTTING AREA (SQ.M) = 4.247 CH. (KM):- 3+500
 FILLING AREA (SQ.M) = 1.981 DESIGNED BED LEVEL = 132.848 M



CUTTING AREA (SQ.M) = 2.465 CH. (KM):- 3+400
 FILLING AREA (SQ.M) = 1.232 DESIGNED BED LEVEL = 132.873 M



CUTTING AREA (SQ.M) = 5.951 CH. (KM):- 3+600
 FILLING AREA (SQ.M) = 0.981 DESIGNED BED LEVEL = 131.603 M

LEGEND

	CUT AREA		EXISTING BED LINE
	FILL AREA		DESIGNED BED LINE
			H.G. LINE
			F.S.L.

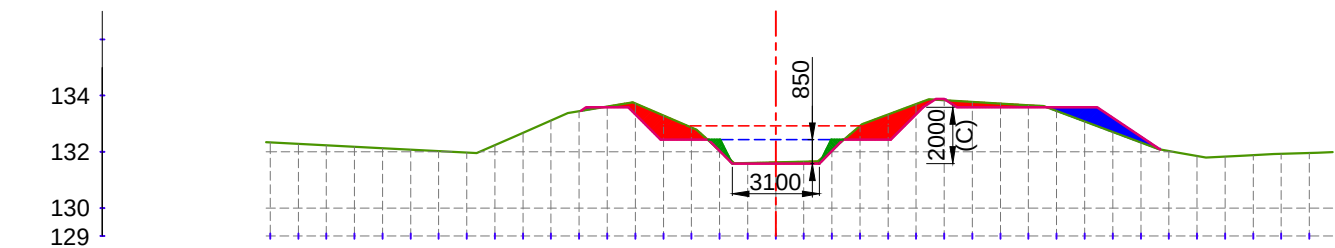
Prepared by :-

WAPCOS LTD.



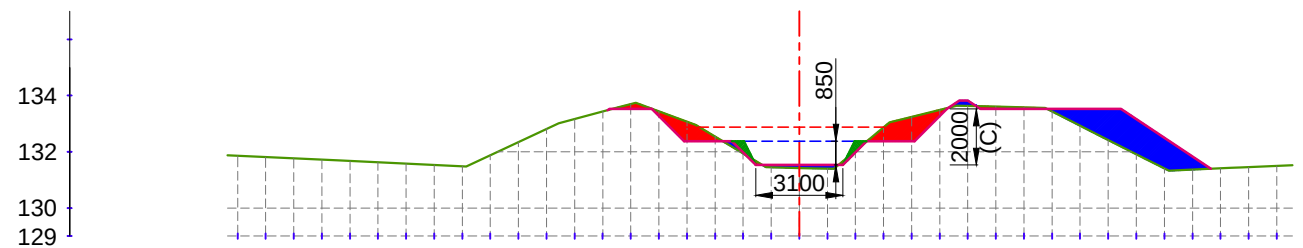
Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
Drawing Title :-	X SEC OF KULHARIA SUB DY. (OFFTAKE FROM RD - 43+667 KM. (L), NORTH KOEL RIGHT MAIN CANAL)
Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-09/ XSEC- 9 of 32

X SECTION OF KULHARIA SUB DY.



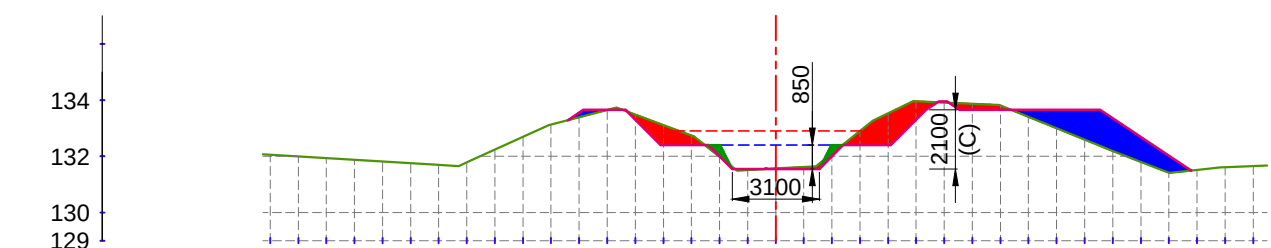
EXIST. LEVEL (M)	132.330	132.279	132.228	132.177	132.126	132.075	132.024	131.973	132.241	132.677	133.114	133.442	133.611	133.720	133.290	132.860	132.054	131.599	131.624	131.648	132.085	132.923	133.326	133.697	133.832	133.775	133.717	133.660	133.454	133.080	132.706	132.332	132.027	131.849	131.827	131.878	131.925	131.957
OFFSET (M)	-18	-17	-16	-15	-14	-13	-12	-11	-10	-9	-8	-7	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19

CUTTING AREA (SQ.M) = 3.902 CH. (KM):- 3+700
 FILLING AREA (SQ.M) = 1.399 DESIGNED BED LEVEL = 131.578 M



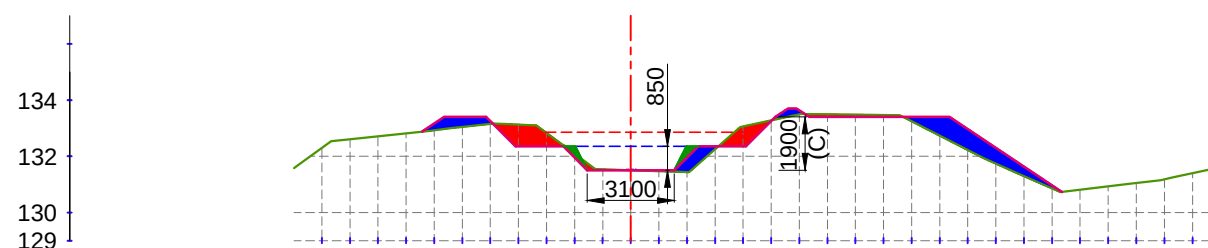
EXIST. LEVEL (M)	131.855	131.809	131.763	131.717	131.671	131.625	131.579	131.533	131.487	131.882	132.348	132.815	133.167	133.433	133.699	133.440	133.070	132.542	131.940	131.447	131.424	131.401	132.037	132.867	133.242	133.491	133.633	133.606	133.578	133.434	132.924	132.416	131.912	131.406	131.364	131.411	131.458	131.502
OFFSET (M)	-20	-19	-18	-17	-16	-15	-14	-13	-12	-11	-10	-9	-8	-7	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17

CUTTING AREA (SQ.M) = 2.797 CH. (KM):- 3+900
 FILLING AREA (SQ.M) = 5.084 DESIGNED BED LEVEL = 131.528 M



EXIST. LEVEL (M)	132.061	132.000	131.939	131.878	131.818	131.757	131.696	131.784	132.237	132.690	133.127	133.389	133.650	133.485	133.111	132.737	131.987	131.515	131.566	131.618	132.095	132.896	133.528	133.960	133.916	133.872	133.813	133.407	133.001	132.596	132.191	131.804	131.418	131.514	131.607	131.654
OFFSET (M)	-18	-17	-16	-15	-14	-13	-12	-11	-10	-9	-8	-7	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17

CUTTING AREA (SQ.M) = 3.813 CH. (KM):- 3+800
 FILLING AREA (SQ.M) = 4.813 DESIGNED BED LEVEL = 131.553 M



EXIST. LEVEL (M)	132.296	132.604	132.712	132.819	132.930	133.048	133.154	133.128	132.834	132.089	131.534	131.502	131.469	131.437	132.252	133.060	133.276	133.493	133.494	133.482	133.470	133.244	132.734	132.223	131.739	131.293	130.856	130.808	130.929	131.050	131.183	131.400
OFFSET (M)	-11	-10	-9	-8	-7	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20

CUTTING AREA (SQ.M) = 2.373 CH. (KM):- 4+000
 FILLING AREA (SQ.M) = 4.147 DESIGNED BED LEVEL = 131.503 M

LEGEND

	CUT AREA		EXISTING BED LINE
			F.S.L.
	FILL AREA		DESIGNED BED LINE
			H.G. LINE

Prepared by :-

WAPCOS LTD.



Project Title :-

NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND

Drawing Title :-

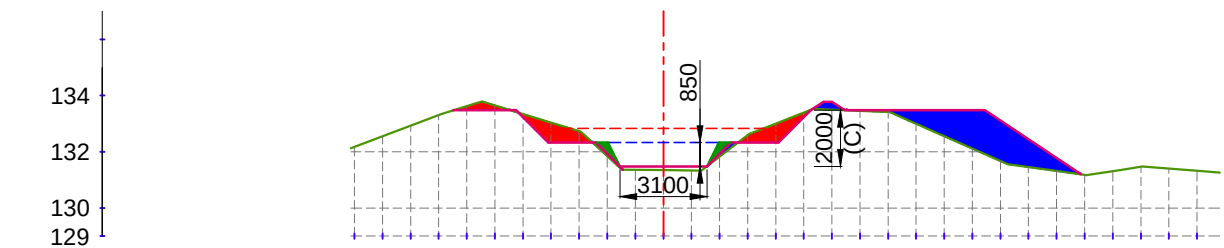
X SEC OF KULHARIA SUB DY. (OFFTAKE FROM RD - 43+667 KM. (L), NORTH KOEL RIGHT MAIN CANAL)

Drawing No. :-

WAP/ INFRA/ NORTHKOEL/ BC/ R-09/ XSEC-

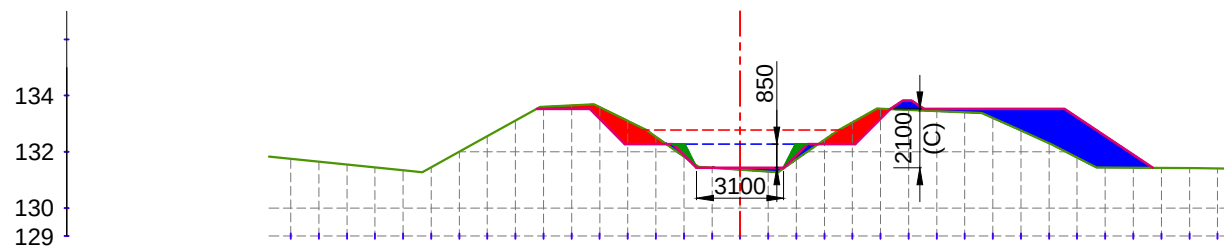
10 of 32

X SECTION OF KULHARIA SUB DY.



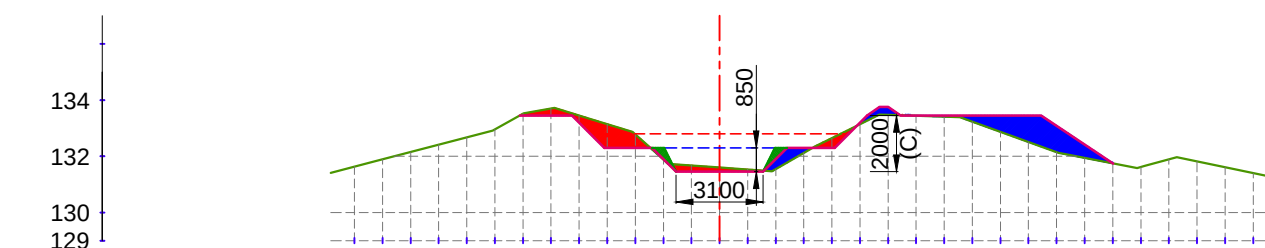
EXIST. LEVEL (M)	132.171	132.552	132.932	133.313	133.622	133.647	133.340	133.033	132.731	131.851	131.360	131.345	131.331	131.826	132.590	133.002	133.393	133.500	133.459	133.418	133.000	132.559	132.118	131.677	131.458	131.320	131.181	131.314	131.463	131.399	131.324
OFFSET (M)	-11	-10	-9	-8	-7	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19

CUTTING AREA (SQ.M) = 2.444 CH. (KM):- 4+100
 FILLING AREA (SQ.M) = 6.165 DESIGNED BED LEVEL = 131.478 M



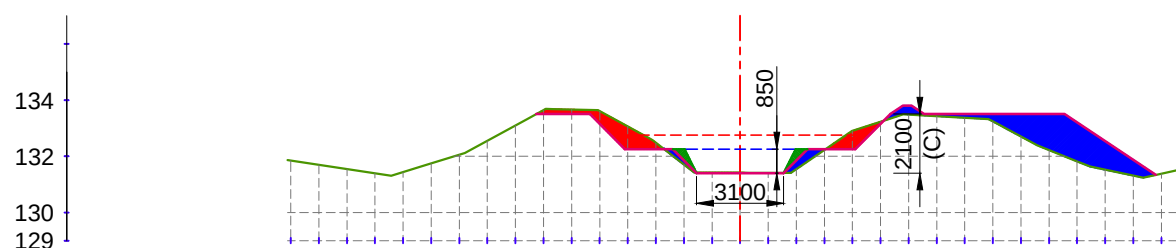
EXIST. LEVEL (M)	131.748	131.646	131.545	131.443	131.341	131.448	132.001	132.555	133.109	133.598	133.647	133.588	133.100	132.537	131.830	131.432	131.363	131.294	131.725	132.426	133.051	133.531	133.489	133.447	133.405	133.205	132.758	132.309	131.797	131.442	131.436	131.429	131.422	131.409
OFFSET (M)	-16	-15	-14	-13	-12	-11	-10	-9	-8	-7	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17

CUTTING AREA (SQ.M) = 2.786 CH. (KM):- 4+300
 FILLING AREA (SQ.M) = 6.245 DESIGNED BED LEVEL = 131.428 M



EXIST. LEVEL (M)	131.635	131.894	132.155	132.415	132.676	132.959	133.515	133.700	133.451	133.143	132.775	131.886	131.671	131.601	131.531	131.546	132.126	132.651	133.143	133.472	133.440	133.409	133.233	132.872	132.511	132.150	131.942	131.748	131.617	131.894	131.820	131.611	131.400
OFFSET (M)	-13	-12	-11	-10	-9	-8	-7	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19

CUTTING AREA (SQ.M) = 2.530 CH. (KM):- 4+200
 FILLING AREA (SQ.M) = 4.063 DESIGNED BED LEVEL = 131.453 M



EXIST. LEVEL (M)	131.846	131.696	131.545	131.395	131.438	131.747	132.058	132.555	133.099	133.643	133.663	133.606	133.059	132.475	131.701	131.418	131.417	131.415	131.543	132.228	132.907	133.234	133.487	133.430	133.373	133.239	132.705	132.224	131.819	131.520	131.311	131.381	131.600
OFFSET (M)	-16	-15	-14	-13	-12	-11	-10	-9	-8	-7	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

CUTTING AREA (SQ.M) = 2.411 CH. (KM):- 4+400
 FILLING AREA (SQ.M) = 6.390 DESIGNED BED LEVEL = 131.403 M

LEGEND

	CUT AREA		EXISTING BED LINE
			F.S.L.
	FILL AREA		DESIGNED BED LINE
			H.G. LINE

Prepared by :-

WAPCOS LTD.



Project Title :-

NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND

Drawing Title :-

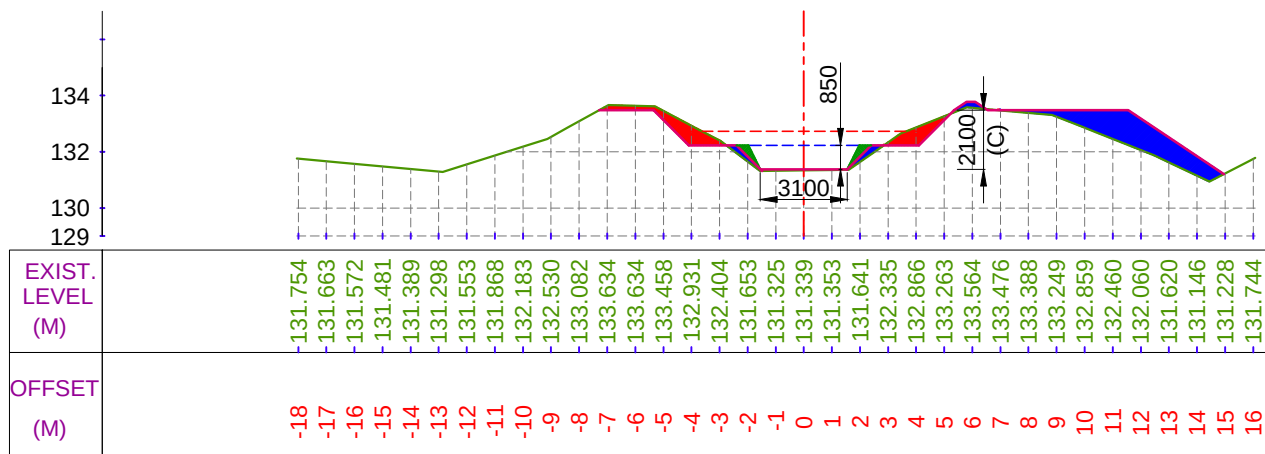
X SEC OF KULHARIA SUB DY. (OFFTAKE FROM RD - 43+667 KM. (L), NORTH KOEL RIGHT MAIN CANAL)

Drawing No. :-

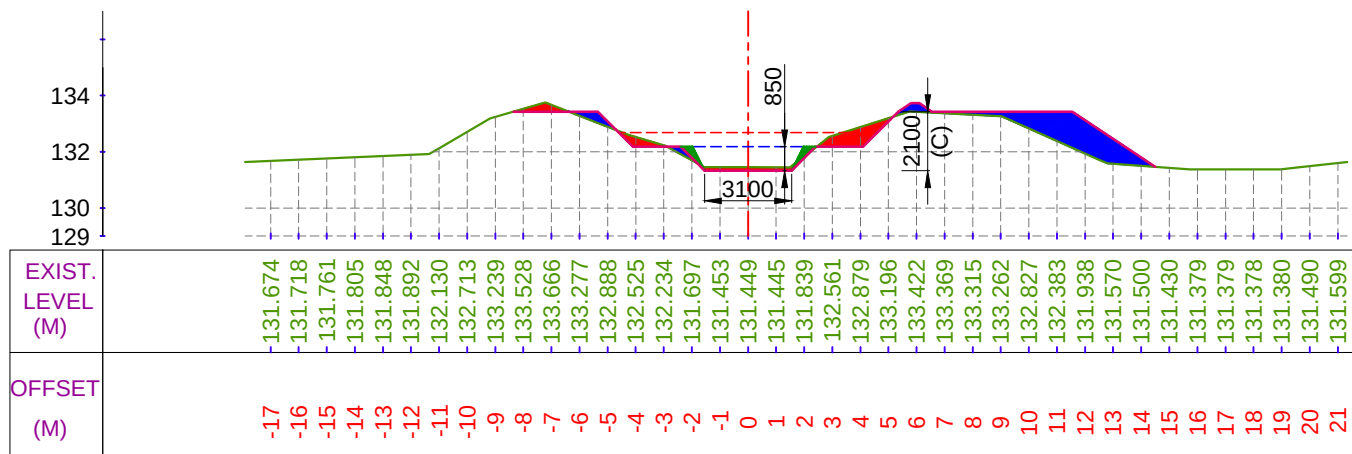
WAP/ INFRA/ NORTHKOEL/ BC/ R-09/ XSEC-

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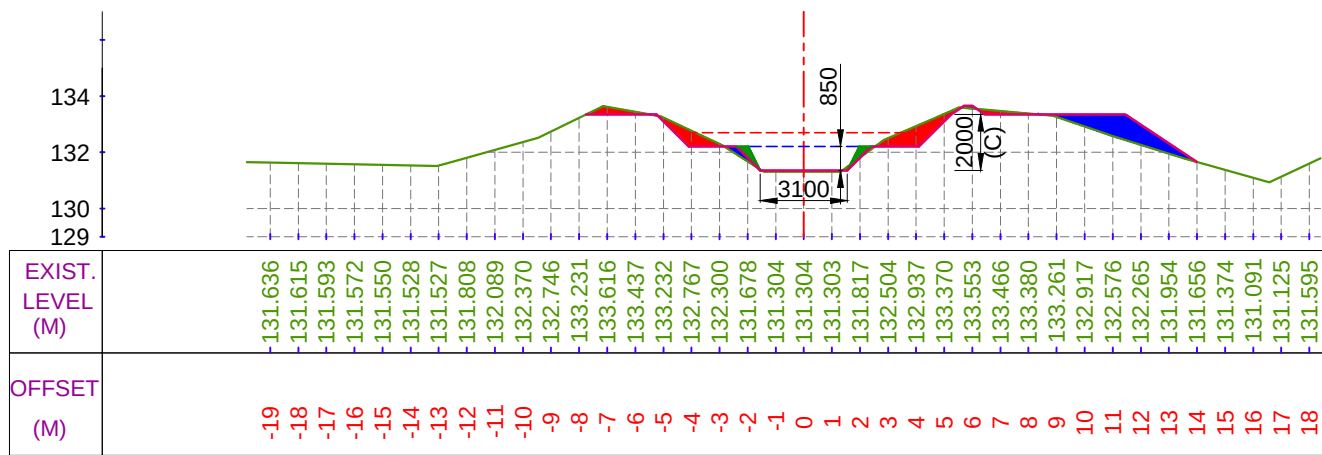
X SECTION OF KULHARIA SUB DY.



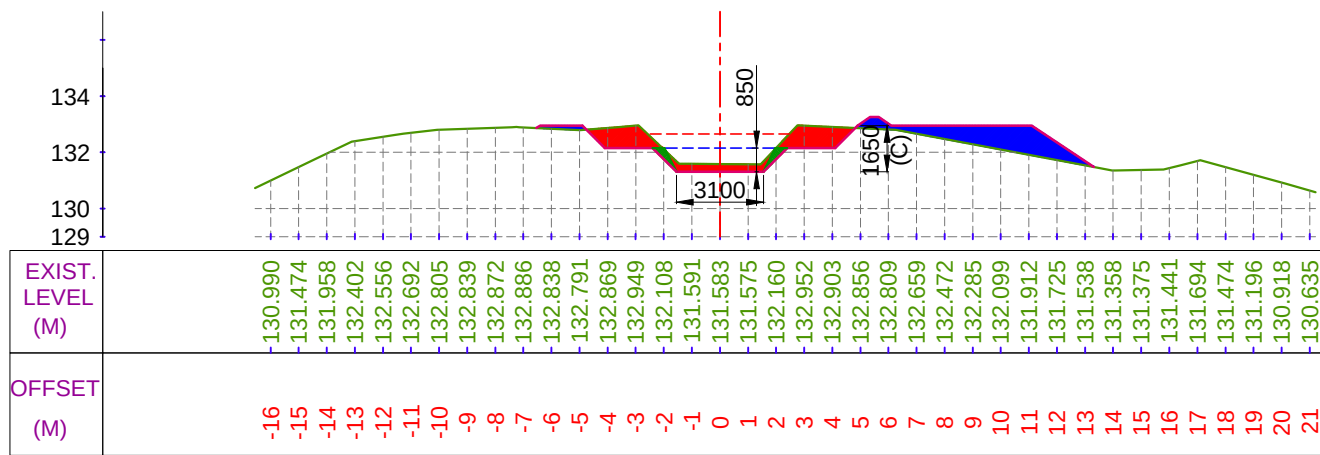
CUTTING AREA (SQ.M) = 2.269 CH. (KM):- 4+500
FILLING AREA (SQ.M) = 5.402 DESIGNED BED LEVEL = 131.378 M



CUTTING AREA (SQ.M) = 2.185 CH. (KM):- 4+700
FILLING AREA (SQ.M) = 5.136 DESIGNED BED LEVEL = 131.328 M

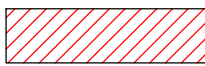


CUTTING AREA (SQ.M) = 2.477 CH. (KM):- 4+600
FILLING AREA (SQ.M) = 2.680 DESIGNED BED LEVEL = 131.353 M

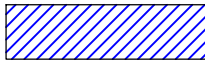


CUTTING AREA (SQ.M) = 4.123 CH. (KM):- 4+800
FILLING AREA (SQ.M) = 4.724 DESIGNED BED LEVEL = 131.303 M

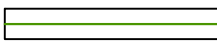
LEGEND



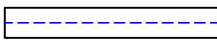
CUT AREA



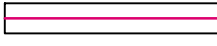
FILL AREA



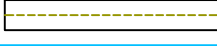
EXISTING BED LINE



F.S.L.



DESIGNED BED LINE



H.G. LINE

Prepared by :-

WAPCOS LTD.



Project Title :-

NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND

Drawing Title :-

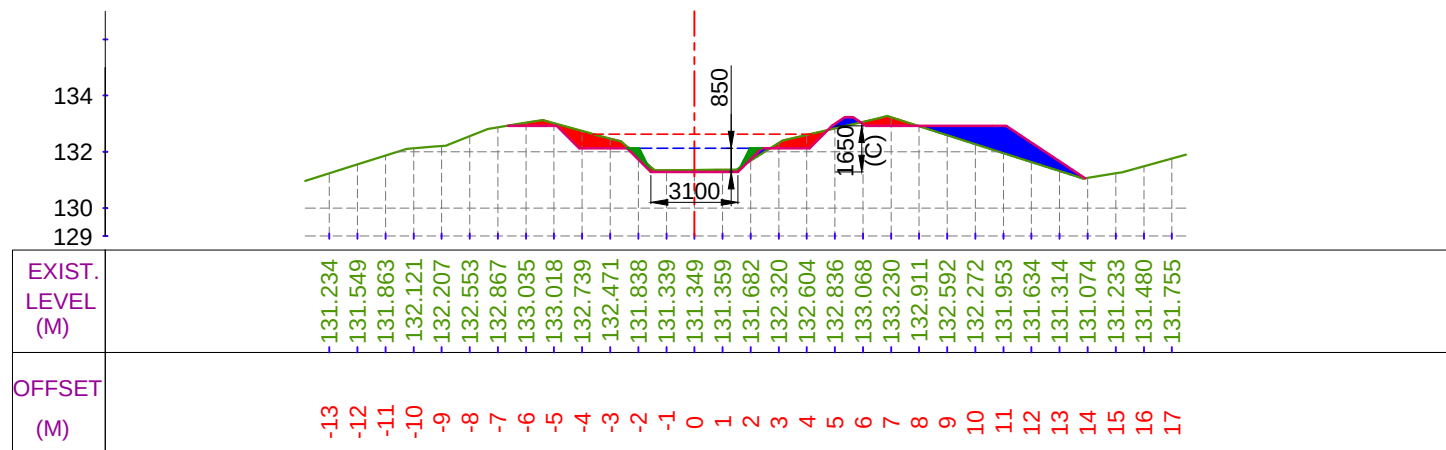
X SEC OF KULHARIA SUB DY. (OFFTAKE FROM RD - 43+667 KM. (L), NORTH KOEL RIGHT MAIN CANAL)

Drawing No. :-

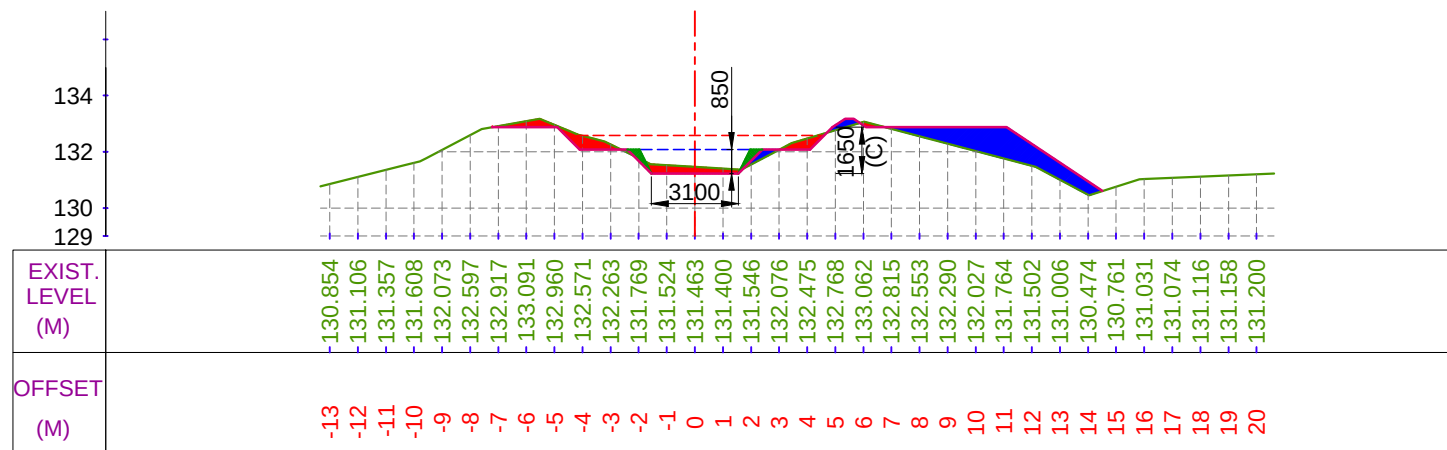
WAP/ INFRA/ NORTHKOEL/ BC/ R-09/ XSEC-

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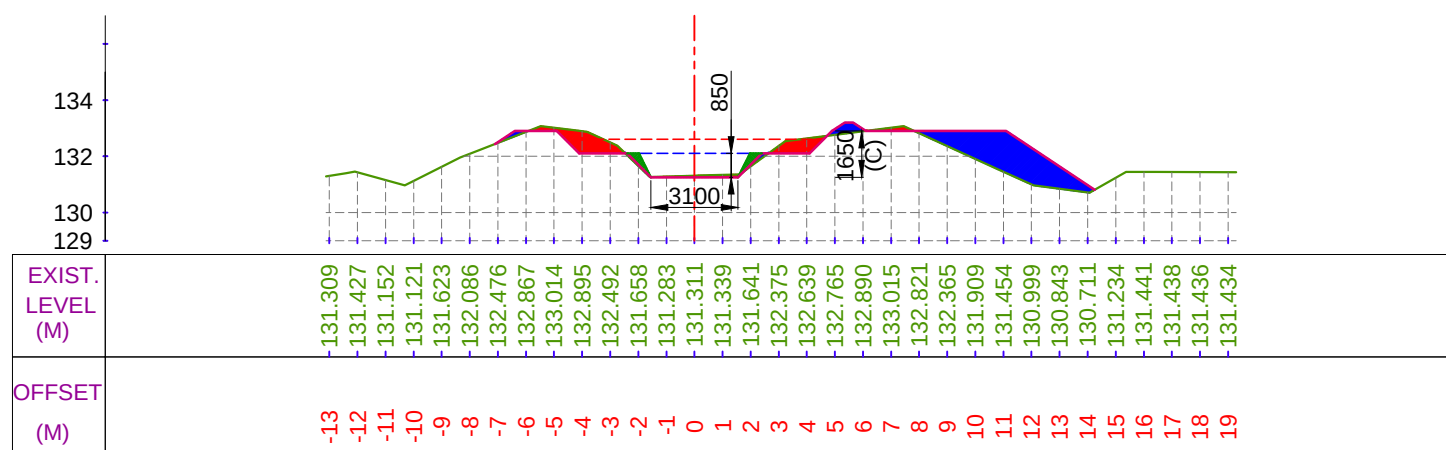
X SECTION OF KULHARIA SUB DY.



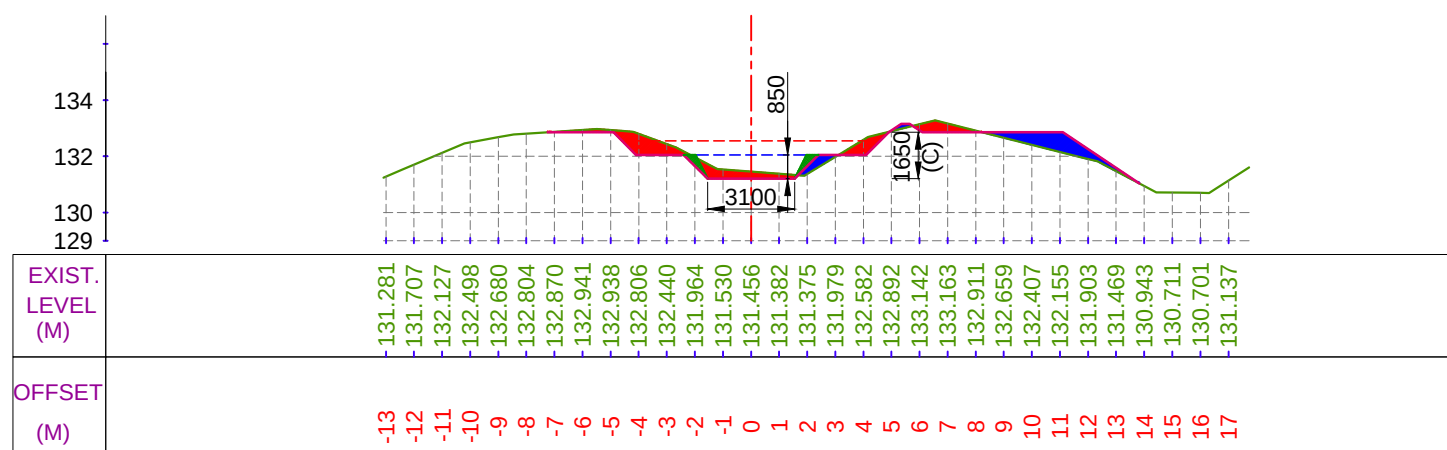
CUTTING AREA (SQ.M) = 2.396 CH. (KM):- 4+900
 FILLING AREA (SQ.M) = 3.343 DESIGNED BED LEVEL = 131.278 M



CUTTING AREA (SQ.M) = 2.262 CH. (KM):- 5+100
 FILLING AREA (SQ.M) = 5.122 DESIGNED BED LEVEL = 131.228 M



CUTTING AREA (SQ.M) = 2.354 CH. (KM):- 5+000
 FILLING AREA (SQ.M) = 5.888 DESIGNED BED LEVEL = 131.253 M



CUTTING AREA (SQ.M) = 3.367 CH. (KM):- 5+200
 FILLING AREA (SQ.M) = 2.207 DESIGNED BED LEVEL = 131.203 M

LEGEND

	CUT AREA		EXISTING BED LINE
	FILL AREA		F.S.L.
			DESIGNED BED LINE
			H.G. LINE

Prepared by :-

WAPCOS LTD.



Project Title :-

NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND

Drawing Title :-

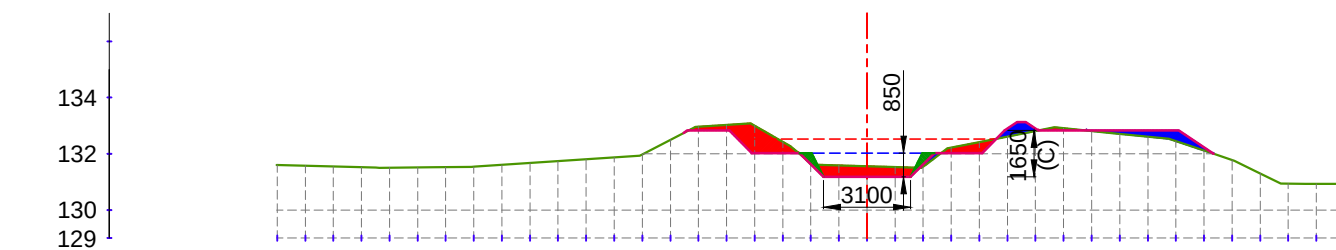
X SEC OF KULHARIA SUB DY. (OFFTAKE FROM RD - 43+667 KM. (L), NORTH KOEL RIGHT MAIN CANAL)

Drawing No. :-

WAP/ INFRA/ NORTHKOEL/ BC/ R-09/ XSEC-

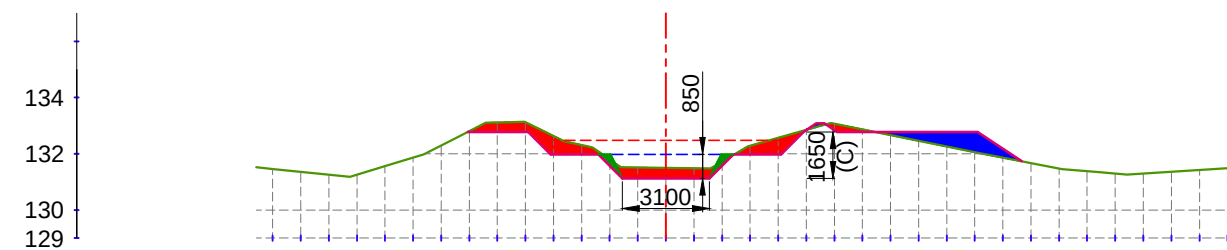
13 of 32

X SECTION OF KULHARIA SUB DY.



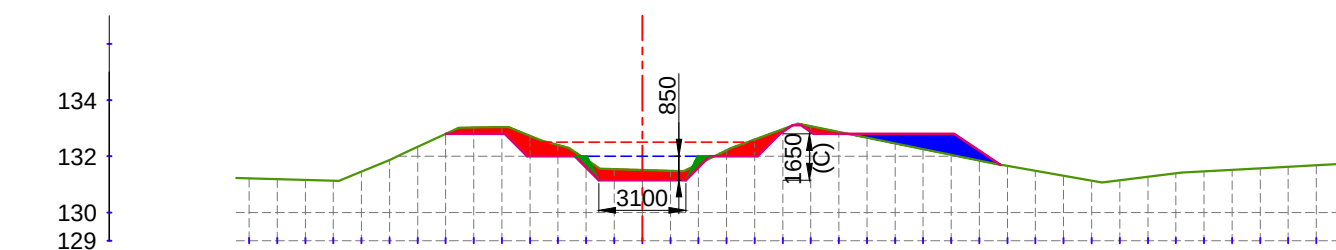
EXIST. LEVEL (M)	131.603	131.575	131.547	131.519	131.505	131.514	131.524	131.538	131.605	131.672	131.740	131.807	131.874	131.979	132.498	132.966	133.029	133.002	132.427	131.666	131.590	131.559	131.529	131.544	132.218	132.416	132.612	132.808	132.909	132.809	132.709	132.608	132.447	132.114	131.779	131.300	130.937	130.934
OFFSET (M)	-21	-20	-19	-18	-17	-16	-15	-14	-13	-12	-11	-10	-9	-8	-7	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

CUTTING AREA (SQ.M) = 3.464 CH. (KM):- 5+300
FILLING AREA (SQ.M) = 1.298 DESIGNED BED LEVEL = 131.178 M



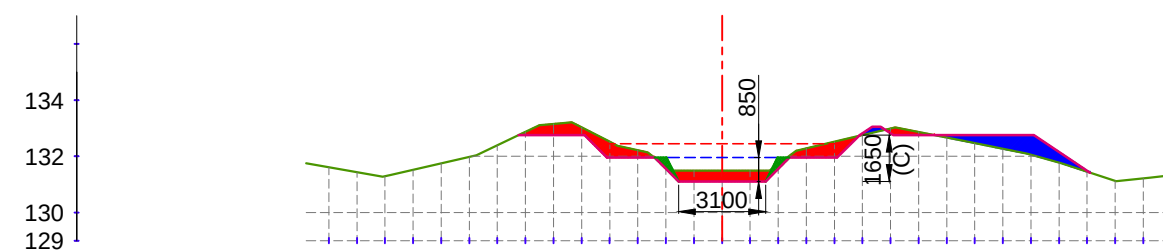
EXIST. LEVEL (M)	-131.461	-131.360	-131.259	-131.256	-131.561	-131.864	-132.296	-132.805	-133.116	-133.127	-132.632	-132.307	-131.799	-131.509	-131.495	-131.482	-131.720	-132.280	-132.564	-132.848	-133.072	-132.869	-132.667	-132.464	-132.262	-132.059	-131.860	-131.669	-131.478	-131.380	-131.295	-131.296	-131.358	-131.420	-131.482
OFFSET (M)	-14	-13	-12	-11	-10	-9	-8	-7	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20

CUTTING AREA (SQ.M) = 4.044 CH. (KM):- 5+500
FILLING AREA (SQ.M) = 1.982 DESIGNED BED LEVEL = 131.128 M



EXIST. LEVEL (M)	131.218	131.190	131.162	131.134	131.459	131.871	132.333	132.798	133.025	133.040	132.728	132.400	131.888	131.547	131.514	131.481	131.728	132.218	132.601	132.963	133.067	132.865	132.662	132.460	132.257	132.055	131.852	131.657	131.484	131.311	131.138	131.151	131.273	131.393	131.461	131.516	131.571	131.627	131.682
OFFSET (M)	-14	-13	-12	-11	-10	-9	-8	-7	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24

CUTTING AREA (SQ.M) = 3.960 CH. (KM):- 5+400
FILLING AREA (SQ.M) = 2.106 DESIGNED BED LEVEL = 131.153 M



EXIST. LEVEL (M)	131.610	131.433	131.289	131.519	131.748	131.977	132.391	132.869	133.153	133.032	132.518	132.217	131.653	131.495	131.494	131.494	131.722	132.283	132.520	132.756	132.993	132.867	132.667	132.467	132.267	132.056	131.776	131.450	131.123	131.216	131.325
OFFSET (M)	-14	-13	-12	-11	-10	-9	-8	-7	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

CUTTING AREA (SQ.M) = 4.061 CH. (KM):- 5+600
FILLING AREA (SQ.M) = 2.070 DESIGNED BED LEVEL = 131.103 M

LEGEND

	CUT AREA		EXISTING BED LINE
	FILL AREA		F.S.L.
			DESIGNED BED LINE
			H.G. LINE

Prepared by :-

WAPCOS LTD.



Project Title :-

NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND

Drawing Title :-

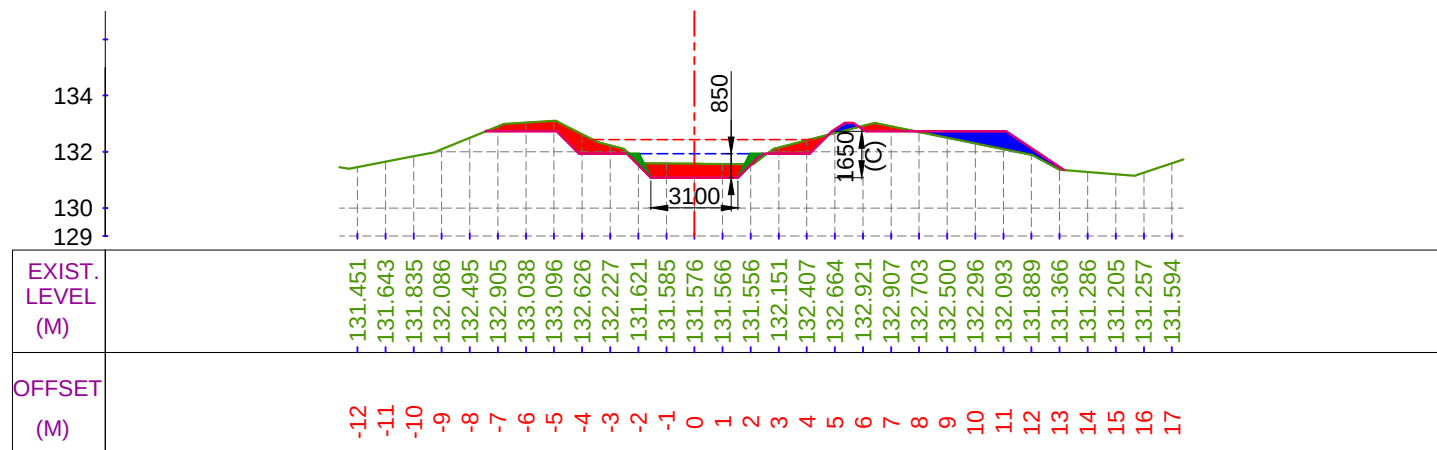
X SEC OF KULHARIA SUB DY. (OFFTAKE FROM RD - 43+667 KM. (L), NORTH KOEL RIGHT MAIN CANAL)

Drawing No. :-

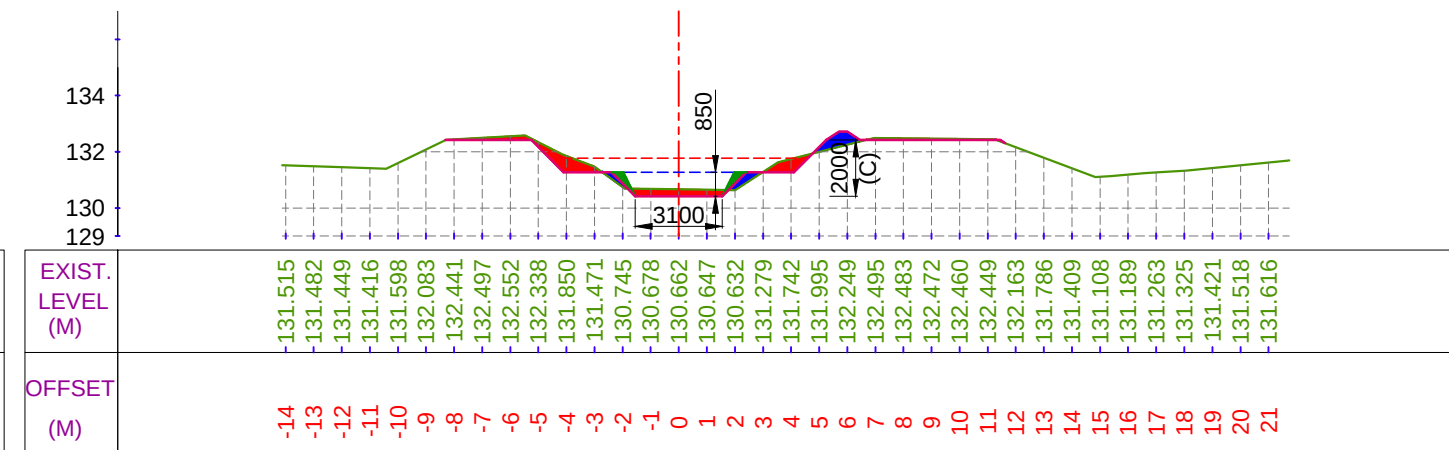
WAP/ INFRA/ NORTHKOEL/ BC/ R-09/ XSEC-

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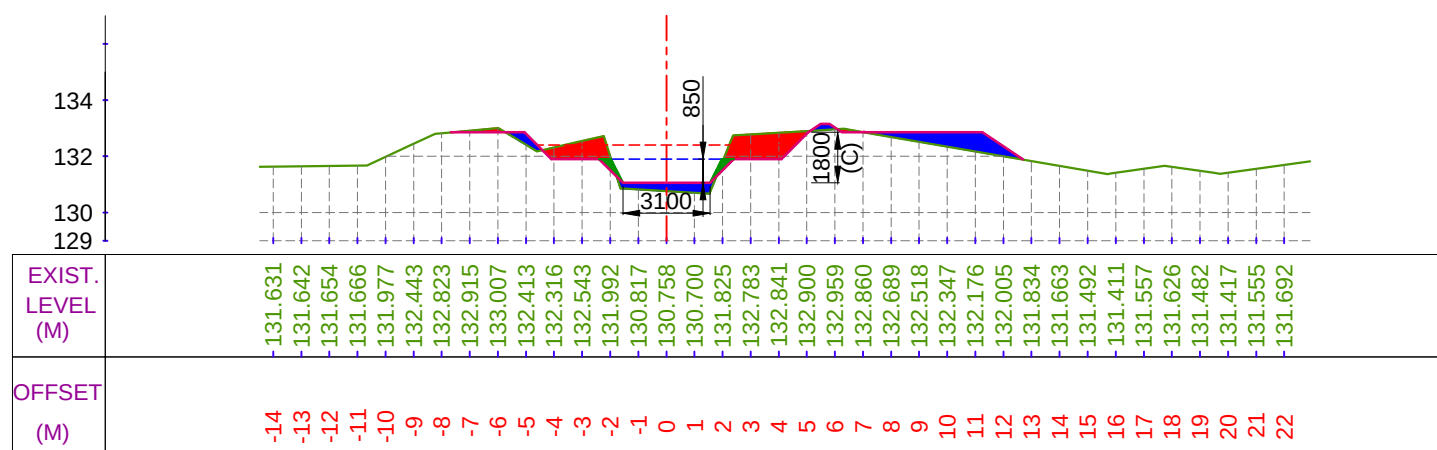
X SECTION OF KULHARIA SUB DY.



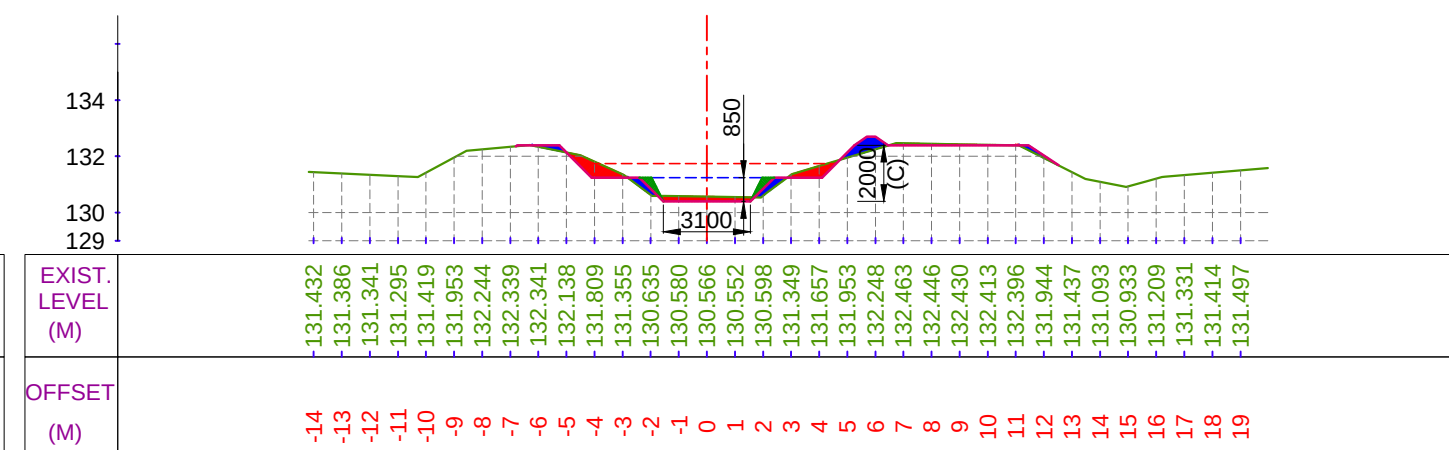
CUTTING AREA (SQ.M) = 4.419 CH. (KM):- 5+700
 FILLING AREA (SQ.M) = 1.854 DESIGNED BED LEVEL = 131.078 M



CUTTING AREA (SQ.M) = 2.659 CH. (KM):- 5+900
 FILLING AREA (SQ.M) = 0.956 DESIGNED BED LEVEL = 130.418 M



CUTTING AREA (SQ.M) = 3.669 CH. (KM):- 5+800
 FILLING AREA (SQ.M) = 3.467 DESIGNED BED LEVEL = 131.053 M



CUTTING AREA (SQ.M) = 1.890 CH. (KM):- 6+000
 FILLING AREA (SQ.M) = 1.243 DESIGNED BED LEVEL = 130.393 M

LEGEND

	CUT AREA		EXISTING BED LINE
	FILL AREA		F.S.L.
			DESIGNED BED LINE
			H.G. LINE

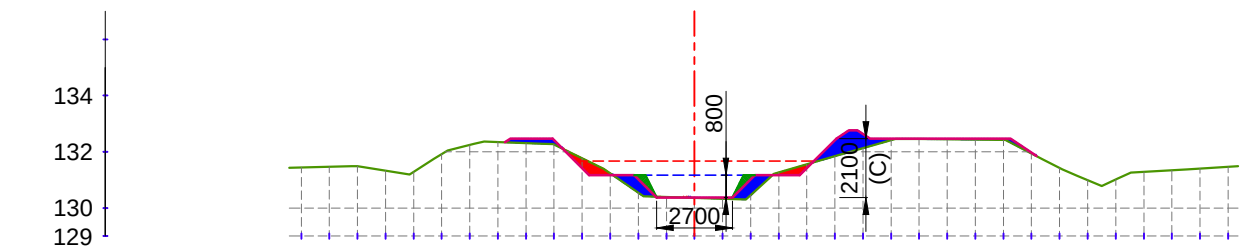
Prepared by :-

WAPCOS LTD.



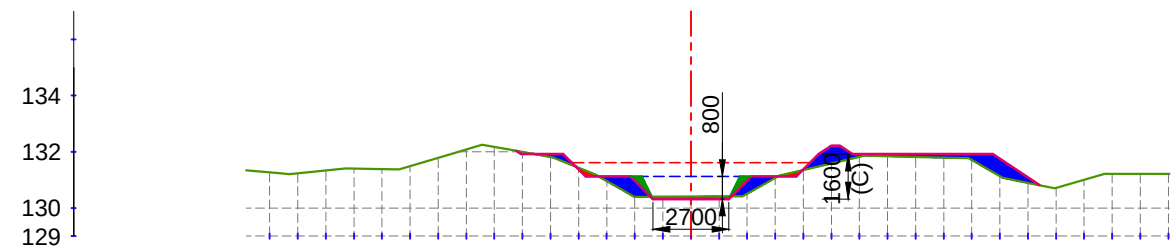
Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
Drawing Title :-	X SEC OF KULHARIA SUB DY. (OFFTAKE FROM RD - 43+667 KM. (L), NORTH KOEL RIGHT MAIN CANAL)
Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-09/ XSEC- 15 of 32

X SECTION OF KULHARIA SUB DY.



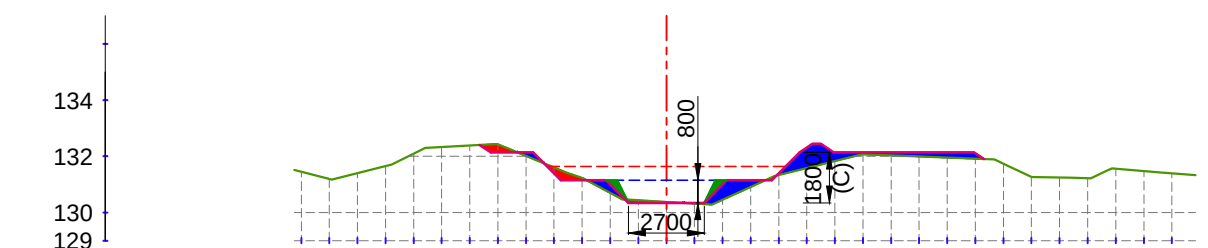
EXIST. LEVEL (M)	-131.437	-131.462	-131.487	-131.327	-131.285	-131.917	-132.242	-132.348	-132.310	-132.260	-131.767	-131.230	-130.545	-130.393	-130.361	-130.329	-130.454	-131.261	-131.550	-131.839	-132.127	-132.416	-132.453	-132.443	-132.434	-132.424	-131.942	-131.422	-130.996	-131.012	-131.284	-131.345	-131.405	-131.466
OFFSET (M)	-14	-13	-12	-11	-10	-9	-8	-7	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19

CUTTING AREA (SQ.M) = 0.692 CH. (KM):- 6+100
FILLING AREA (SQ.M) = 2.607 DESIGNED BED LEVEL = 130.368 M



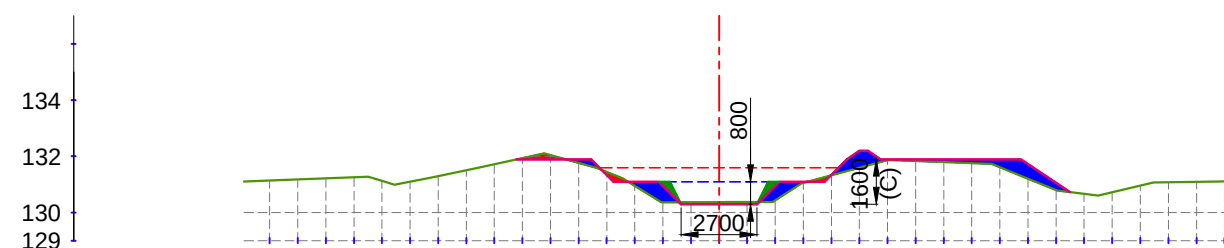
EXIST. LEVEL (M)	-131.264	-131.236	-131.339	-131.407	-131.386	-131.491	-131.786	-132.082	-132.169	-131.992	-131.815	-131.429	-130.957	-130.397	-130.402	-130.408	-130.413	-130.506	-131.064	-131.351	-131.584	-131.818	-131.839	-131.815	-131.790	-131.708	-131.131	-130.893	-130.717	-131.004	-131.211	-131.213	-131.216
OFFSET (M)	-15	-14	-13	-12	-11	-10	-9	-8	-7	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17

CUTTING AREA (SQ.M) = 0.445 CH. (KM):- 6+300
FILLING AREA (SQ.M) = 3.360 DESIGNED BED LEVEL = 130.318 M



EXIST. LEVEL (M)	-131.452	-131.191	-131.401	-131.654	-132.095	-132.331	-132.386	-132.429	-132.017	-131.604	-131.231	-130.698	-130.435	-130.376	-130.317	-130.452	-130.910	-131.337	-131.585	-131.833	-132.073	-132.034	-131.994	-131.954	-131.915	-131.738	-131.267	-131.246	-131.225	-131.557	-131.476	-131.394
OFFSET (M)	-13	-12	-11	-10	-9	-8	-7	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18

CUTTING AREA (SQ.M) = 0.643 CH. (KM):- 6+200
FILLING AREA (SQ.M) = 2.988 DESIGNED BED LEVEL = 130.343 M



EXIST. LEVEL (M)	-131.136	-131.177	-131.217	-131.258	-131.125	-131.097	-131.298	-131.503	-131.717	-131.937	-132.042	-131.766	-131.442	-130.948	-130.363	-130.365	-130.368	-130.369	-130.427	-131.055	-131.325	-131.595	-131.865	-131.832	-131.795	-131.758	-131.613	-131.206	-130.799	-130.666	-130.724	-130.956	-131.074	-131.092	-131.110
OFFSET (M)	-16	-15	-14	-13	-12	-11	-10	-9	-8	-7	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18

CUTTING AREA (SQ.M) = 0.580 CH. (KM):- 6+400
FILLING AREA (SQ.M) = 3.280 DESIGNED BED LEVEL = 130.293 M

LEGEND

	CUT AREA		EXISTING BED LINE
	FILL AREA		F.S.L.
			DESIGNED BED LINE
			H.G. LINE

Prepared by :-

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Project Title :-

NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND

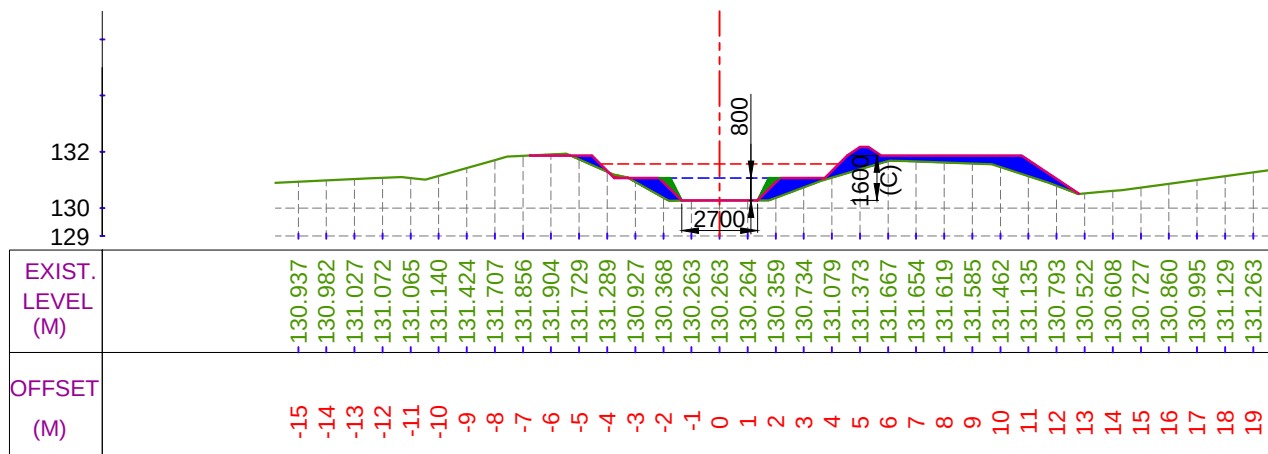
Drawing Title :-

X SEC OF KULHARIA SUB DY. (OFFTAKE FROM RD - 43+667 KM. (L), NORTH KOEL RIGHT MAIN CANAL)

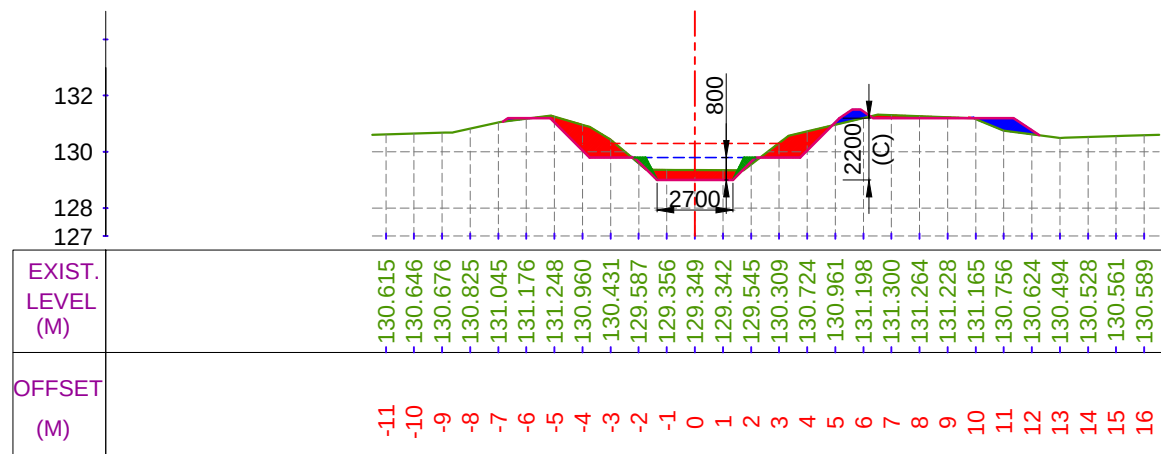
Drawing No. :-

WAP/ INFRA/ NORTHKOEL/ BC/ R-09/ XSEC-

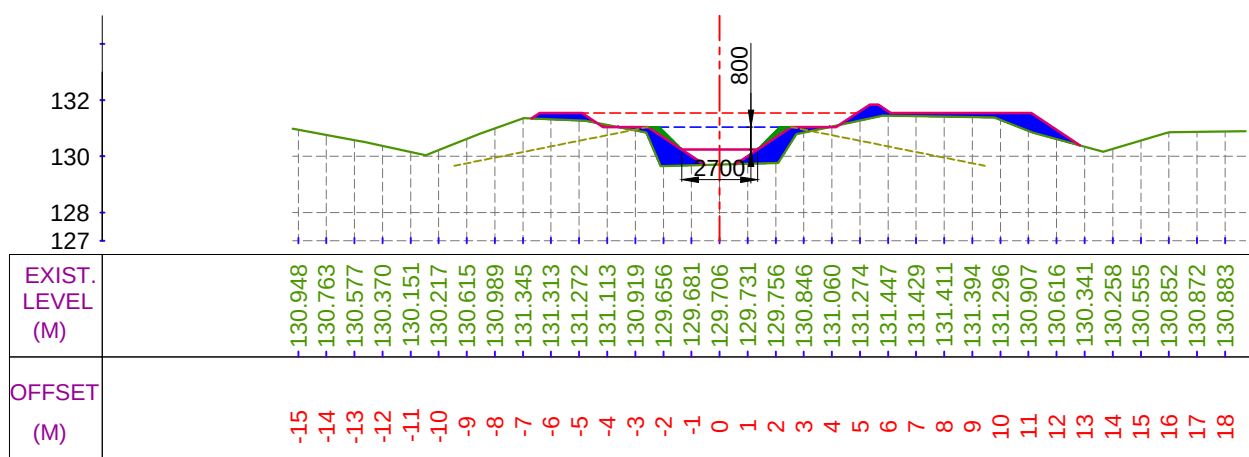
X SECTION OF KULHARIA SUB DY.



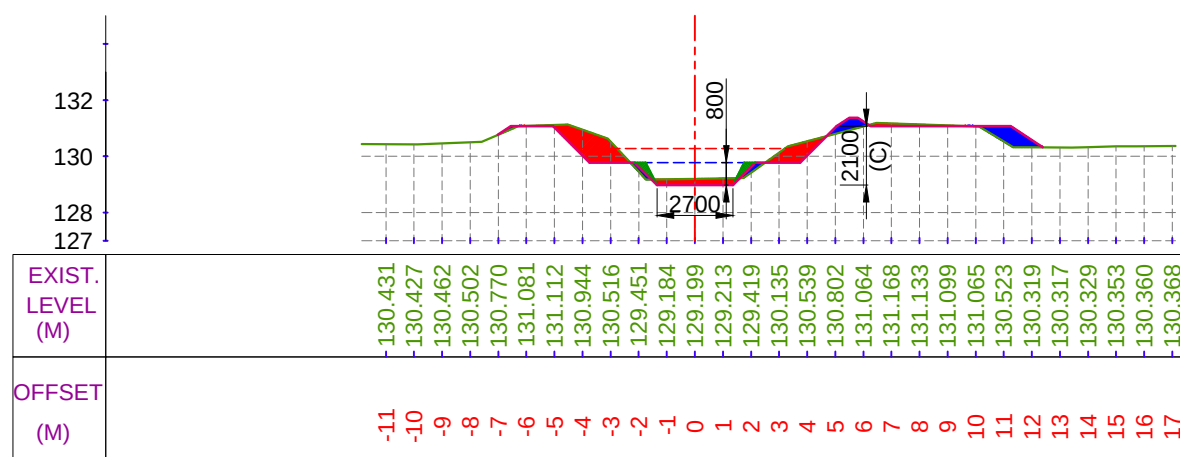
CUTTING AREA (SQ.M) = 0.089 CH. (KM):- 6+500
FILLING AREA (SQ.M) = 4.880 DESIGNED BED LEVEL =130.268 M



CUTTING AREA (SQ.M) = 4.172 CH. (KM):- 6+700
FILLING AREA (SQ.M) = 1.086 DESIGNED BED LEVEL = 128.999 M



CUTTING AREA (SQ.M) = 0.044 CH. (KM):- 6+600
FILLING AREA (SQ.M) = 5.228 DESIGNED BED LEVEL = 130.243 M



CUTTING AREA (SQ.M) = 3.480 CH. (KM):- 6+800
FILLING AREA (SQ.M) = 1.502 DESIGNED BED LEVEL = 128.974 M

LEGEND

	CUT AREA		EXISTING BED LINE
			F.S.L.
	FILL AREA		DESIGNED BED LINE
			H.G. LINE

Prepared by :-

WAPCOS LTD.



Project Title :-

NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND

Drawing Title :-

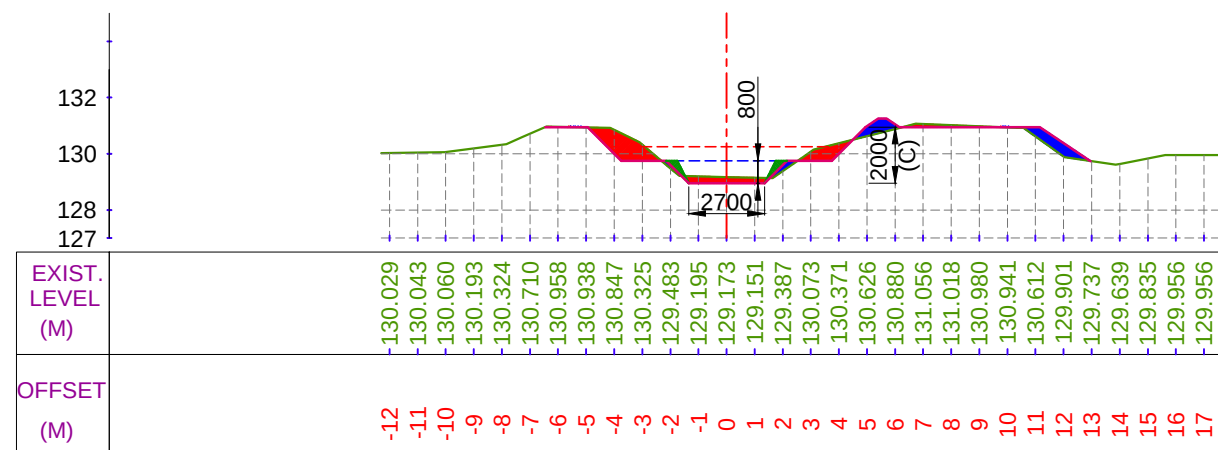
X SEC OF KULHARIA SUB DY. (OFFTAKE FROM RD - 43+667 KM. (L), NORTH KOEL RIGHT MAIN CANAL)

Drawing No. :-

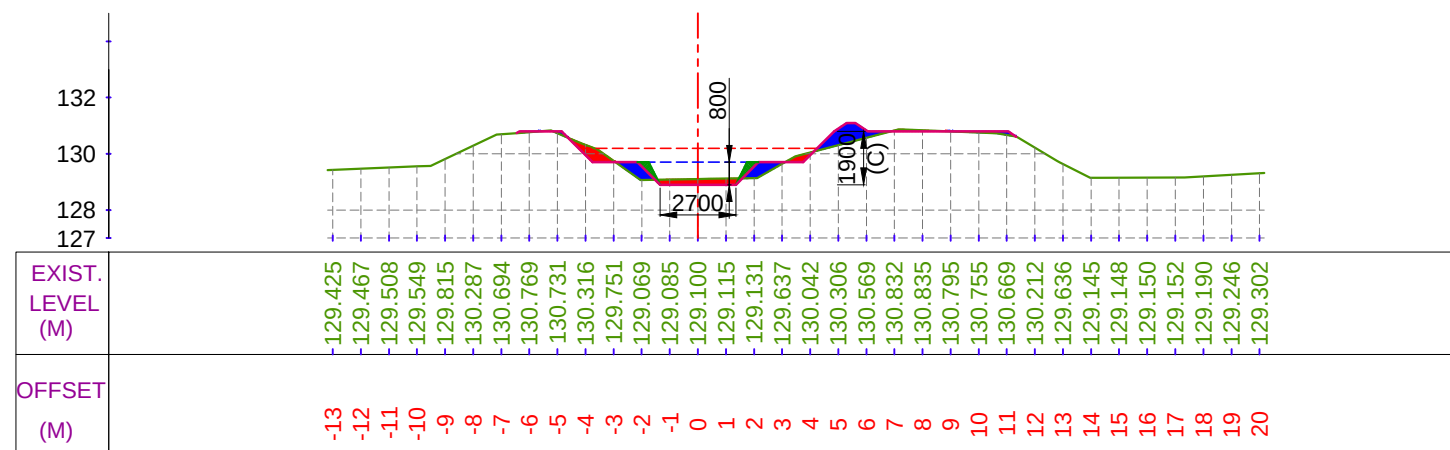
WAP/ INFRA/ NORTHKOEL/ BC/ R-09/ XSEC-

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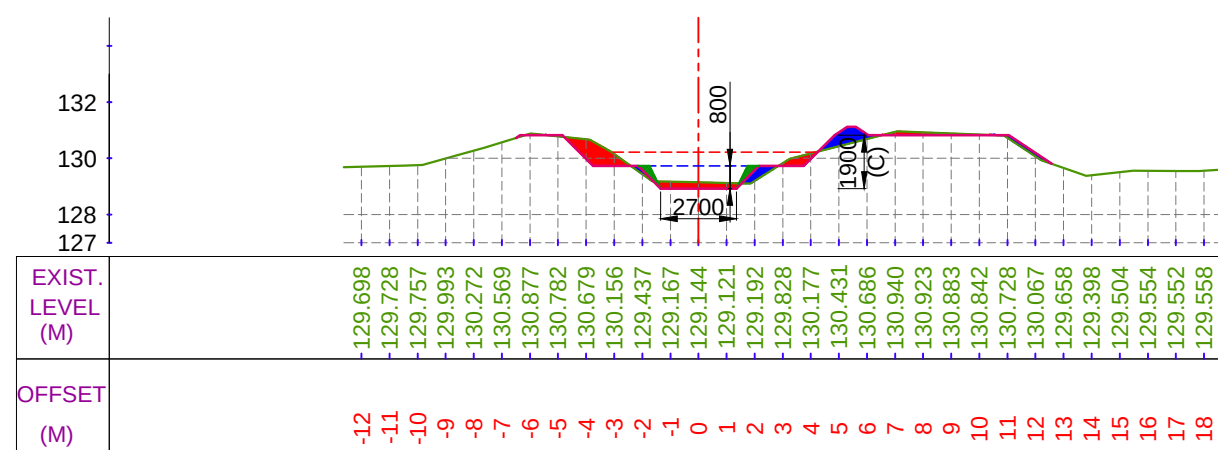
X SECTION OF KULHARIA SUB DY.



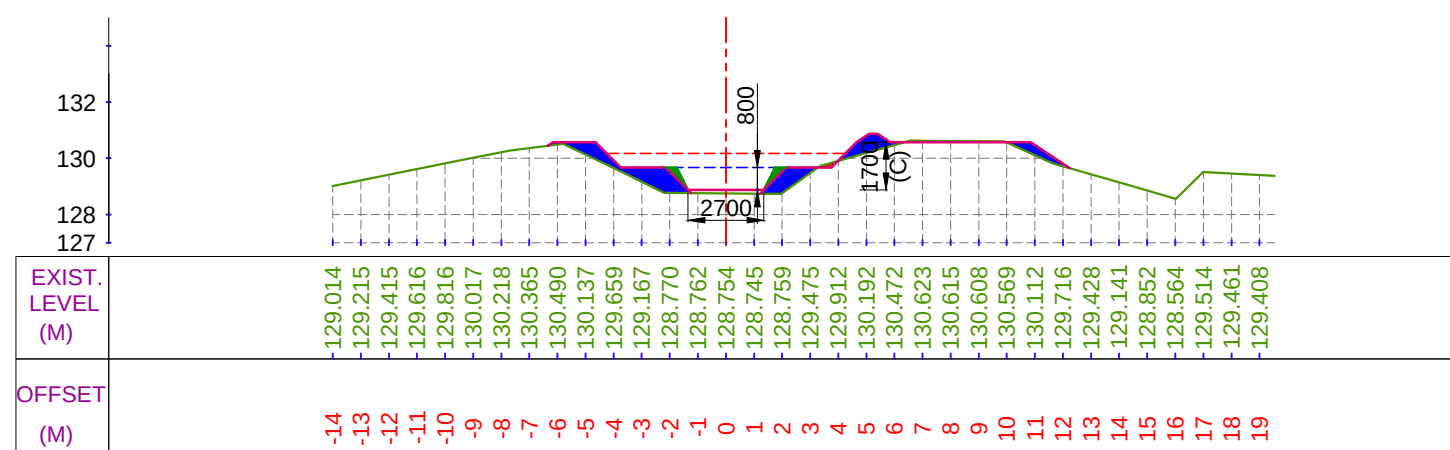
CUTTING AREA (SQ.M) = 2.922 CH. (KM):- 6+900
 FILLING AREA (SQ.M) = 1.512 DESIGNED BED LEVEL = 128.949 M



CUTTING AREA (SQ.M) = 1.255 CH. (KM):- 7+100
 FILLING AREA (SQ.M) = 1.967 DESIGNED BED LEVEL = 128.899 M



CUTTING AREA (SQ.M) = 2.328 CH. (KM):- 7+000
 FILLING AREA (SQ.M) = 1.318 DESIGNED BED LEVEL = 128.924 M



CUTTING AREA (SQ.M) = 0.206 CH. (KM):- 7+200
 FILLING AREA (SQ.M) = 4.169 DESIGNED BED LEVEL = 128.874 M

LEGEND

	CUT AREA		EXISTING BED LINE
			F.S.L.
	FILL AREA		DESIGNED BED LINE
			H.G. LINE

Prepared by :-

WAPCOS LTD.



Project Title :-

NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND

Drawing Title :-

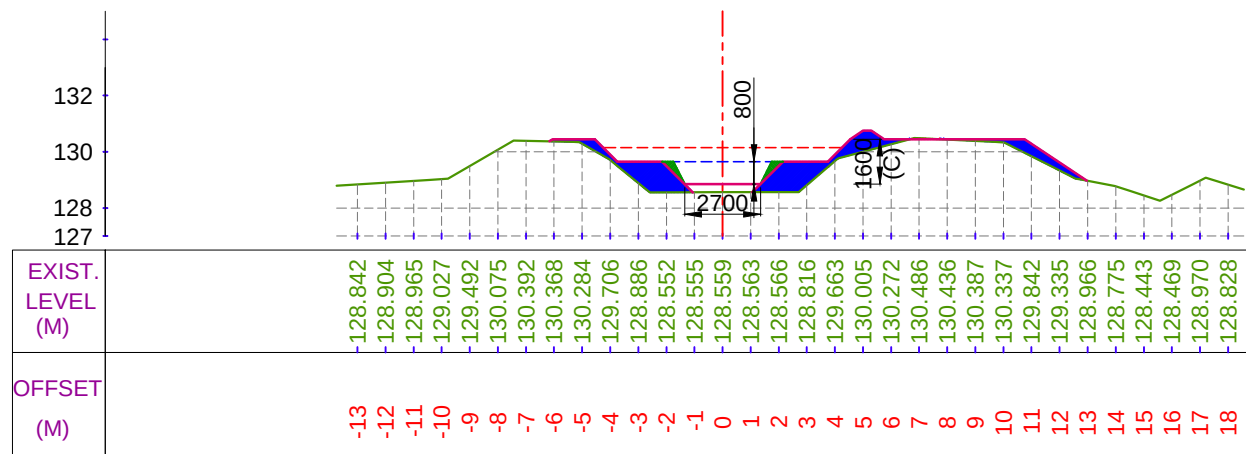
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Drawing No. :-

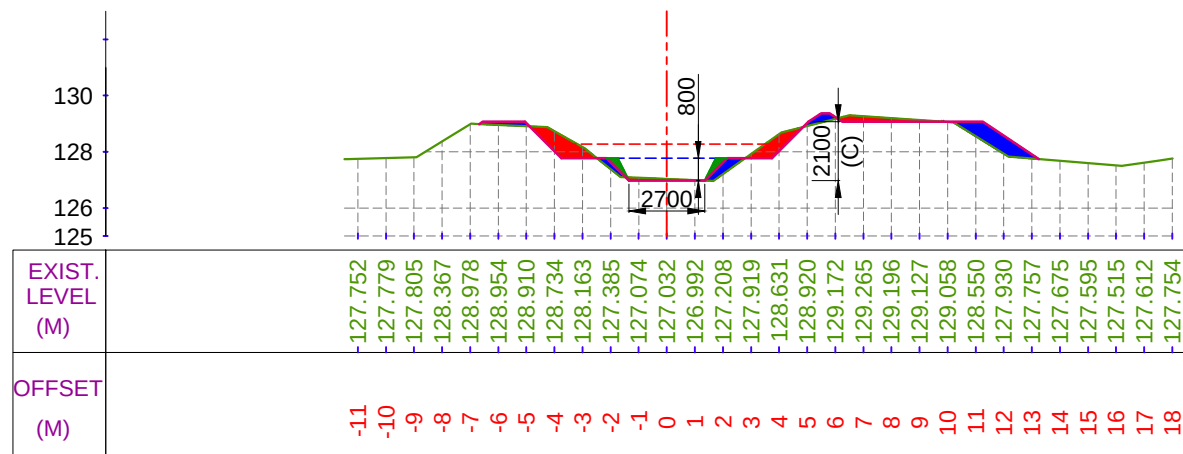
WAP/ INFRA/ NORTHKOEL/ BC/ R-09/ XSEC-

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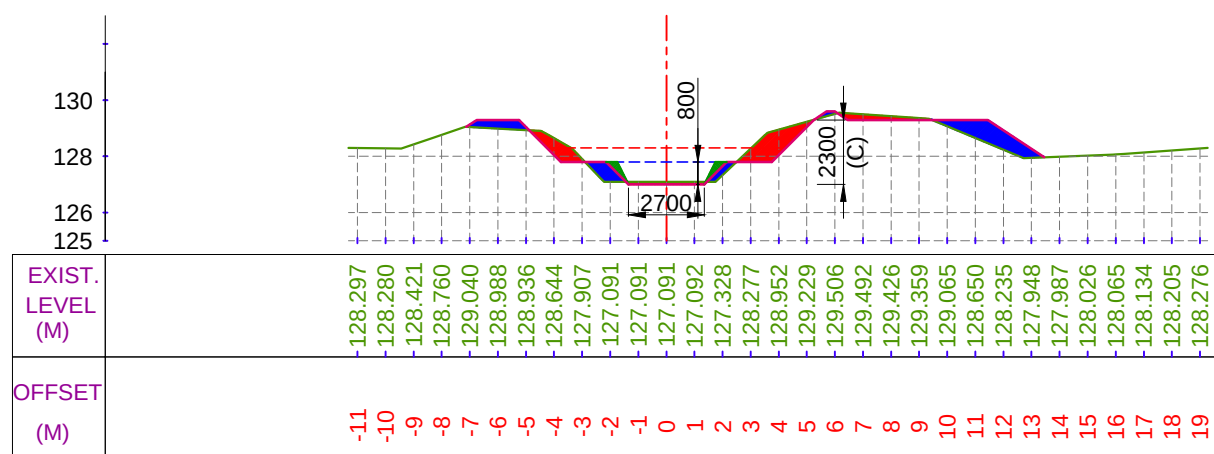
X SECTION OF KULHARIA SUB DY.



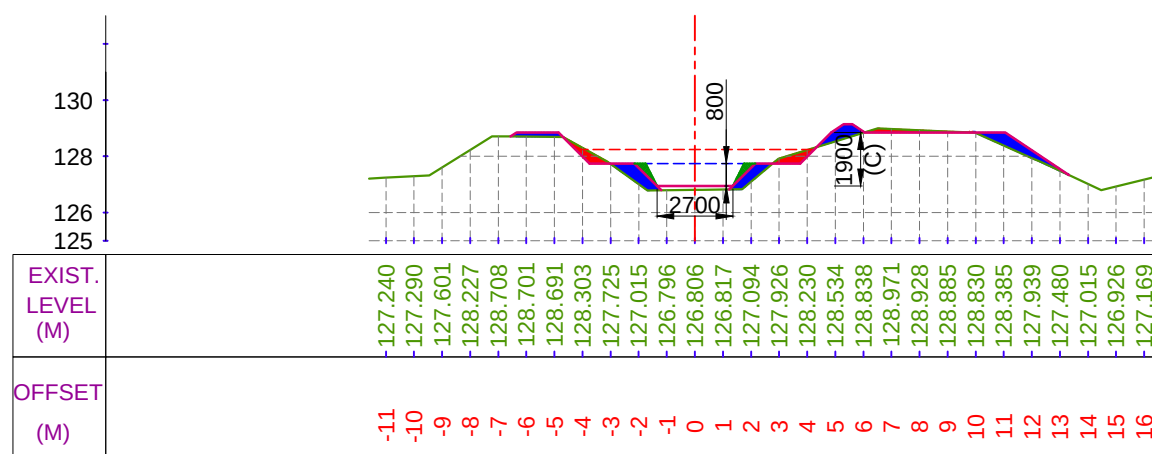
CUTTING AREA (SQ.M) = 0.024 CH. (KM):- 7+300
FILLING AREA (SQ.M) = 6.182 DESIGNED BED LEVEL = 128.849 M



CUTTING AREA (SQ.M) = 2.496 CH. (KM):- 7+500
FILLING AREA (SQ.M) = 2.303 DESIGNED BED LEVEL = 126.970 M



CUTTING AREA (SQ.M) = 3.095 CH. (KM):- 7+400
FILLING AREA (SQ.M) = 3.289 DESIGNED BED LEVEL = 126.995 M



CUTTING AREA (SQ.M) = 1.004 CH. (KM):- 7+600
FILLING AREA (SQ.M) = 2.718 DESIGNED BED LEVEL = 126.945 M

LEGEND

	CUT AREA		EXISTING BED LINE
			F.S.L.
	FILL AREA		DESIGNED BED LINE
			H.G. LINE

Prepared by :-

WAPCOS LTD.



Project Title :-

NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND

Drawing Title :-

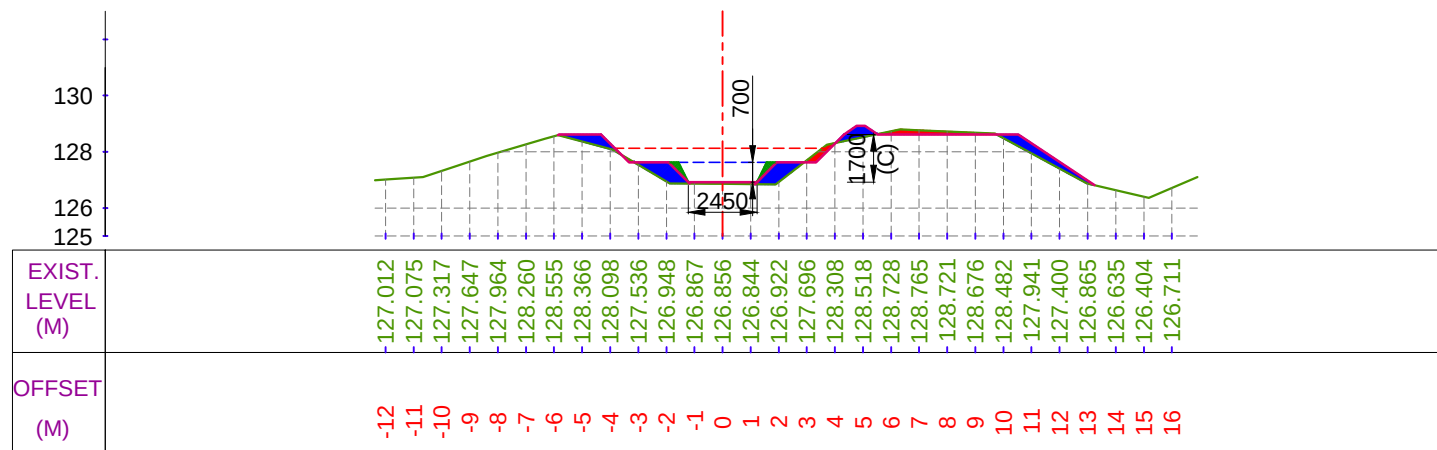
X SEC OF KULHARIA SUB DY. (OFFTAKE FROM RD - 43+667 KM. (L), NORTH KOEL RIGHT MAIN CANAL)

Drawing No. :-

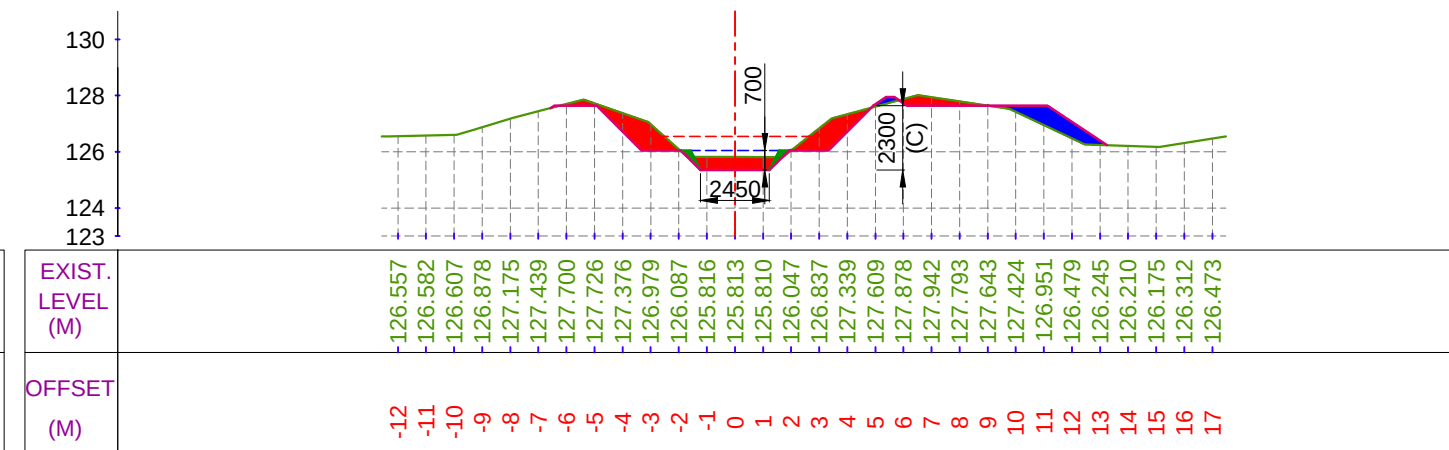
WAP/ INFRA/ NORTHKOEL/ BC/ R-09/ XSEC-

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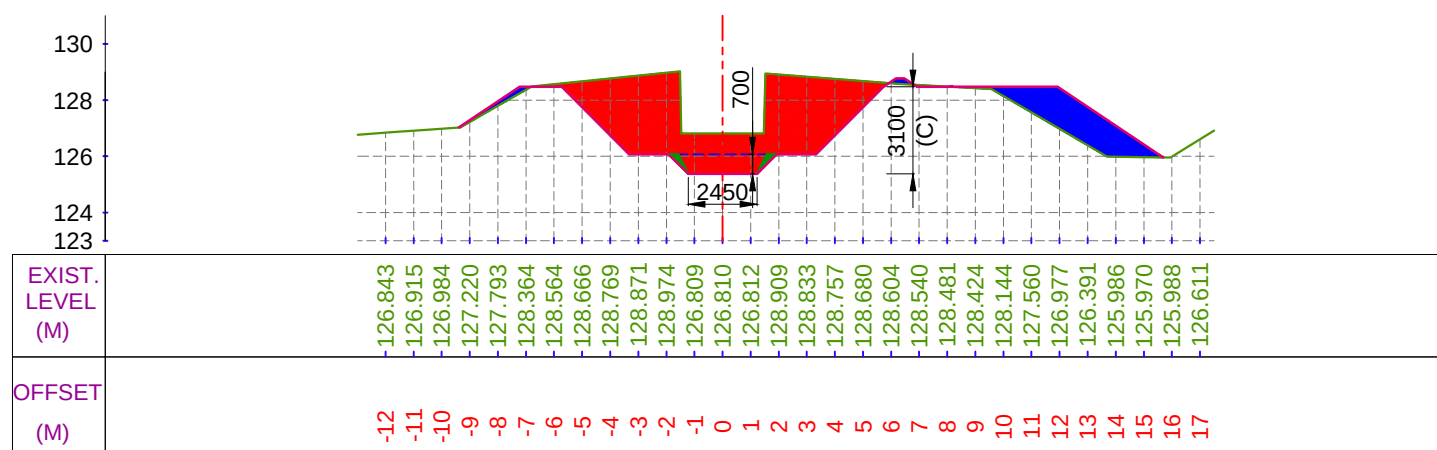
X SECTION OF KULHARIA SUB DY.



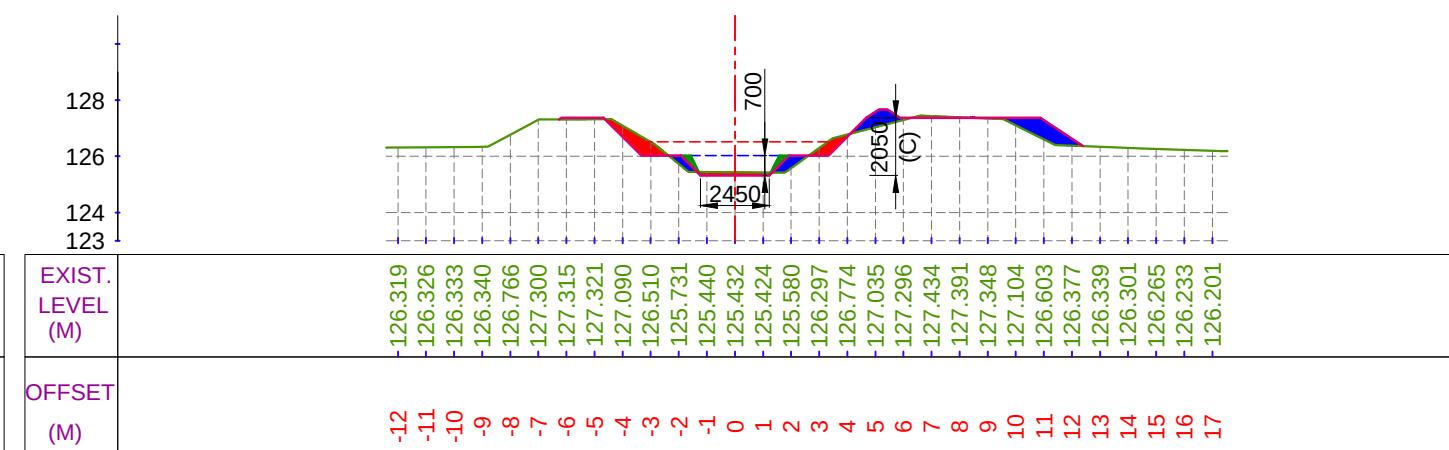
CUTTING AREA (SQ.M) = 0.651 CH. (KM):- 7+700
 FILLING AREA (SQ.M) = 3.120 DESIGNED BED LEVEL = 126.920 M



CUTTING AREA (SQ.M) = 5.297 CH. (KM):- 7+900
 FILLING AREA (SQ.M) = 1.824 DESIGNED BED LEVEL = 125.346 M



CUTTING AREA (SQ.M) = 21.598 CH. (KM):- 7+800
 FILLING AREA (SQ.M) = 6.039 DESIGNED BED LEVEL = 125.371 M



CUTTING AREA (SQ.M) = 1.633 CH. (KM):- 8+000
 FILLING AREA (SQ.M) = 2.496 DESIGNED BED LEVEL = 125.321 M

LEGEND

	CUT AREA		EXISTING BED LINE
			F.S.L.
	FILL AREA		DESIGNED BED LINE
			H.G. LINE

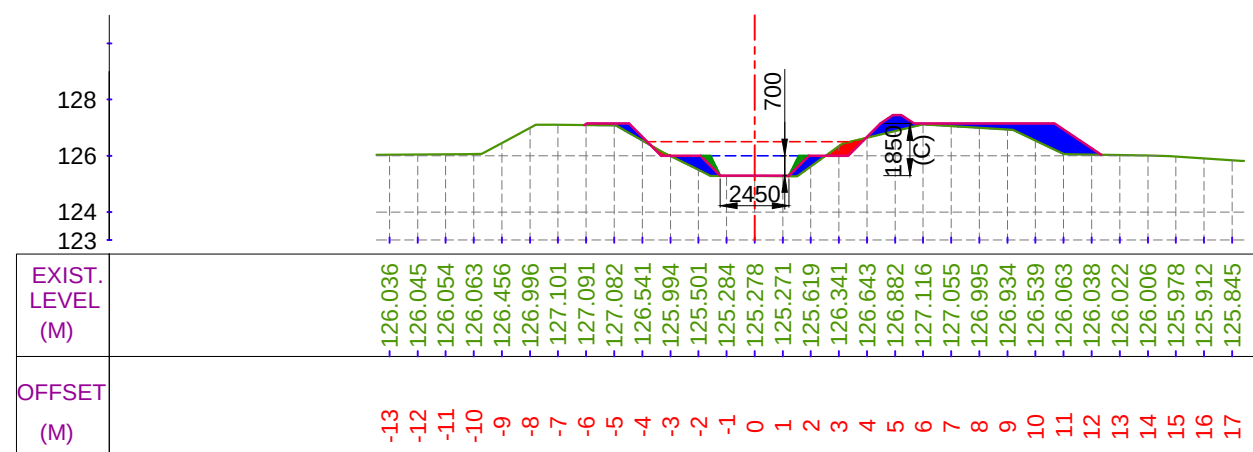
Prepared by :-

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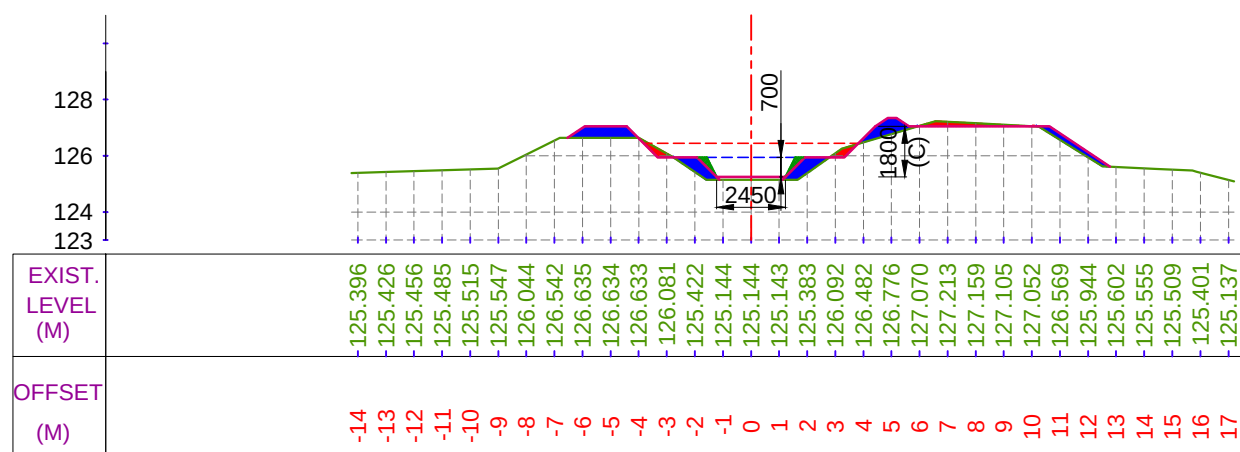


Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
Drawing Title :-	X SEC OF KULHARIA SUB DY. (OFFTAKE FROM RD - 43+667 KM. (L), NORTH KOEL RIGHT MAIN CANAL)
Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-09/ XSEC- 20 of 32

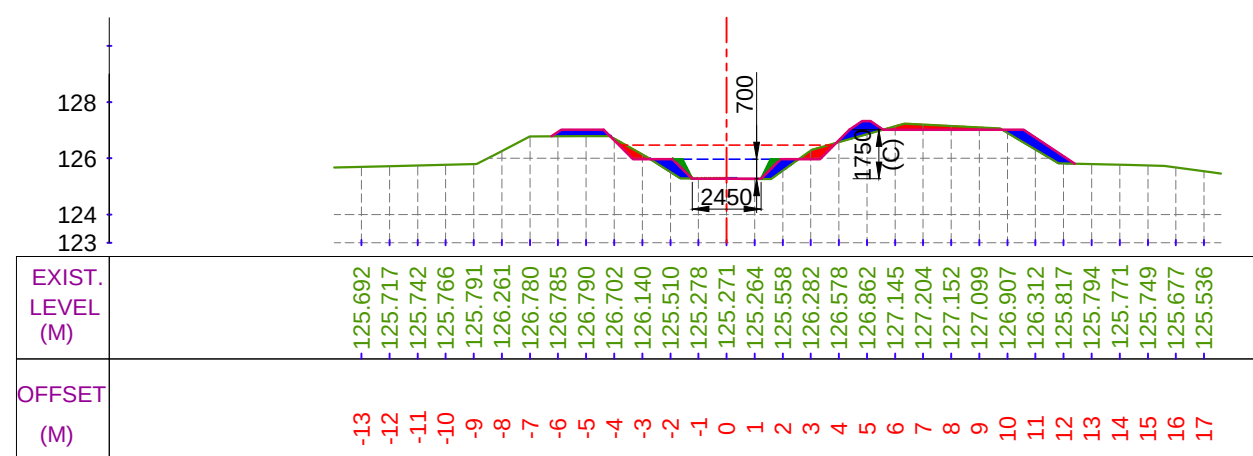
X SECTION OF KULHARIA SUB DY.



CUTTING AREA (SQ.M) = 0.434 CH. (KM):- 8+100
FILLING AREA (SQ.M) = 3.905 DESIGNED BED LEVEL = 125.296 M

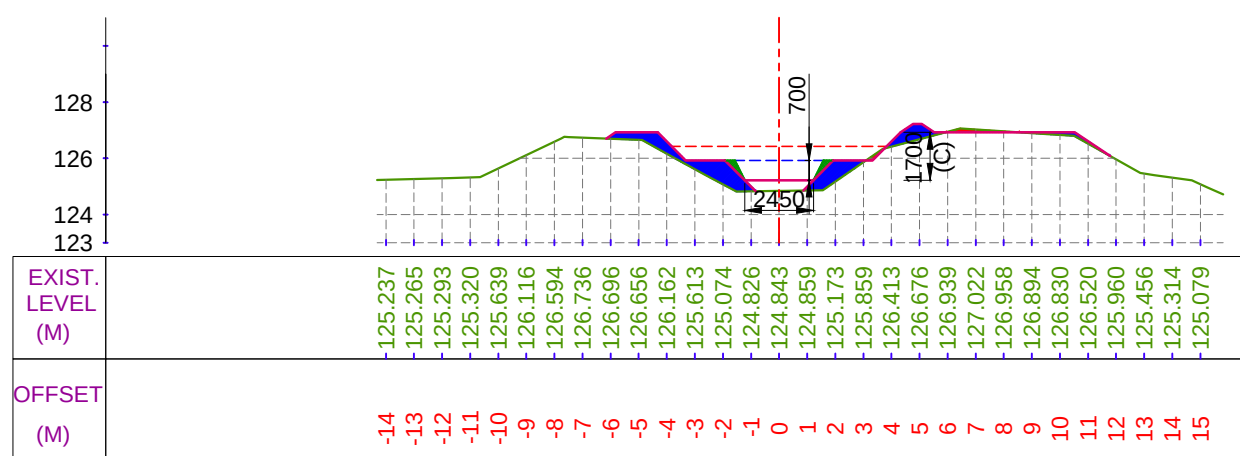


CUTTING AREA (SQ.M) = 0.778 CH. (KM):- 8+300
FILLING AREA (SQ.M) = 3.064 DESIGNED BED LEVEL = 125.246 M



CUTTING AREA (SQ.M) = 1.087
FILLING AREA (SQ.M) = 2.494

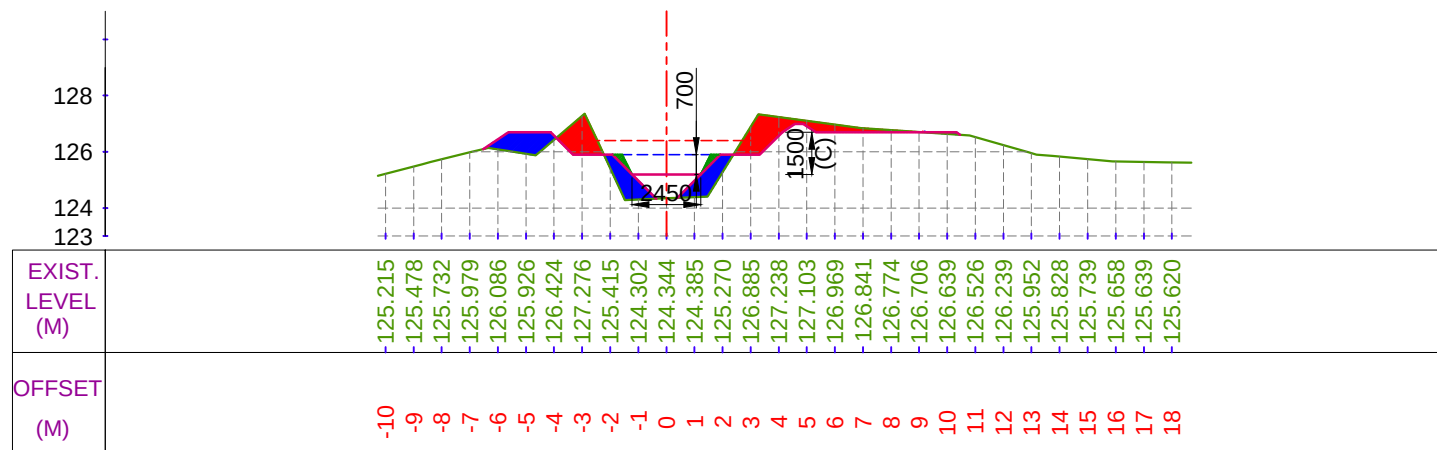
CH. (KM):- 8+200
DESIGNED BED LEVEL = 125.271 M



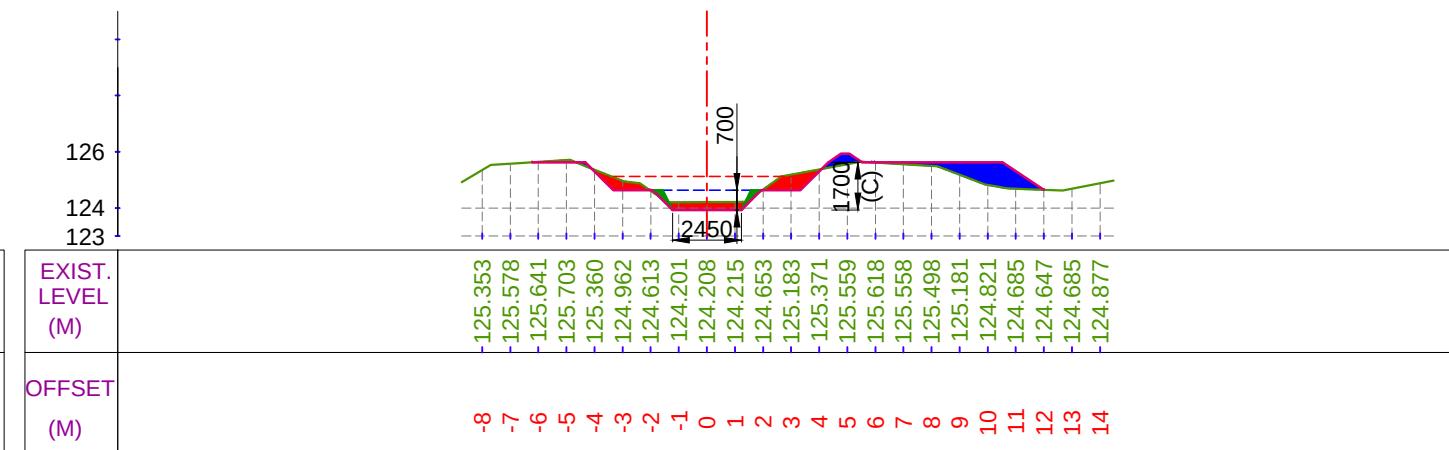
CUTTING AREA (SQ.M) = 0.239
FILLING AREA (SQ.M) = 4.011

LEGEND			Prepared by :- WAPCOS LTD. 	Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
	CUT AREA	 EXISTING BED LINE		Drawing Title :-	X SEC OF KULHARIA SUB DY. (OFFTAKE FROM RD - 43+667 KM. (L), NORTH KOEL RIGHT MAIN CANAL)
		 F.S.L.			
	FILL AREA	 DESIGNED BED LINE		Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-09/ XSEC- 21 of 32
		 H.G. LINE			

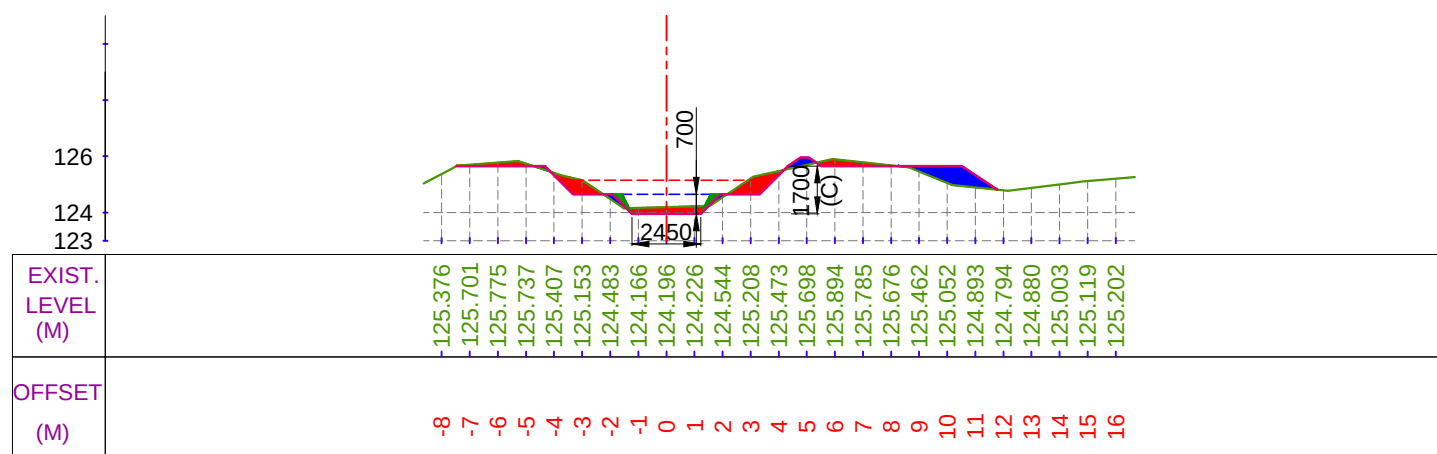
X SECTION OF KULHARIA SUB DY.



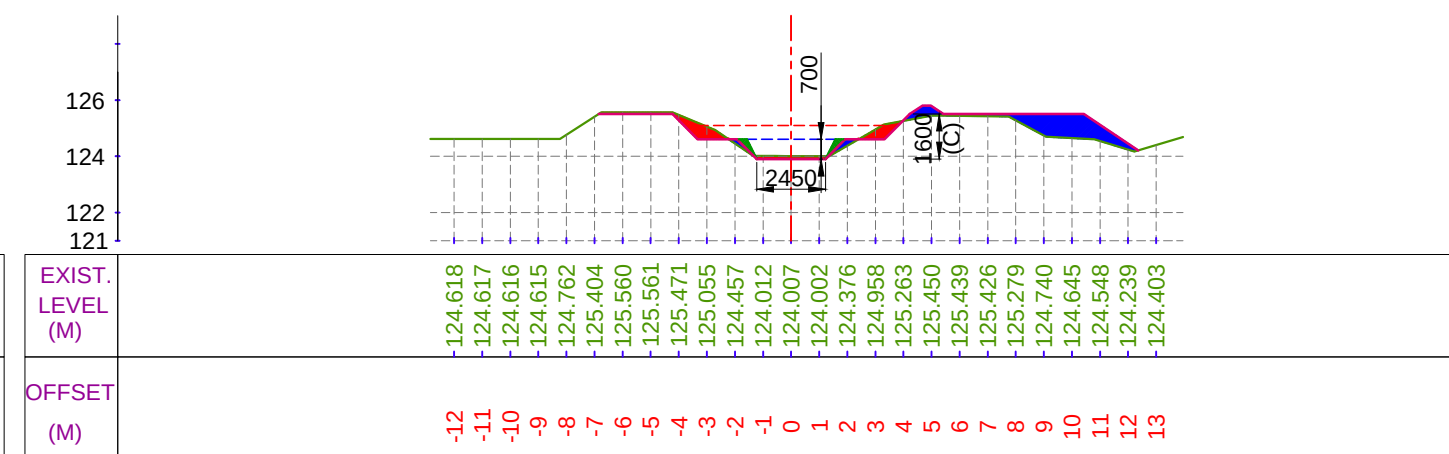
CUTTING AREA (SQ.M) = 3.740 CH. (KM):- 8+500
FILLING AREA (SQ.M) = 3.699 DESIGNED BED LEVEL = 125.196 M



CUTTING AREA (SQ.M) = 2.104 CH. (KM):- 8+700
FILLING AREA (SQ.M) = 2.559 DESIGNED BED LEVEL = 123.927 M



CUTTING AREA (SQ.M) = 2.575 CH. (KM):- 8+600
FILLING AREA (SQ.M) = 1.661 DESIGNED BED LEVEL = 123.952 M



CUTTING AREA (SQ.M) = 1.503 CH. (KM):- 8+800
FILLING AREA (SQ.M) = 3.345 DESIGNED BED LEVEL = 123.902 M

LEGEND

	CUT AREA		EXISTING BED LINE
			F.S.L.
	FILL AREA		DESIGNED BED LINE
			H.G. LINE

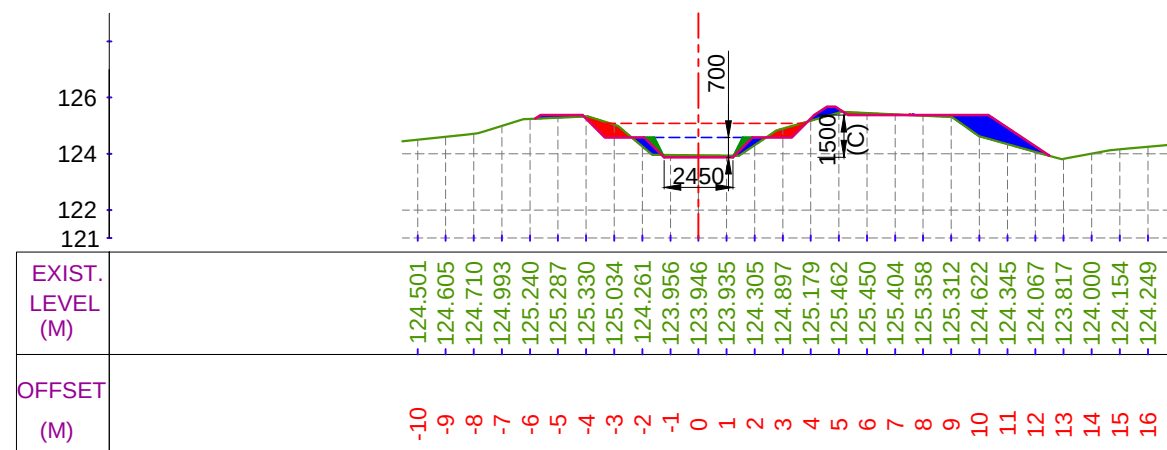
Prepared by :-

WAPCOS LTD.

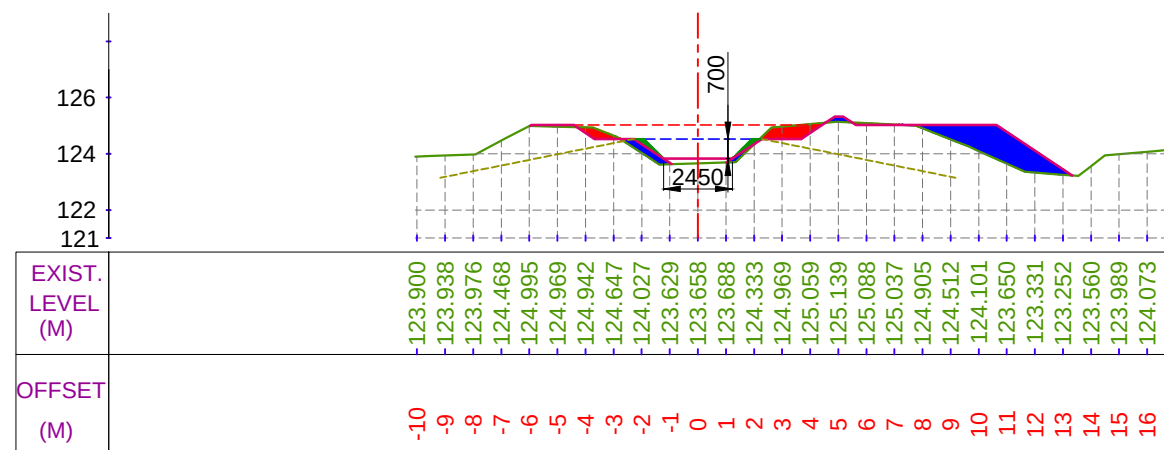


Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND		
Drawing Title :-	X SEC OF KULHARIA SUB DY. (OFFTAKE FROM RD - 43+667 KM. (L), NORTH KOEL RIGHT MAIN CANAL)		
Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-09/ XSEC-		22 of 32

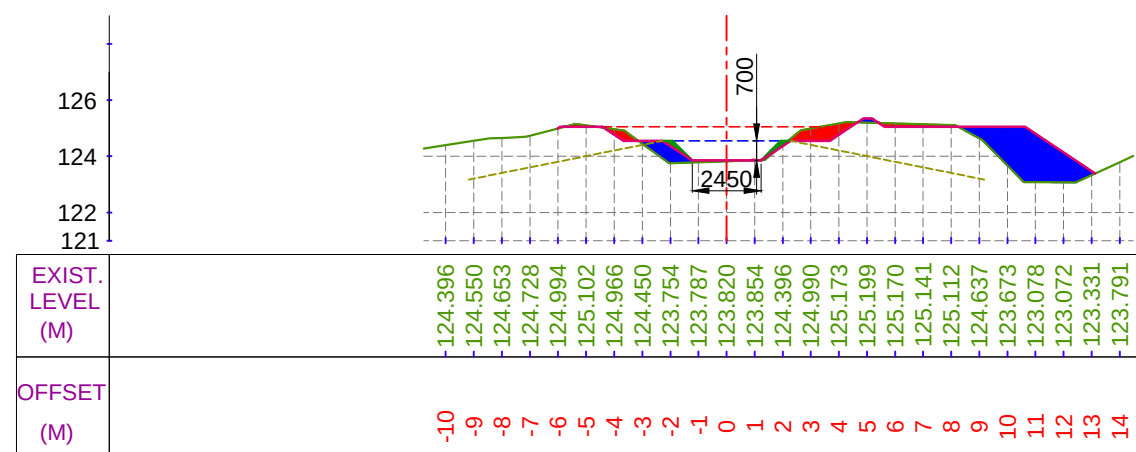
X SECTION OF KULHARIA SUB DY.



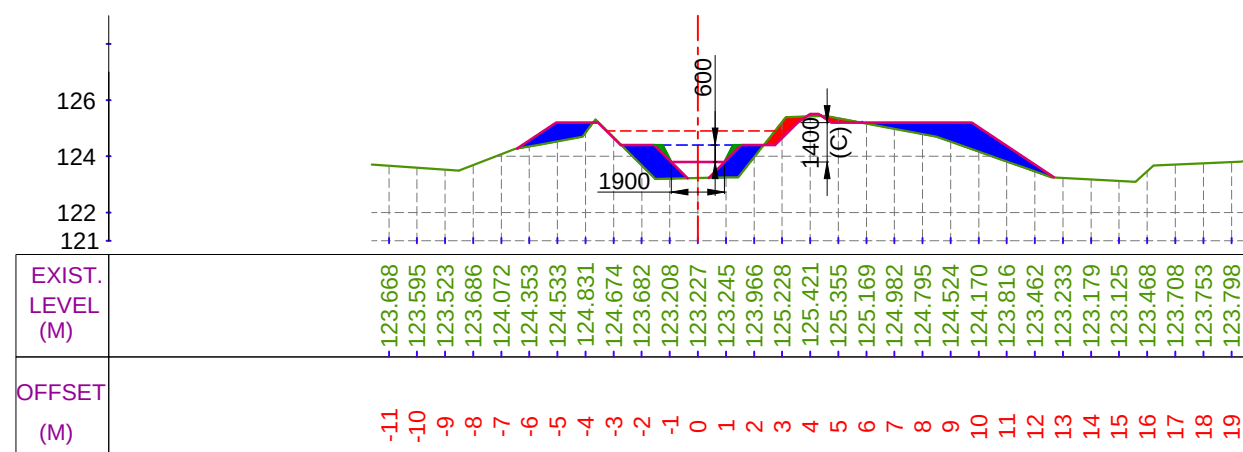
CUTTING AREA (SQ.M) = 1.194 CH. (KM):- 8+900
FILLING AREA (SQ.M) = 2.471 DESIGNED BED LEVEL = 123.877 M



CUTTING AREA (SQ.M) = 1.165 CH. (KM):- 9+100
FILLING AREA (SQ.M) = 4.417 DESIGNED BED LEVEL = 123.827 M



CUTTING AREA (SQ.M) = 1.409 CH. (KM):- 9+000
FILLING AREA (SQ.M) = 5.752 DESIGNED BED LEVEL = 123.852 M



CUTTING AREA (SQ.M) = 0.691 CH. (KM):- 9+200
FILLING AREA (SQ.M) = 6.611 DESIGNED BED LEVEL = 123.802 M

LEGEND

	CUT AREA		EXISTING BED LINE
	FILL AREA		F.S.L.
			DESIGNED BED LINE
			H.G. LINE

Prepared by :-

WAPCOS LTD.



Project Title :-

NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND

Drawing Title :-

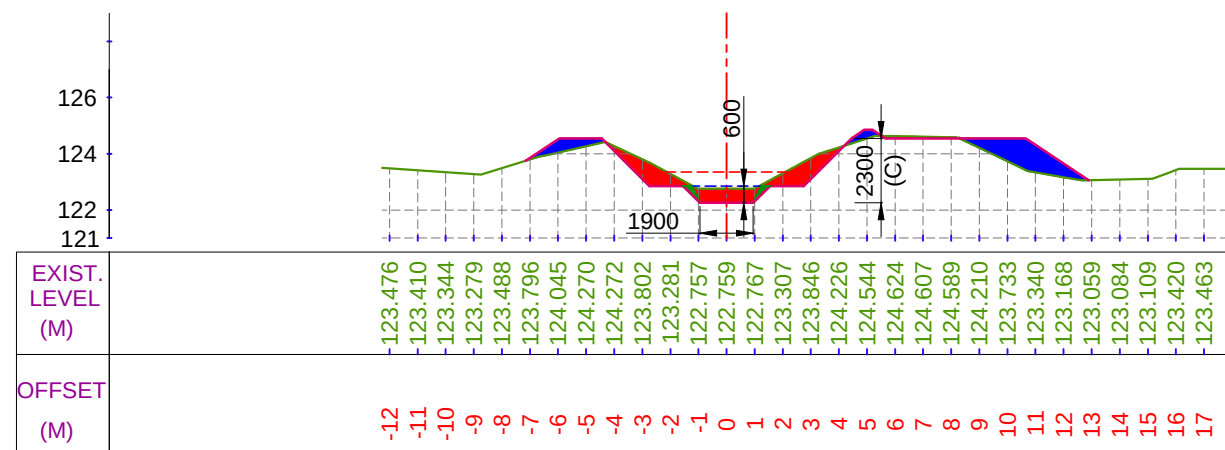
X SEC OF KULHARIA SUB DY. (OFFTAKE FROM RD - 43+667 KM. (L), NORTH KOEL RIGHT MAIN CANAL)

Drawing No. :-

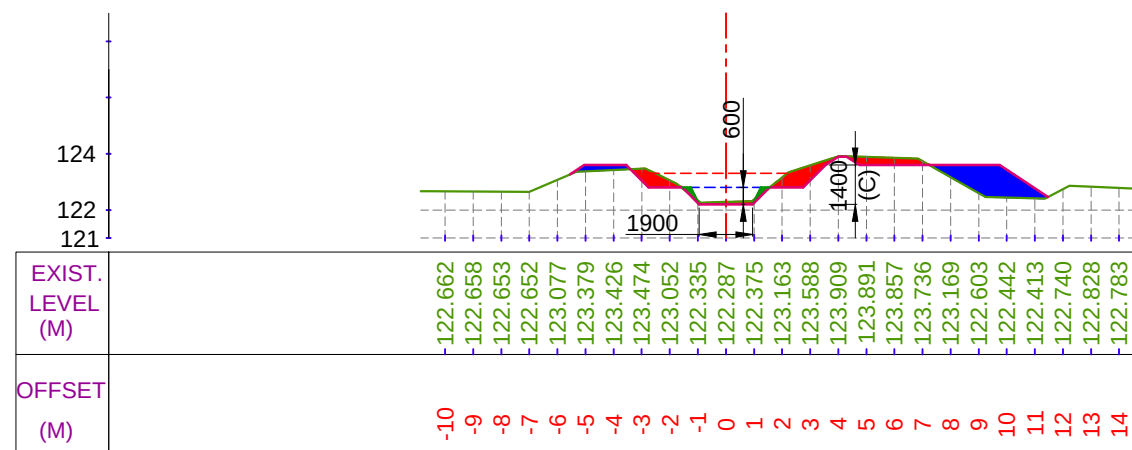
WAP/ INFRA/ NORTHKOEL/ BC/ R-09/ XSEC-

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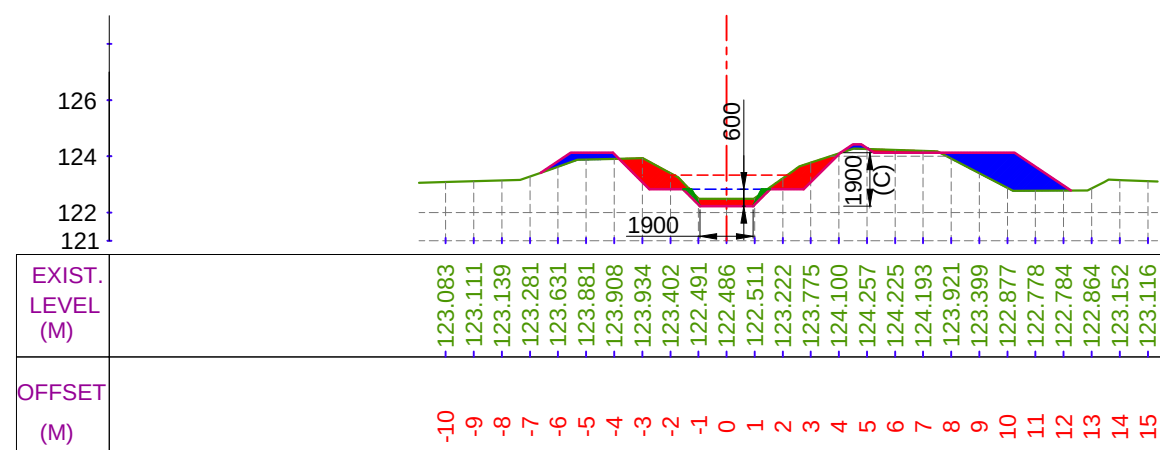
X SECTION OF KULHARIA SUB DY.



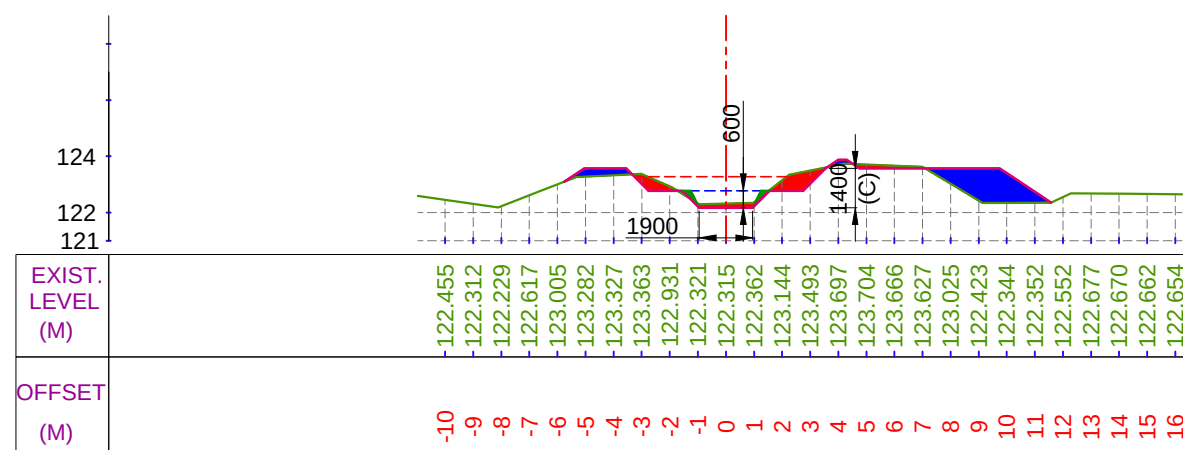
CUTTING AREA (SQ.M) = 3.914 CH. (KM):- 9+300
 FILLING AREA (SQ.M) = 3.722 DESIGNED BED LEVEL = 122.252 M



CUTTING AREA (SQ.M) = 2.355 CH. (KM):- 9+500
 FILLING AREA (SQ.M) = 3.089 DESIGNED BED LEVEL = 122.200 M



CUTTING AREA (SQ.M) = 3.312 CH. (KM):- 9+400
 FILLING AREA (SQ.M) = 3.861 DESIGNED BED LEVEL = 122.226 M



CUTTING AREA (SQ.M) = 1.742 CH. (KM):- 9+600
 FILLING AREA (SQ.M) = 3.757 DESIGNED BED LEVEL = 122.173 M

LEGEND

	CUT AREA		EXISTING BED LINE
			F.S.L.
	FILL AREA		DESIGNED BED LINE
			H.G. LINE

Prepared by :-

WAPCOS LTD.



Project Title :-

NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND

Drawing Title :-

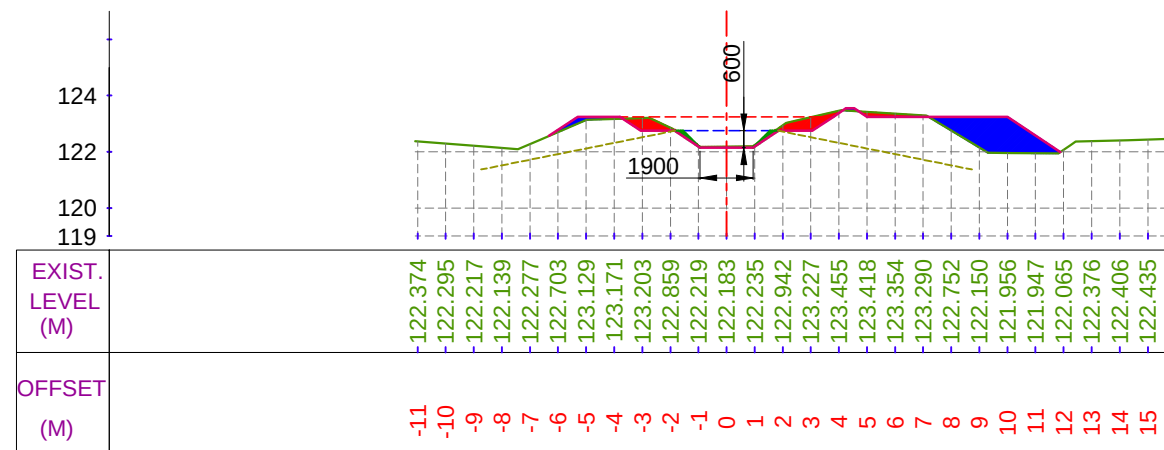
X SEC OF KULHARIA SUB DY. (OFFTAKE FROM RD - 43+667 KM. (L), NORTH KOEL RIGHT MAIN CANAL)

Drawing No. :-

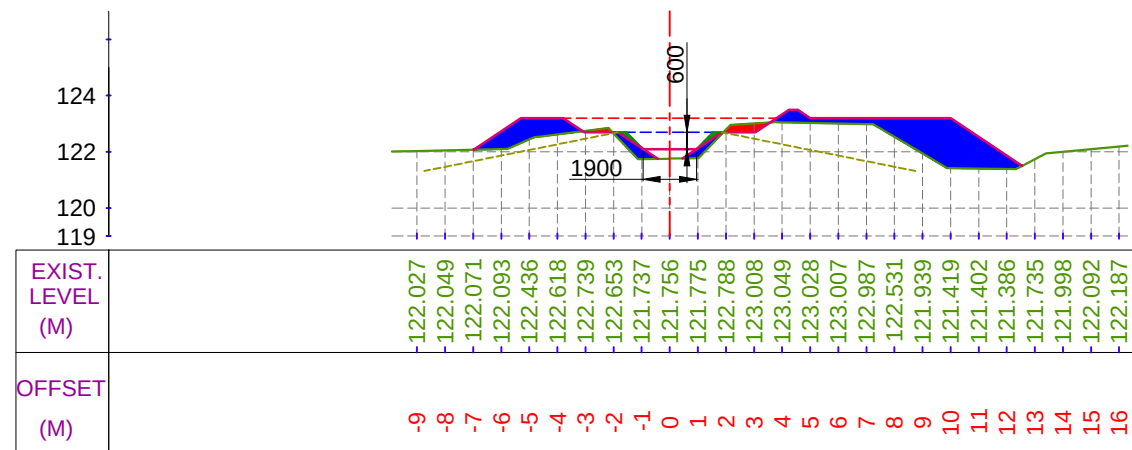
WAP/ INFRA/ NORTHKOEL/ BC/ R-09/ XSEC-

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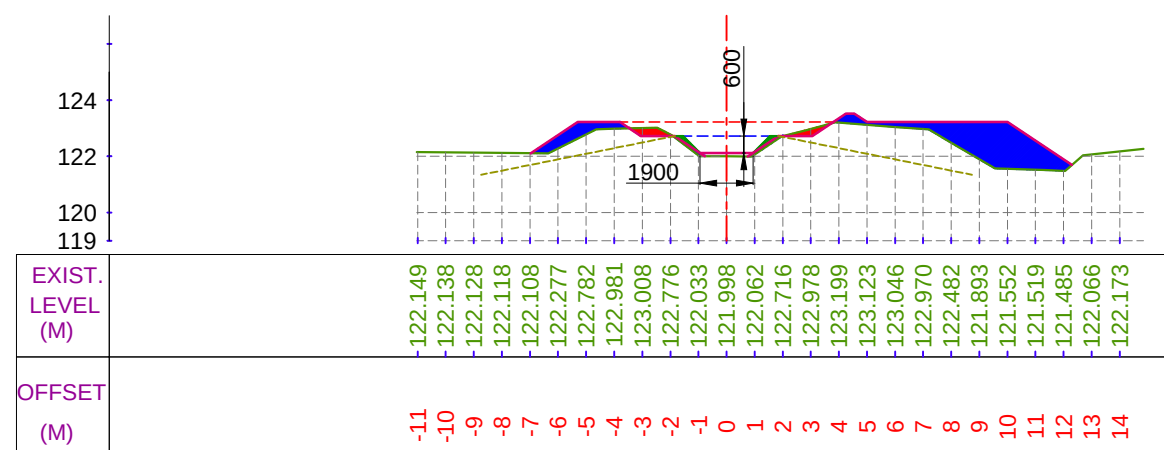
X SECTION OF KULHARIA SUB DY.



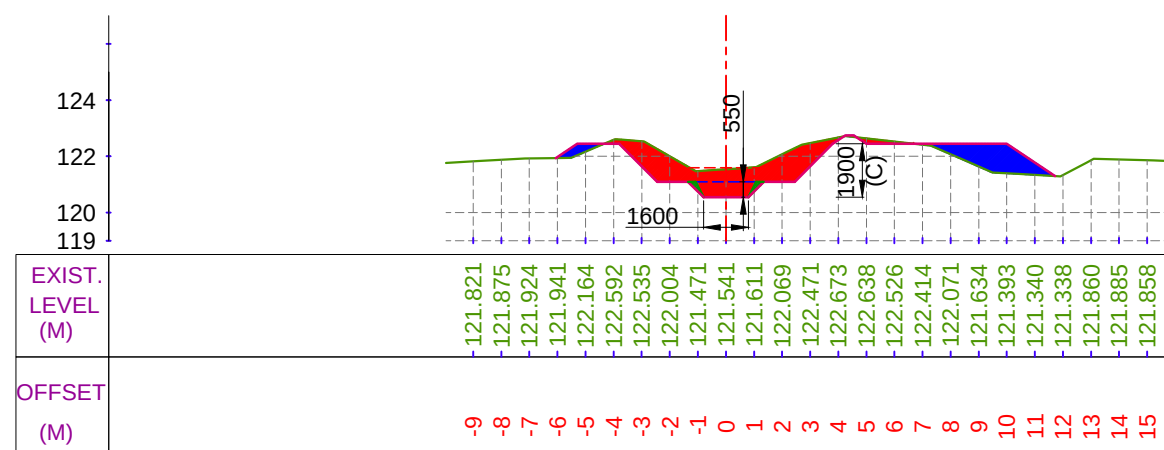
CUTTING AREA (SQ.M) = 1.520 CH. (KM):- 9+700
 FILLING AREA (SQ.M) = 3.851 DESIGNED BED LEVEL = 122.147 M



CUTTING AREA (SQ.M) = 0.466 CH. (KM):- 9+900
 FILLING AREA (SQ.M) = 8.874 DESIGNED BED LEVEL = 122.095 M



CUTTING AREA (SQ.M) = 0.544 CH. (KM):- 9+800
 FILLING AREA (SQ.M) = 7.206 DESIGNED BED LEVEL = 122.121 M



CUTTING AREA (SQ.M) = 6.500 CH. (KM):- 10+000
 FILLING AREA (SQ.M) = 3.030 DESIGNED BED LEVEL = 120.544 M

LEGEND

	CUT AREA		EXISTING BED LINE
	FILL AREA		F.S.L.
			DESIGNED BED LINE
			H.G. LINE

Prepared by :-

WAPCOS LTD.



Project Title :-

NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND

Drawing Title :-

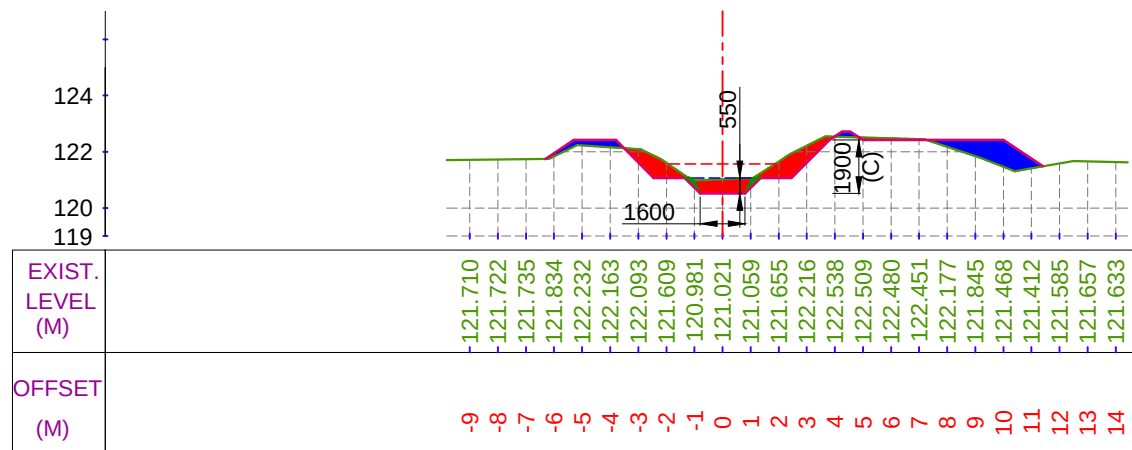
X SEC OF KULHARIA SUB DY. (OFFTAKE FROM RD - 43+667 KM. (L), NORTH KOEL RIGHT MAIN CANAL)

Drawing No. :-

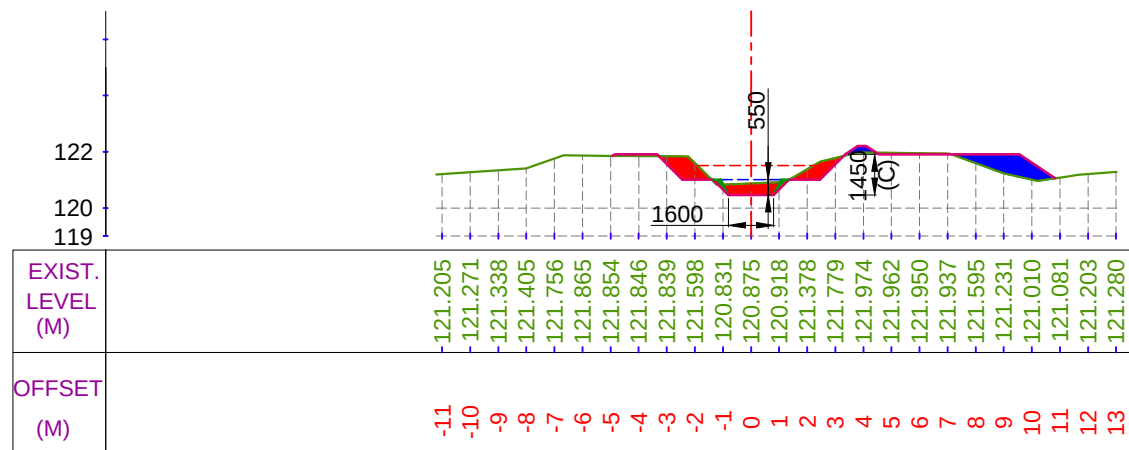
WAP/ INFRA/ NORTHKOEL/ BC/ R-09/ XSEC-

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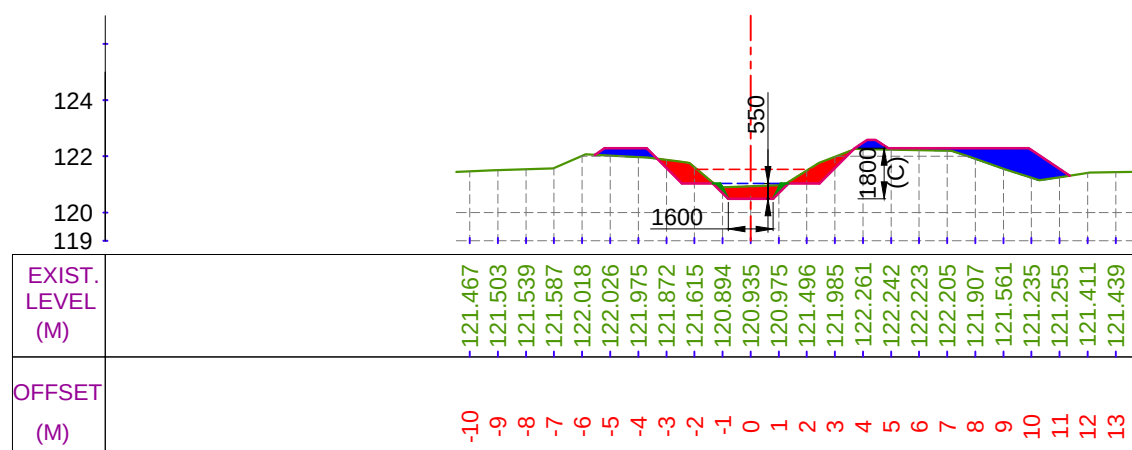
X SECTION OF KULHARIA SUB DY.



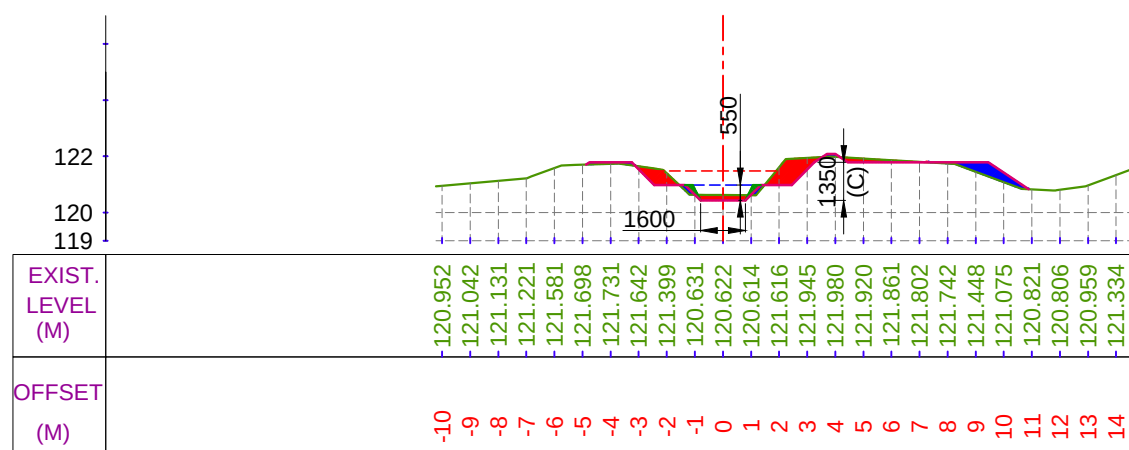
CUTTING AREA (SQ.M) = 3.411 CH. (KM):- 10+100
 FILLING AREA (SQ.M) = 2.648 DESIGNED BED LEVEL = 120.516 M



CUTTING AREA (SQ.M) = 2.326 CH. (KM):- 10+300
 FILLING AREA (SQ.M) = 1.916 DESIGNED BED LEVEL = 120.460 M



CUTTING AREA (SQ.M) = 2.544 CH. (KM):- 10+200
 FILLING AREA (SQ.M) = 3.339 DESIGNED BED LEVEL = 120.488 M



CUTTING AREA (SQ.M) = 2.130 CH. (KM):- 10+400
 FILLING AREA (SQ.M) = 1.055 DESIGNED BED LEVEL = 120.433 M

LEGEND

	CUT AREA		EXISTING BED LINE
			F.S.L.
	FILL AREA		DESIGNED BED LINE
			H.G. LINE

Prepared by :-

WAPCOS LTD.



Project Title :-

NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND

Drawing Title :-

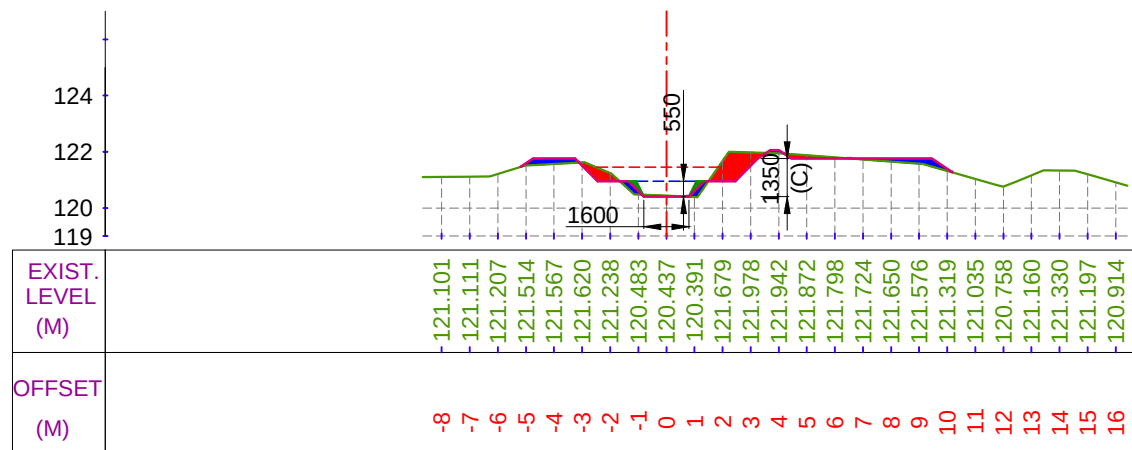
X SEC OF KULHARIA SUB DY. (OFFTAKE FROM RD - 43+667 KM. (L), NORTH KOEL RIGHT MAIN CANAL)

Drawing No. :-

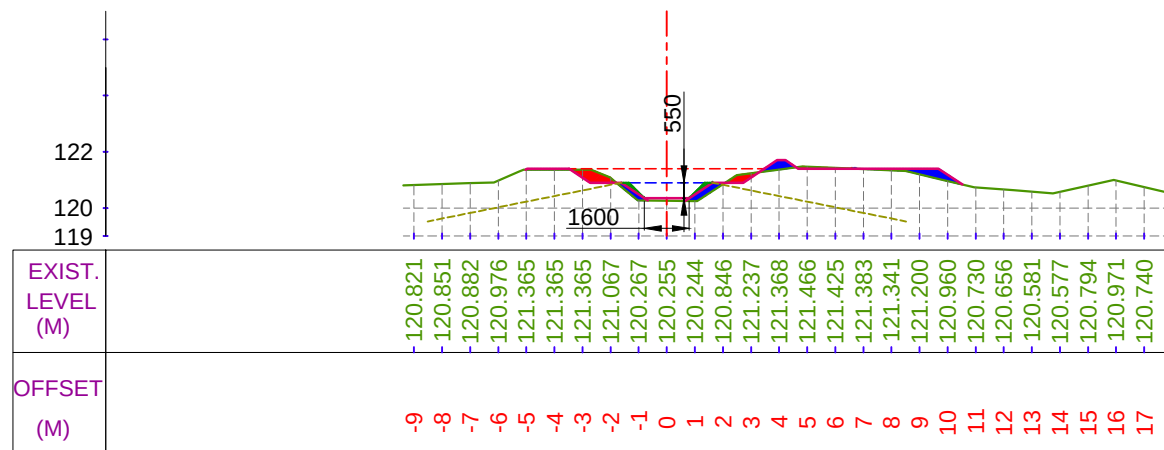
WAP/ INFRA/ NORTHKOEL/ BC/ R-09/ XSEC-

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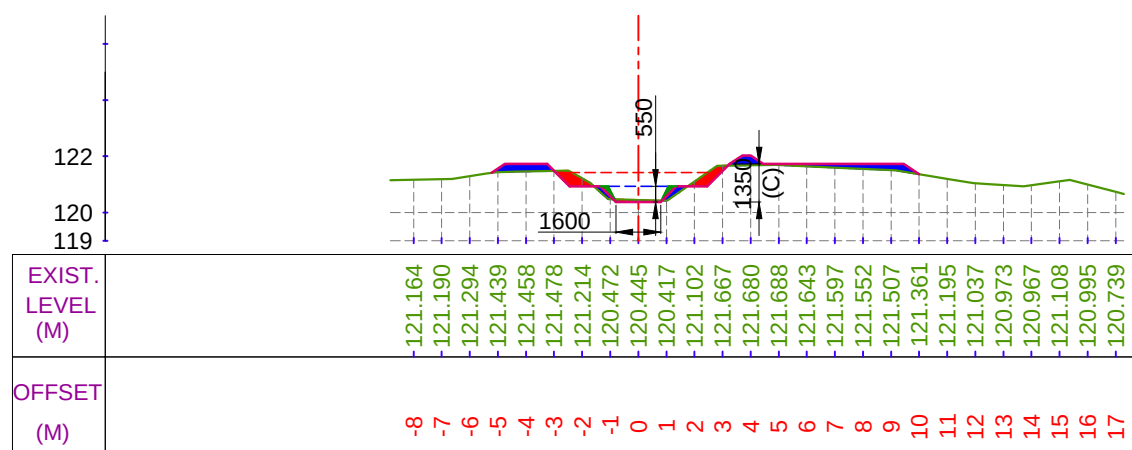
X SECTION OF KULHARIA SUB DY.



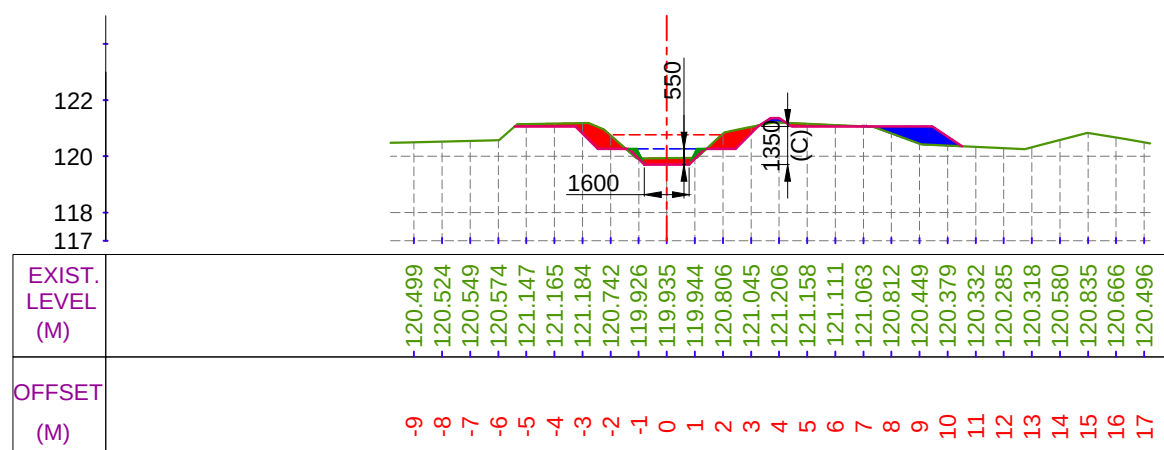
CUTTING AREA (SQ.M) = 1.791 CH. (KM):- 10+500
 FILLING AREA (SQ.M) = 1.072 DESIGNED BED LEVEL = 120.405 M



CUTTING AREA (SQ.M) = 0.702 CH. (KM):- 10+700
 FILLING AREA (SQ.M) = 1.260 DESIGNED BED LEVEL = 120.349 M



CUTTING AREA (SQ.M) = 0.919 CH. (KM):- 10+600
 FILLING AREA (SQ.M) = 1.742 DESIGNED BED LEVEL = 120.377 M



CUTTING AREA (SQ.M) = 2.302 CH. (KM):- 10+800
 FILLING AREA (SQ.M) = 1.297 DESIGNED BED LEVEL = 119.712 M

LEGEND

	CUT AREA		EXISTING BED LINE
			F.S.L.
	FILL AREA		DESIGNED BED LINE
			H.G. LINE

Prepared by :-

WAPCOS LTD.



Project Title :-

NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND

Drawing Title :-

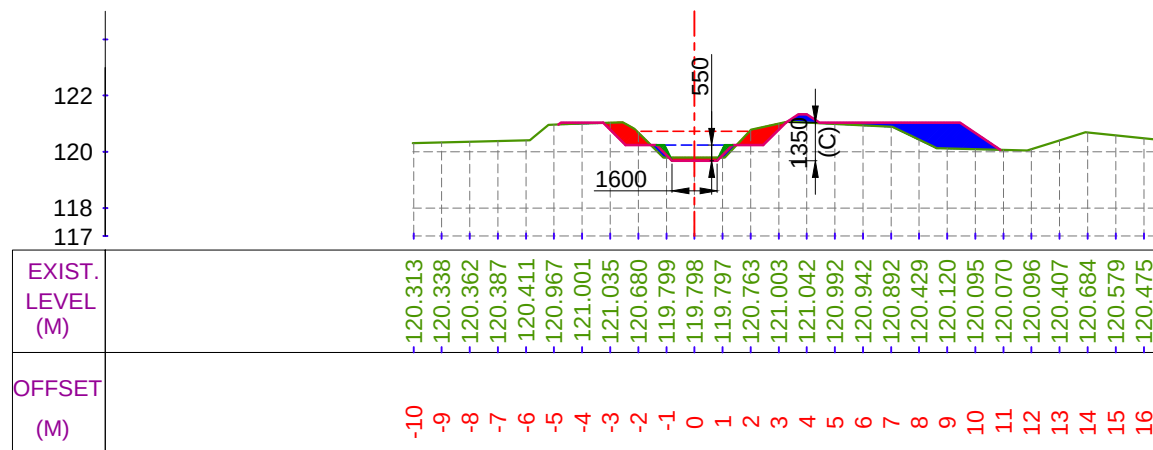
X SEC OF KULHARIA SUB DY. (OFFTAKE FROM RD - 43+667 KM. (L), NORTH KOEL RIGHT MAIN CANAL)

Drawing No. :-

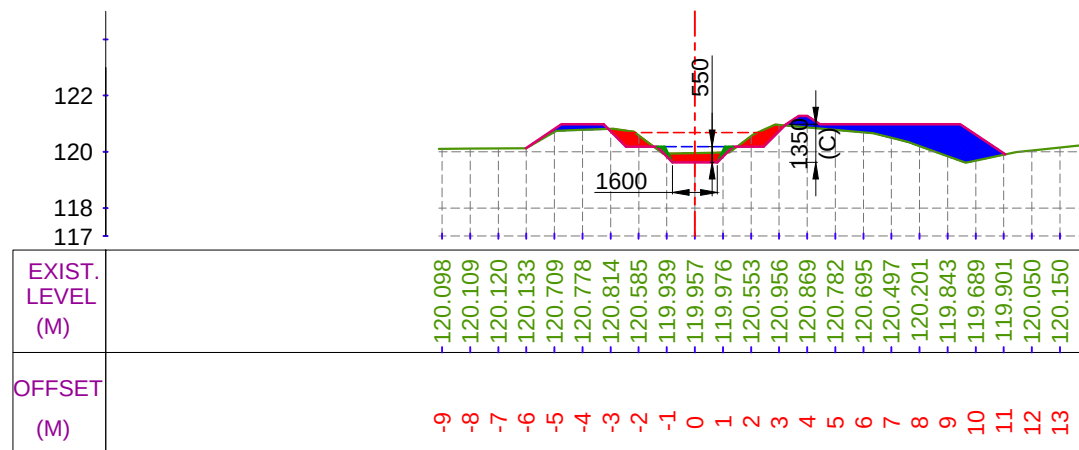
WAP/ INFRA/ NORTHKOEL/ BC/ R-09/ XSEC-

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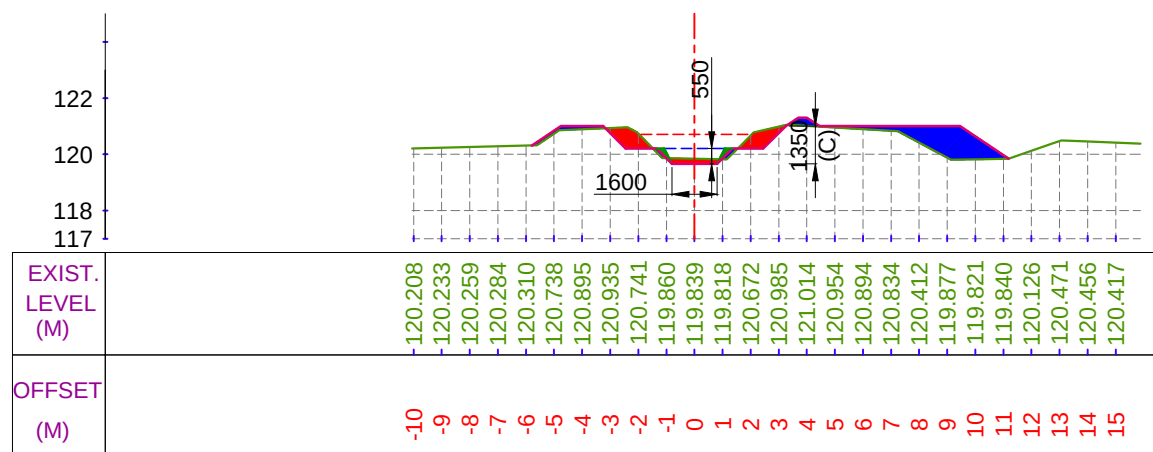
X SECTION OF KULHARIA SUB DY.



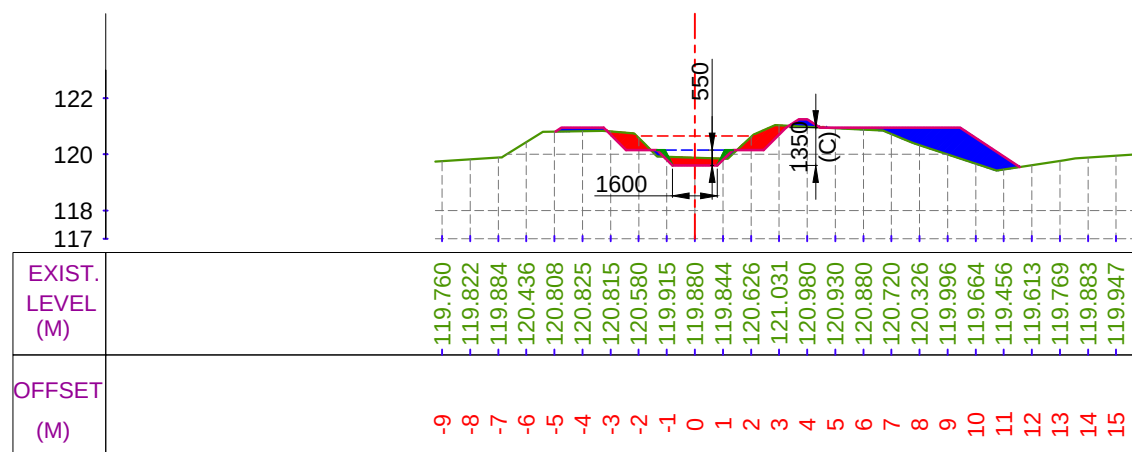
CUTTING AREA (SQ.M) = 1.561 CH. (KM):- 10+900
 FILLING AREA (SQ.M) = 2.871 DESIGNED BED LEVEL = 119.684 M



CUTTING AREA (SQ.M) = 1.704 CH. (KM):- 11+100
 FILLING AREA (SQ.M) = 4.718 DESIGNED BED LEVEL = 119.628 M



CUTTING AREA (SQ.M) = 1.671 CH. (KM):- 11+000
 FILLING AREA (SQ.M) = 3.616 DESIGNED BED LEVEL = 119.656 M



CUTTING AREA (SQ.M) = 1.793 CH. (KM):- 11+200
 FILLING AREA (SQ.M) = 3.751 DESIGNED BED LEVEL = 119.600 M

LEGEND

	CUT AREA		EXISTING BED LINE
	FILL AREA		F.S.L.
			DESIGNED BED LINE
			H.G. LINE

Prepared by :-

WAPCOS LTD.



Project Title :-

NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND

Drawing Title :-

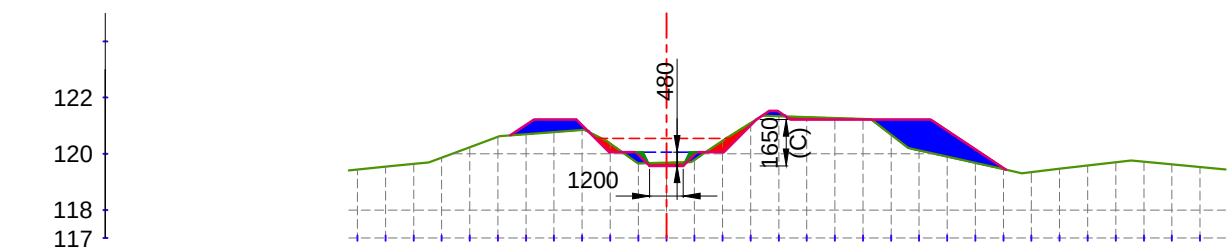
X SEC OF KULHARIA SUB DY. (OFFTAKE FROM RD - 43+667 KM. (L), NORTH KOEL RIGHT MAIN CANAL)

Drawing No. :-

WAP/ INFRA/ NORTHKOEL/ BC/ R-09/ XSEC-

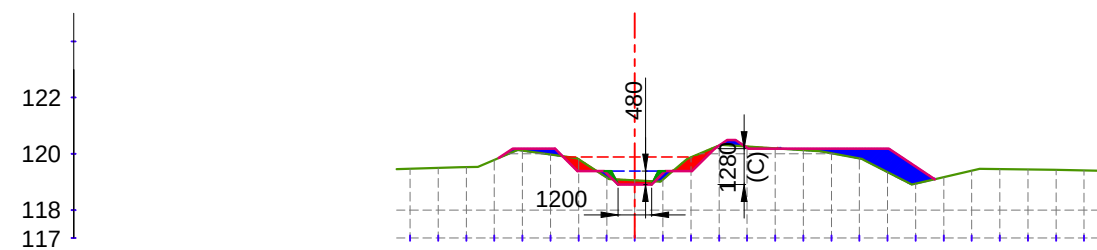
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X SECTION OF KULHARIA SUB DY.



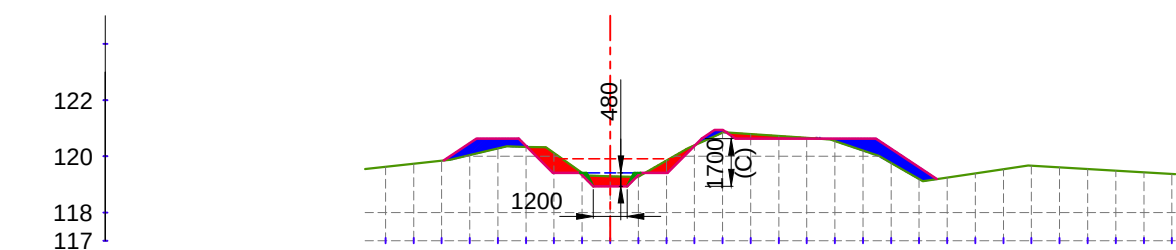
EXIST. LEVEL (M)	119.442	119.541	119.640	119.865	120.237	120.610	120.701	120.777	120.852	120.369	119.658	119.684	119.784	120.467	121.092	121.335	121.303	121.270	121.237	120.679	120.118	119.897	119.675	119.453	119.351	119.467	119.583	119.699	119.720	119.625	119.529
OFFSET (M)	-11	-10	-9	-8	-7	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19

CUTTING AREA (SQ.M) = 0.919 CH. (KM):- 11+300
FILLING AREA (SQ.M) = 4.442 DESIGNED BED LEVEL = 119.572 M



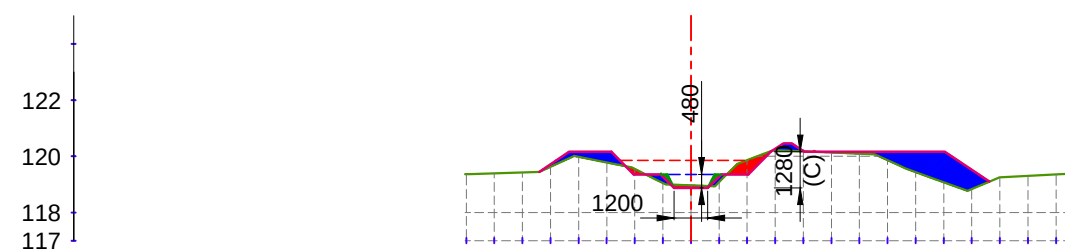
EXIST. LEVEL (M)	119.464	119.494	119.524	119.784	120.108	119.971	119.807	119.156	119.056	119.083	119.870	120.298	120.259	120.193	120.127	120.020	119.836	119.349	118.933	119.166	119.400	119.455	119.440	119.424	119.407
OFFSET (M)	-8	-7	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

CUTTING AREA (SQ.M) = 0.923 CH. (KM):- 11+500
FILLING AREA (SQ.M) = 2.476 DESIGNED BED LEVEL = 118.905 M



EXIST. LEVEL (M)	119.626	119.735	119.846	120.042	120.278	120.336	120.111	119.400	119.290	119.273	119.849	120.393	120.842	120.788	120.722	120.656	120.548	120.205	119.764	119.193	119.245	119.393	119.540	119.662	119.603	119.544	119.485	119.427	119.368
OFFSET (M)	-8	-7	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20

CUTTING AREA (SQ.M) = 1.978 CH. (KM):- 11+400
FILLING AREA (SQ.M) = 2.505 DESIGNED BED LEVEL = 118.934 M



EXIST. LEVEL (M)	119.365	119.397	119.429	119.627	119.980	119.779	119.548	119.051	118.967	119.079	119.860	120.218	120.176	120.135	120.093	119.862	119.440	119.075	118.836	119.251	119.302	119.353
OFFSET (M)	-8	-7	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6	7	8	9	10	11	12	13

CUTTING AREA (SQ.M) = 0.653 CH. (KM):- 11+600
FILLING AREA (SQ.M) = 3.771 DESIGNED BED LEVEL = 118.877 M

LEGEND

	CUT AREA		EXISTING BED LINE
	FILL AREA		F.S.L.
			DESIGNED BED LINE
			H.G. LINE

Prepared by :-

WAPCOS LTD.



Project Title :-

NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND

Drawing Title :-

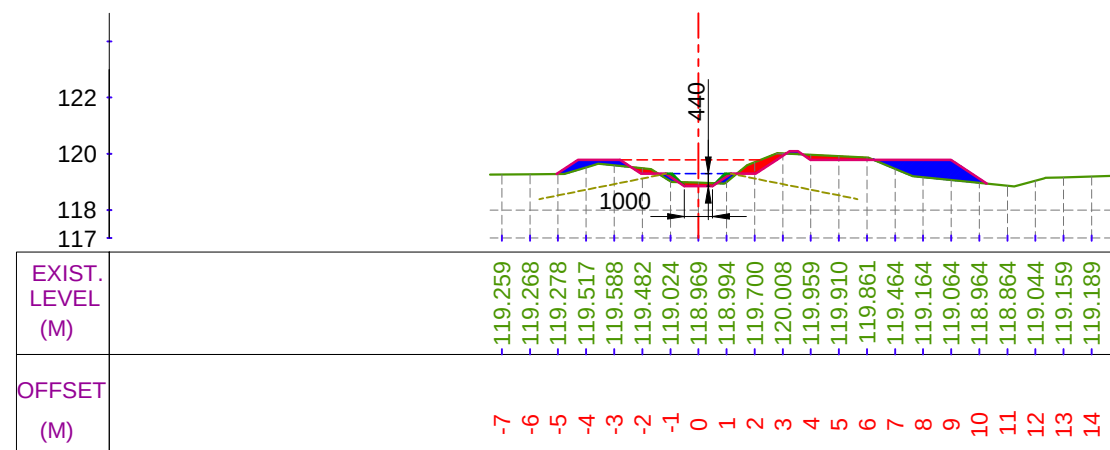
X SEC OF KULHARIA SUB DY. (OFFTAKE FROM RD - 43+667 KM. (L), NORTH KOEL RIGHT MAIN CANAL)

Drawing No. :-

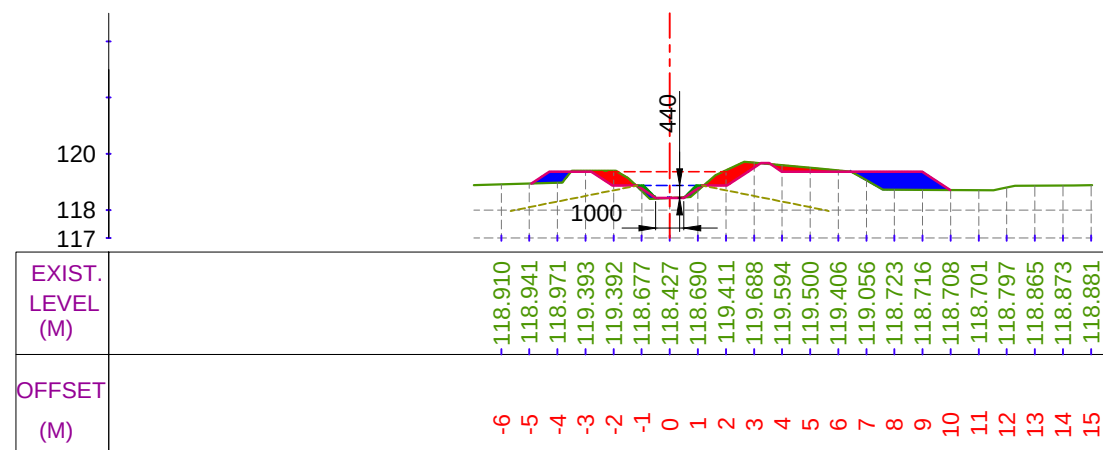
WAP/ INFRA/ NORTHKOEL/ BC/ R-09/ XSEC-

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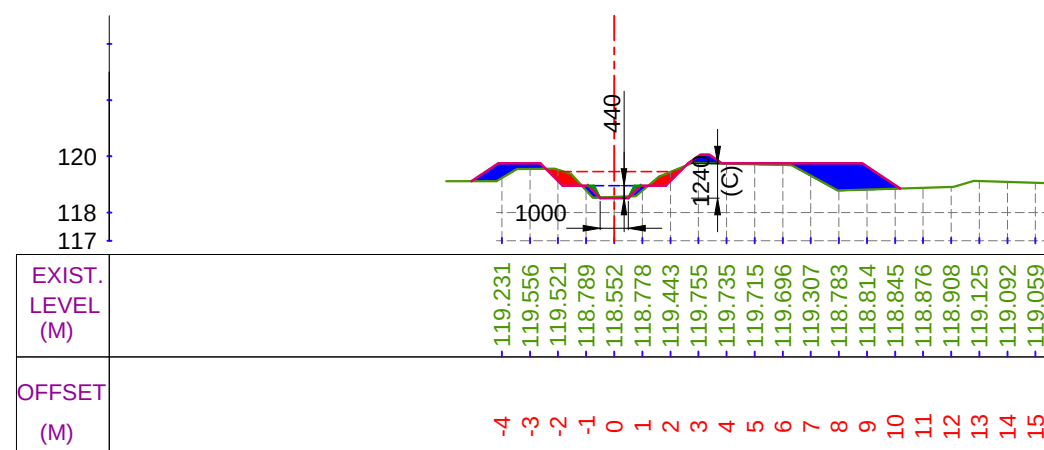
X SECTION OF KULHARIA SUB DY.



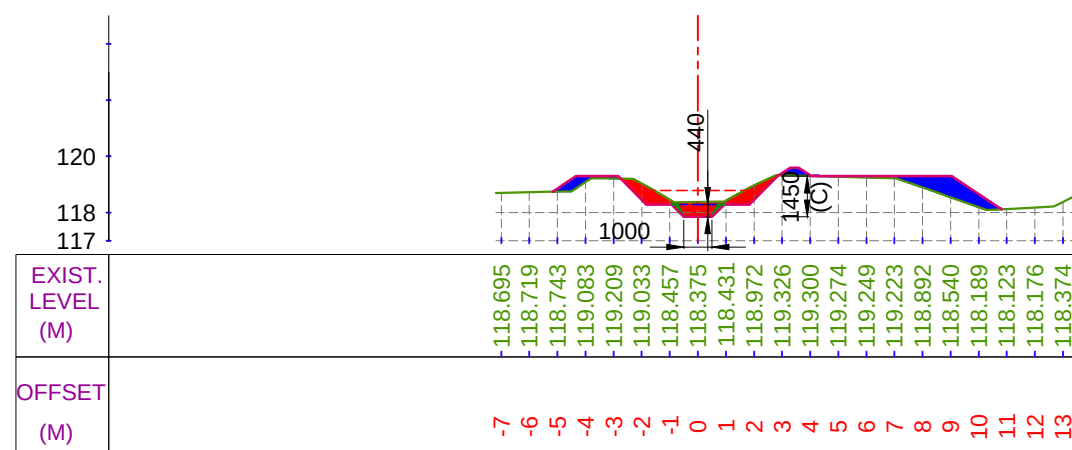
CUTTING AREA (SQ.M) = 0.986 CH. (KM):- 11+700
 FILLING AREA (SQ.M) = 2.490 DESIGNED BED LEVEL = 118.848 M



CUTTING AREA (SQ.M) = 1.537 CH. (KM):- 11+900
 FILLING AREA (SQ.M) = 2.093 DESIGNED BED LEVEL = 118.486 M



CUTTING AREA (SQ.M) = 0.723 CH. (KM):- 11+800
 FILLING AREA (SQ.M) = 3.623 DESIGNED BED LEVEL = 118.515 M



CUTTING AREA (SQ.M) = 2.064 CH. (KM):- 12+000
 FILLING AREA (SQ.M) = 2.412 DESIGNED BED LEVEL = 117.847 M

LEGEND

	CUT AREA		EXISTING BED LINE
	FILL AREA		F.S.L.
			DESIGNED BED LINE
			H.G. LINE

Prepared by :-

WAPCOS LTD.



Project Title :-

NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND

Drawing Title :-

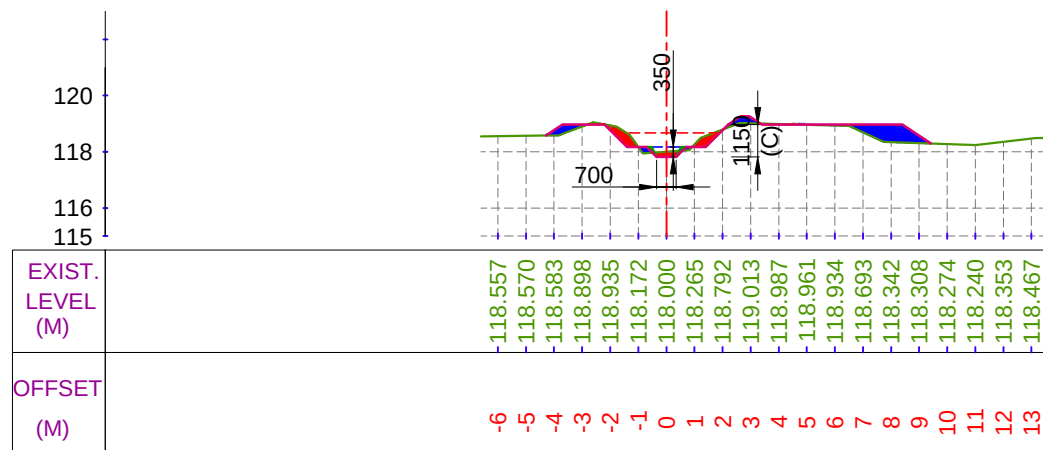
X SEC OF KULHARIA SUB DY. (OFFTAKE FROM RD - 43+667 KM. (L), NORTH KOEL RIGHT MAIN CANAL)

Drawing No. :-

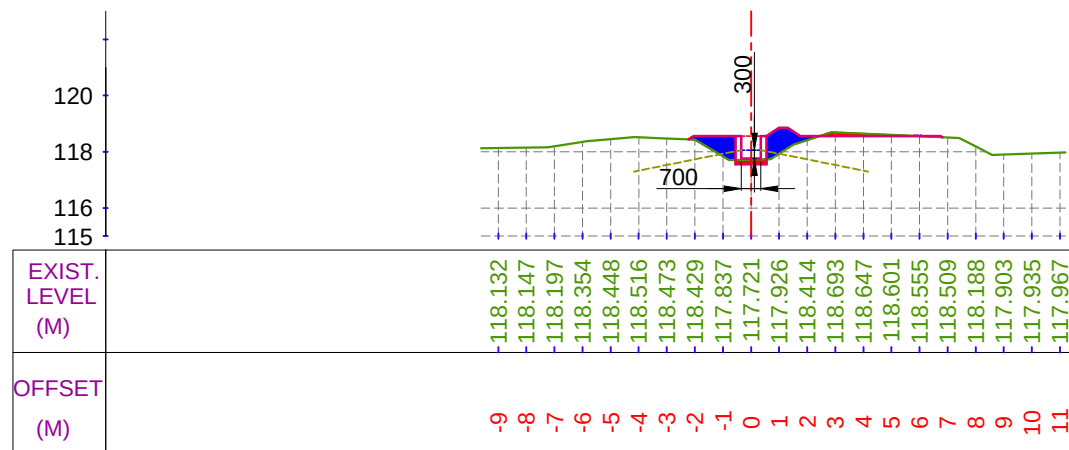
WAP/ INFRA/ NORTHKOEL/ BC/ R-09/ XSEC-

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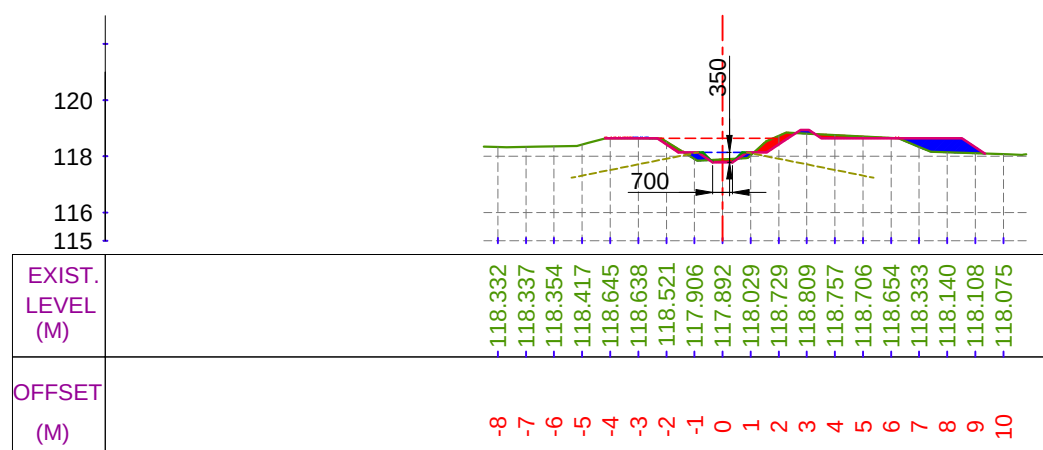
X SECTION OF KULHARIA SUB DY.



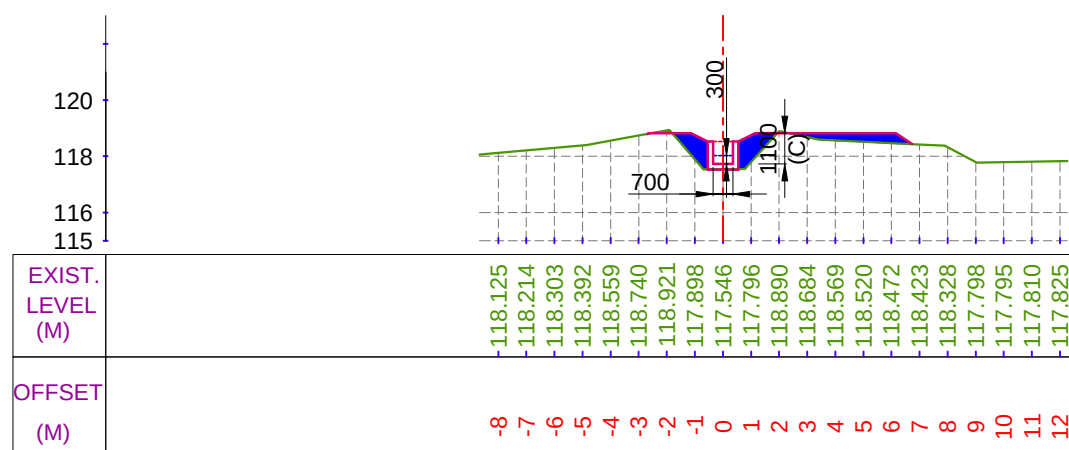
CUTTING AREA (SQ.M) = 0.775 CH. (KM):- 12+100
FILLING AREA (SQ.M) = 1.757 DESIGNED BED LEVEL = 117.819 M



CUTTING AREA (SQ.M) = 0.419 CH. (KM):- 12+300
FILLING AREA (SQ.M) = 1.784 DESIGNED BED LEVEL = 117.760 M



CUTTING AREA (SQ.M) = 0.744 CH. (KM):- 12+200
FILLING AREA (SQ.M) = 1.299 DESIGNED BED LEVEL = 117.789 M



CUTTING AREA (SQ.M) = 0.068 CH. (KM):- 12+400
FILLING AREA (SQ.M) = 2.808 DESIGNED BED LEVEL = 117.729 M

LEGEND

	CUT AREA		EXISTING BED LINE
			F.S.L.
	FILL AREA		DESIGNED BED LINE
			H.G. LINE

Prepared by :-

WAPCOS LTD.



Project Title :-

NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND

Drawing Title :-

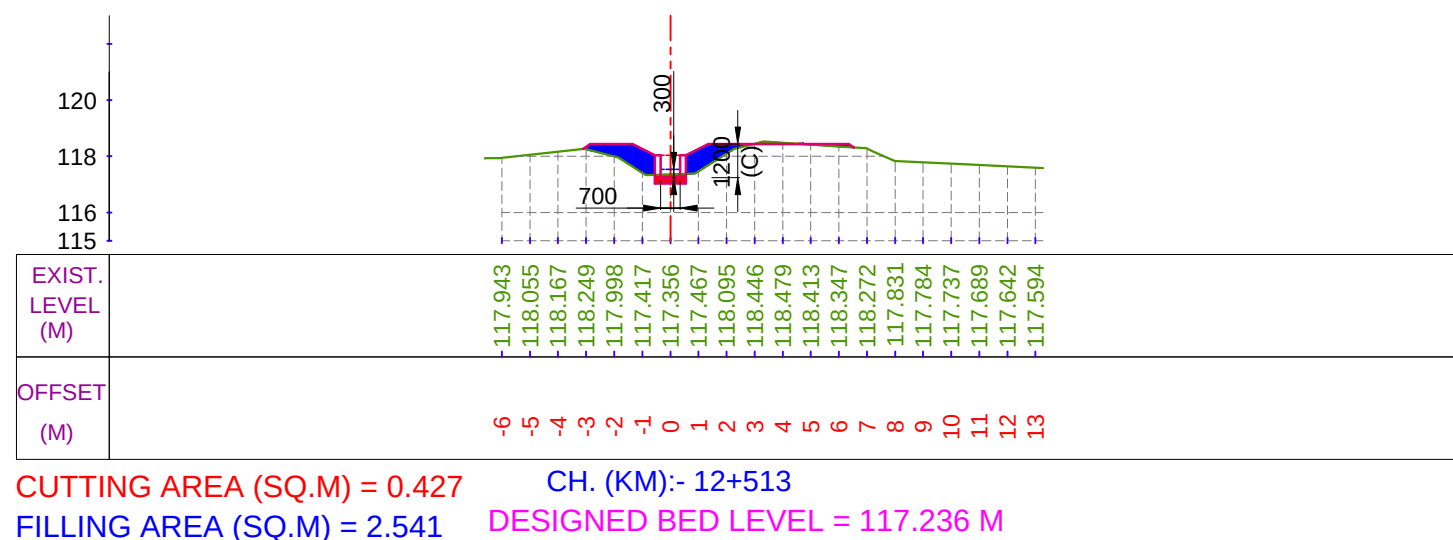
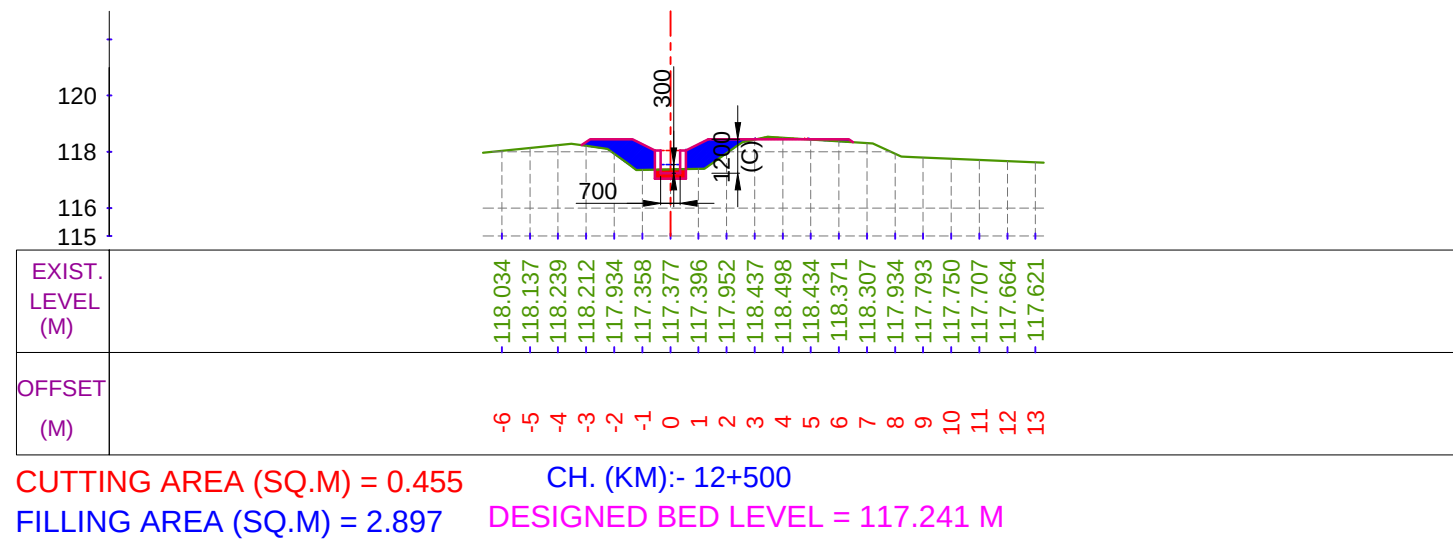
X SEC OF KULHARIA SUB DY. (OFFTAKE FROM RD - 43+667 KM. (L), NORTH KOEL RIGHT MAIN CANAL)

Drawing No. :-

WAP/ INFRA/ NORTHKOEL/ BC/ R-09/ XSEC-

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X SECTION OF KULHARIA SUB DY.



LEGEND

	CUT AREA		EXISTING BED LINE
			F.S.L.
	FILL AREA		DESIGNED BED LINE
			H.G. LINE

Prepared by :-

WAPCOS LTD.



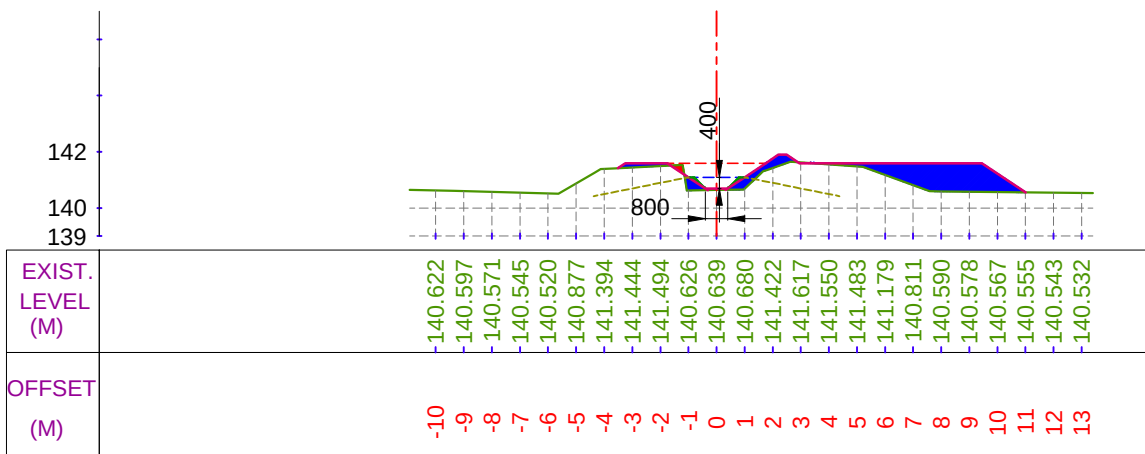
Project Title :- NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND

Drawing Title :- X SEC OF KULHARIA SUB DY. (OFFTAKE FROM RD - 43+667 KM. (L), NORTH KOEL RIGHT MAIN CANAL)

Drawing No. :- WAP/ INFRA/ NORTHKOEL/ BC/ R-09/ XSEC-

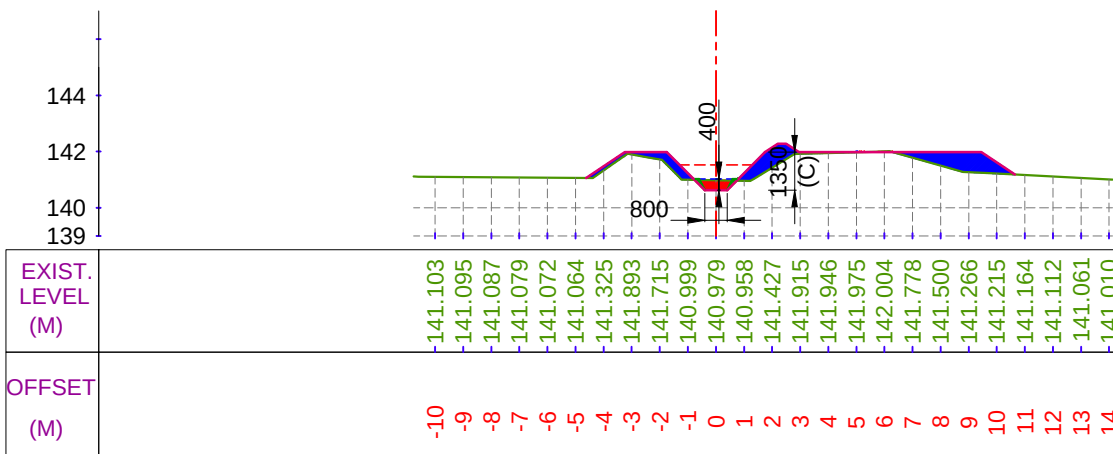
***CROSS-SECTION
OF BARKI PARHI MINOR***

X SECTION OF BARKI PARHI MINOR



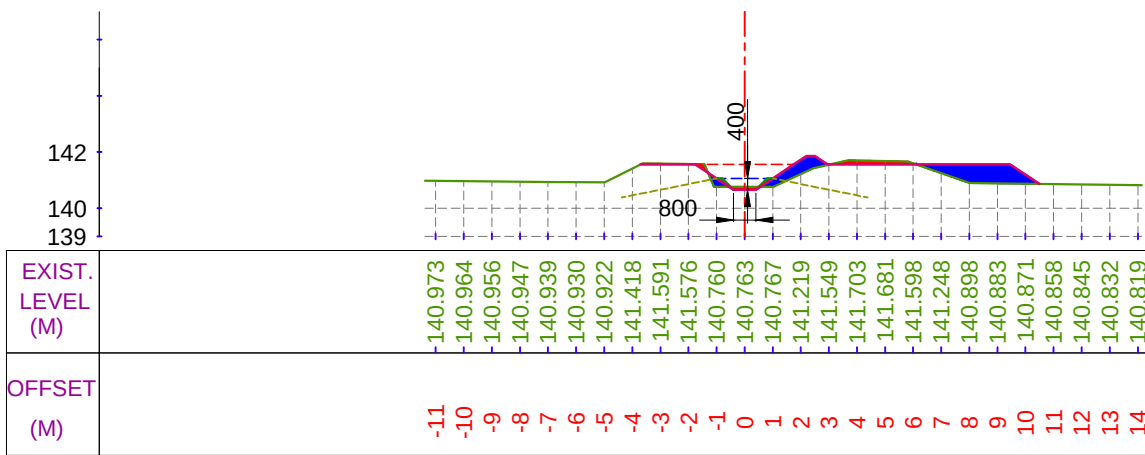
EXIST. LEVEL (M)	140.622	140.597	140.571	140.545	140.520	140.877	141.394	141.444	141.494	140.626	140.639	140.680	141.422	141.617	141.550	141.483	141.179	140.811	140.590	140.578	140.567	140.555	140.543	140.532
OFFSET (M)	-10	-9	-8	-7	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6	7	8	9	10	11	12	13

CUTTING AREA (SQ.M) = 0.079 CH. (KM):- 0+100
FILLING AREA (SQ.M) = 5.245 DESIGNED BED LEVEL = 140.694 M



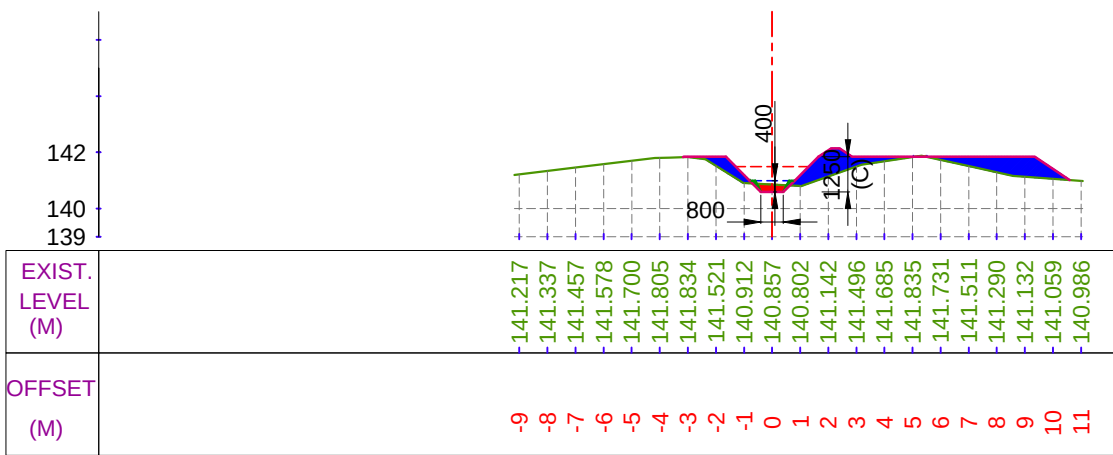
EXIST. LEVEL (M)	141.103	141.095	141.087	141.079	141.072	141.064	141.325	141.893	141.715	140.999	140.979	140.958	141.427	141.915	141.946	141.975	142.004	141.778	141.500	141.266	141.215	141.164	141.112	141.061	141.010
OFFSET (M)	-10	-9	-8	-7	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14

CUTTING AREA (SQ.M) = 0.362 CH. (KM):- 0+300
FILLING AREA (SQ.M) = 3.727 DESIGNED BED LEVEL = 140.627 M



EXIST. LEVEL (M)	140.973	140.964	140.956	140.947	140.939	140.930	140.922	141.418	141.591	141.576	140.760	140.763	140.767	141.219	141.549	141.703	141.681	141.598	141.248	140.898	140.883	140.871	140.858	140.845	140.832	140.819
OFFSET (M)	-11	-10	-9	-8	-7	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14

CUTTING AREA (SQ.M) = 0.526 CH. (KM):- 0+200
FILLING AREA (SQ.M) = 2.918 DESIGNED BED LEVEL = 140.660 M



EXIST. LEVEL (M)	141.217	141.337	141.457	141.578	141.700	141.805	141.834	141.521	140.912	140.857	140.802	141.142	141.496	141.685	141.835	141.731	141.511	141.290	141.132	141.059	140.986
OFFSET (M)	-9	-8	-7	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6	7	8	9	10	11

CUTTING AREA (SQ.M) = 0.254 CH. (KM):- 0+400
FILLING AREA (SQ.M) = 4.445 DESIGNED BED LEVEL = 140.594 M

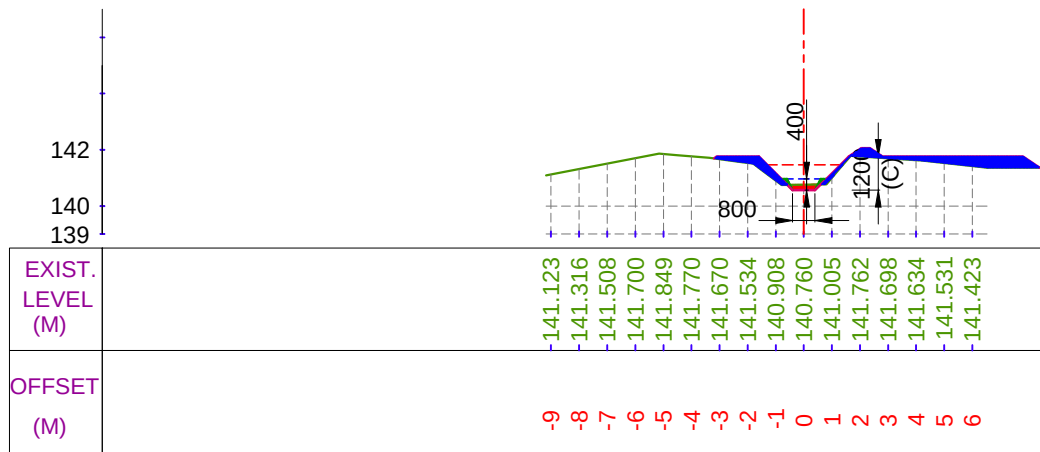
LEGEND

	CUT AREA		EXISTING BED LINE
			F.S.L.
	FILL AREA		DESIGNED BED LINE
			H.G. LINE

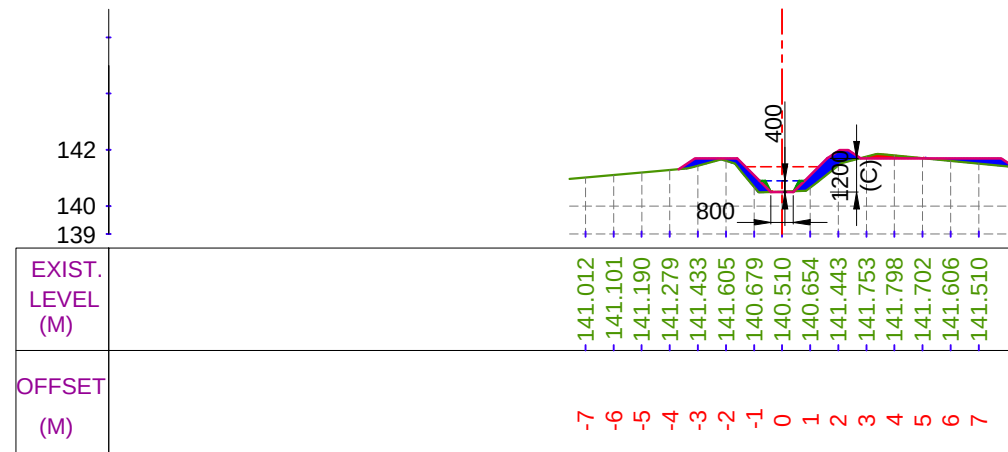
Prepared by :-
WAPCOS LTD.

Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
Drawing Title :-	X SEC OF BARKI PARHI MR. (OFFTAKE FROM RD - 0+295 KM. (R), KULHARIA SUB DY. CANAL)
Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-09-01/ XSEC- 1 of 7

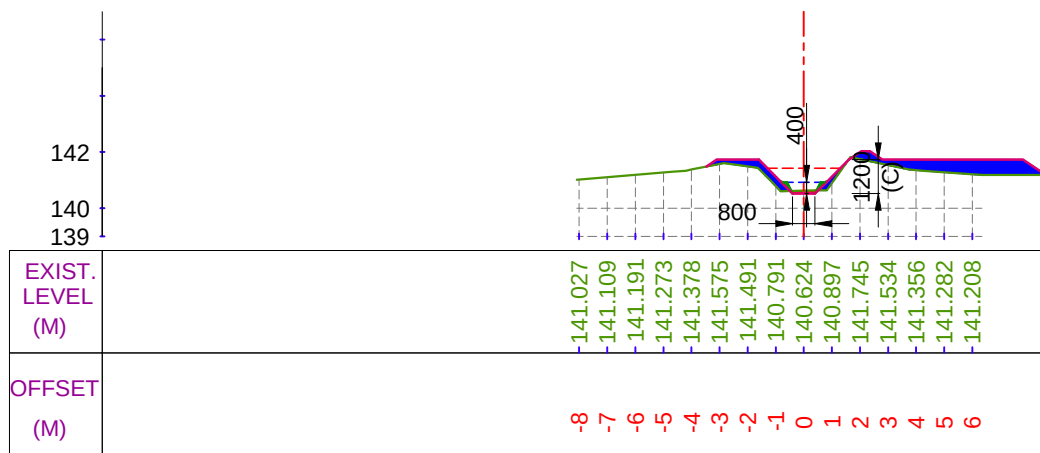
X SECTION OF BARKI PARHI MINOR



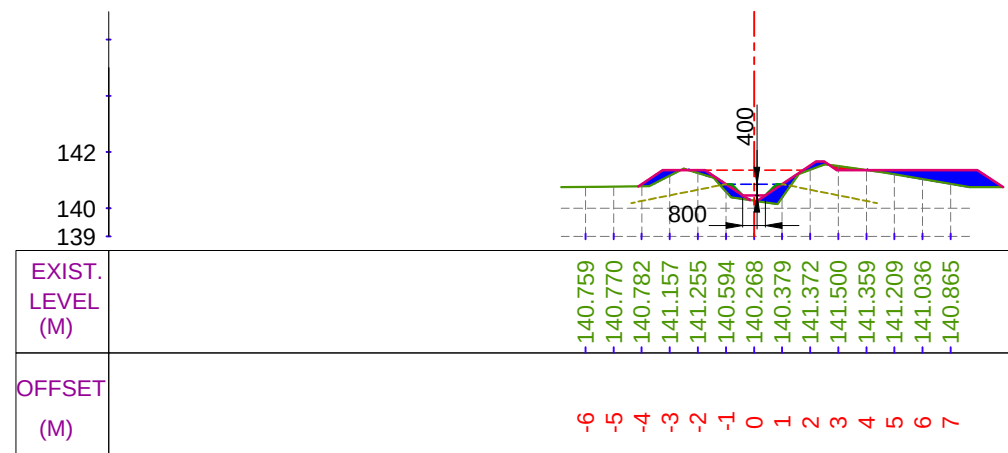
CUTTING AREA (SQ.M) = 0.180 CH. (KM):- 0+500
FILLING AREA (SQ.M) = 2.276 DESIGNED BED LEVEL = 140.560 M



CUTTING AREA (SQ.M) = 0.200 CH. (KM):- 0+700
FILLING AREA (SQ.M) = 2.026 DESIGNED BED LEVEL = 140.494 M



CUTTING AREA (SQ.M) = 0.086 CH. (KM):- 0+600
FILLING AREA (SQ.M) = 3.477 DESIGNED BED LEVEL = 140.527 M



CUTTING AREA (SQ.M) = 0.104 CH. (KM):- 0+800
FILLING AREA (SQ.M) = 2.776 DESIGNED BED LEVEL = 140.460 M

LEGEND

	CUT AREA		EXISTING BED LINE
	FILL AREA		F.S.L.
			DESIGNED BED LINE
			H.G. LINE

Prepared by :-

WAPCOS LTD.



Project Title :-

NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND

Drawing Title :-

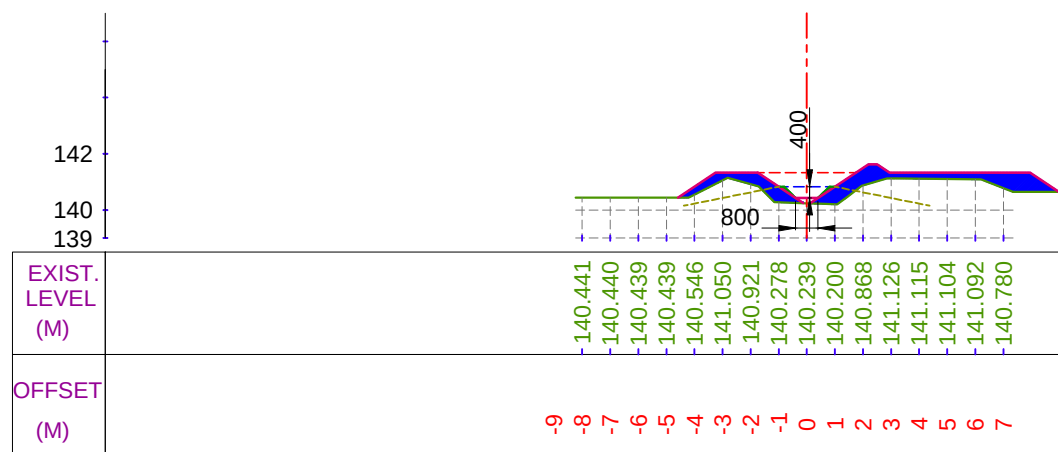
X SEC OF BARKI PARHI MR. (OFFTAKE FROM RD - 0+295 KM. (R), KULHARIA SUB DY. CANAL)

Drawing No. :-

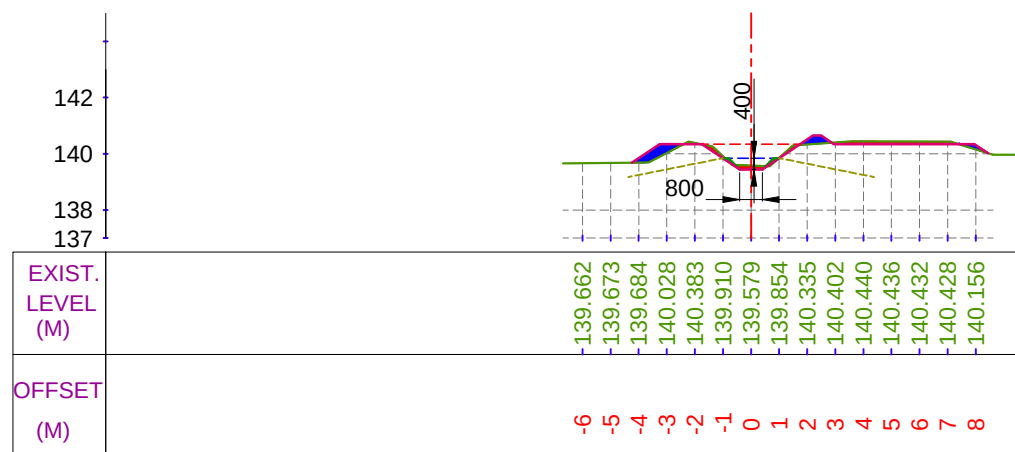
WAP/ INFRA/ NORTHKOEL/ BC/ R-09-01/ XSEC-

2 of 7

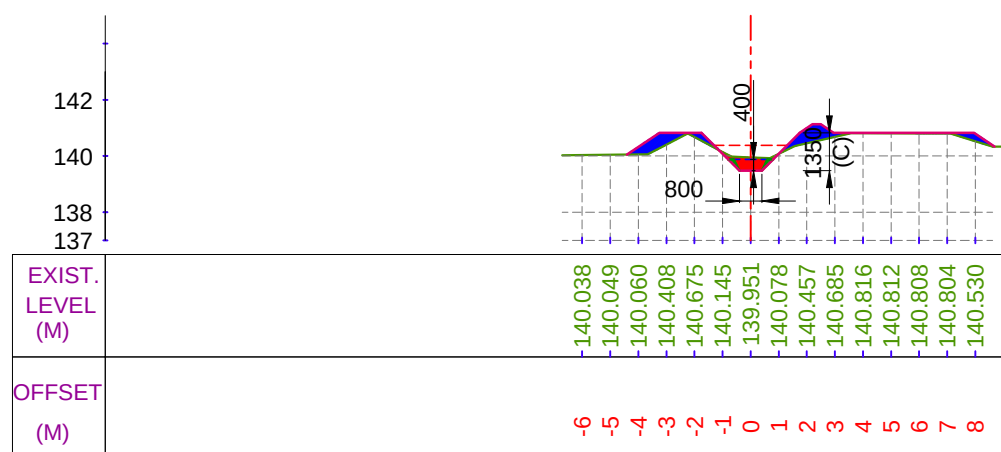
X SECTION OF BARKI PARHI MINOR



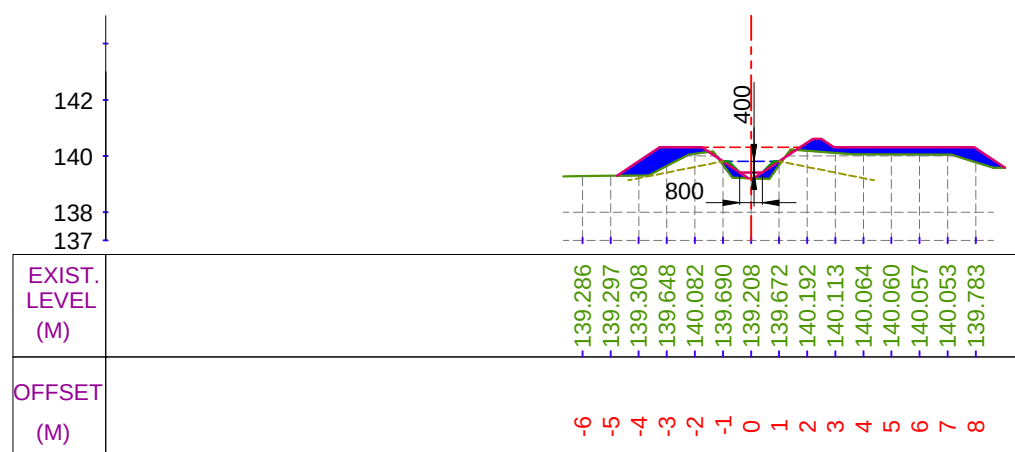
CUTTING AREA (SQ.M) = 0.000 CH. (KM):- 0+900
 FILLING AREA (SQ.M) = 4.920 DESIGNED BED LEVEL = 140.427 M



CUTTING AREA (SQ.M) = 0.643 CH. (KM):- 1+100
 FILLING AREA (SQ.M) = 0.797 DESIGNED BED LEVEL = 139.446 M



CUTTING AREA (SQ.M) = 0.558 CH. (KM):- 1+000
 FILLING AREA (SQ.M) = 1.947 DESIGNED BED LEVEL = 139.480 M



CUTTING AREA (SQ.M) = 0.054 CH. (KM):- 1+200
 FILLING AREA (SQ.M) = 3.896 DESIGNED BED LEVEL = 139.413 M

LEGEND

	CUT AREA		EXISTING BED LINE
	FILL AREA		F.S.L.
			DESIGNED BED LINE
			H.G. LINE

Prepared by :-

WAPCOS LTD.



Project Title :-

NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND

Drawing Title :-

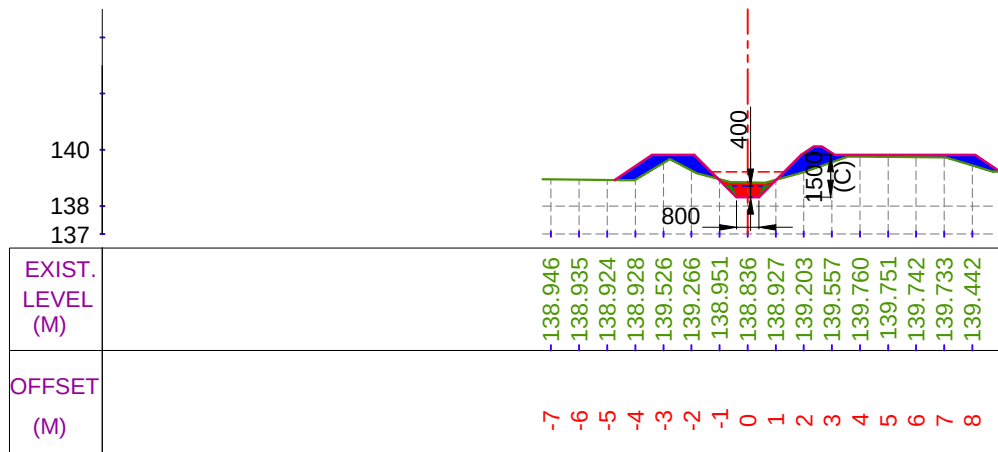
X SEC OF BARKI PARHI MR. (OFFTAKE FROM RD - 0+295 KM. (R), KULHARIA SUB DY. CANAL)

Drawing No. :-

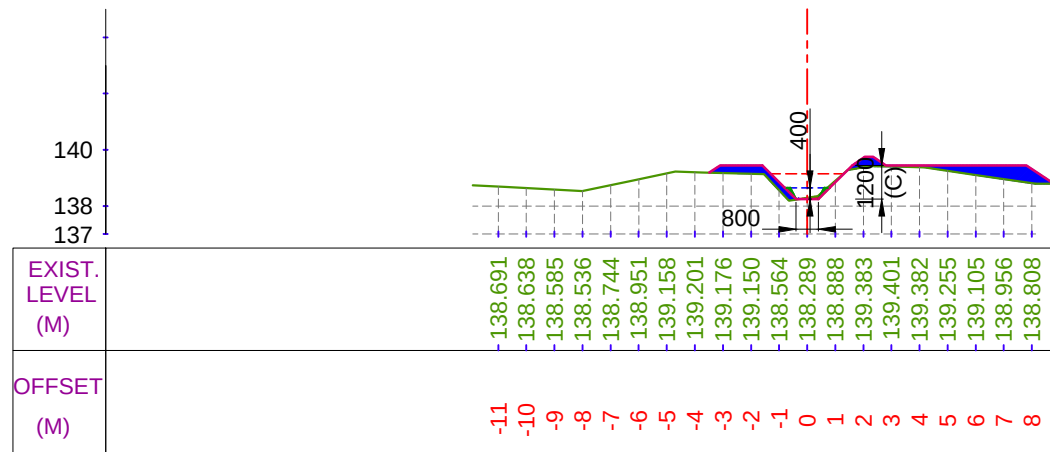
WAP/ INFRA/ NORTHKOEL/ BC/ R-09-01/ XSEC-

3 of 7

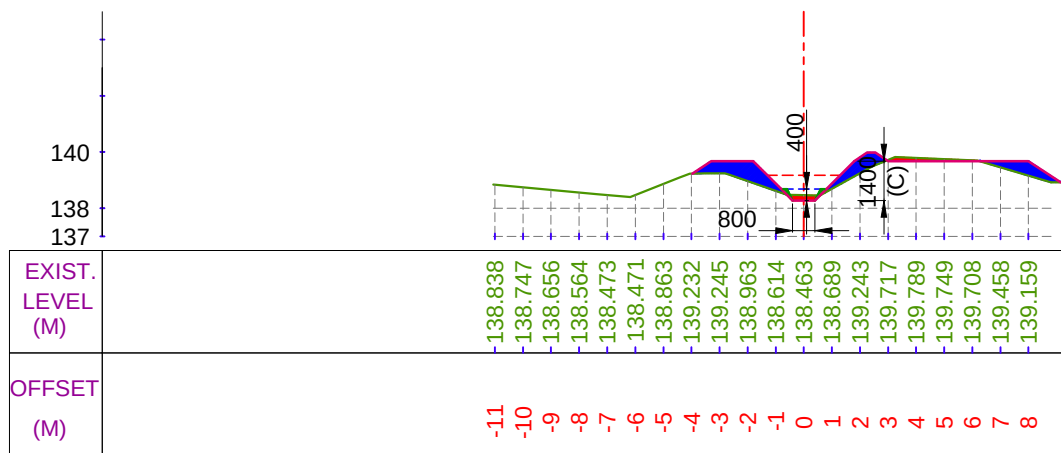
X SECTION OF BARKI PARHI MINOR



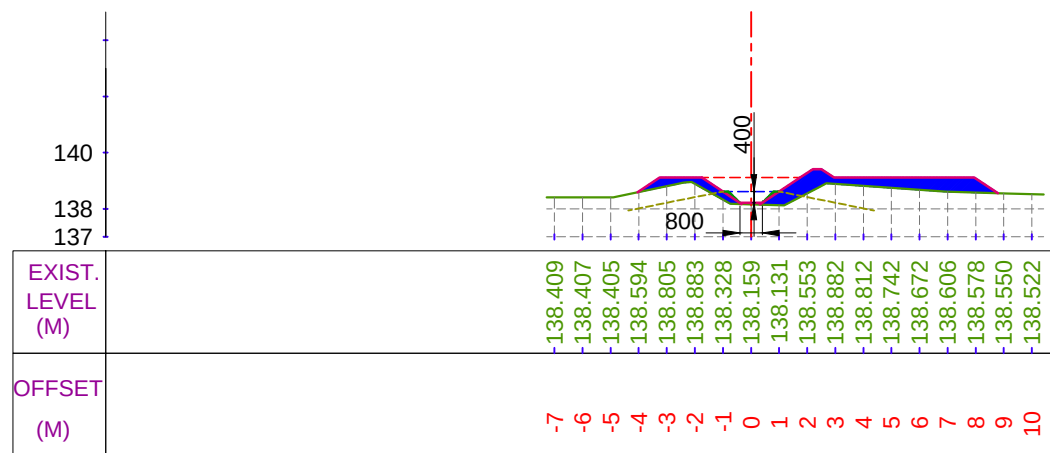
CUTTING AREA (SQ.M) = 0.646 CH. (KM):- 1+300
FILLING AREA (SQ.M) = 3.059 DESIGNED BED LEVEL = 138.313 M



CUTTING AREA (SQ.M) = 0.064 CH. (KM):- 1+500
FILLING AREA (SQ.M) = 2.711 DESIGNED BED LEVEL = 138.246 M



CUTTING AREA (SQ.M) = 0.427 CH. (KM):- 1+400
FILLING AREA (SQ.M) = 3.078 DESIGNED BED LEVEL = 138.279 M



CUTTING AREA (SQ.M) = 0.000 CH. (KM):- 1+600
FILLING AREA (SQ.M) = 4.436 DESIGNED BED LEVEL = 138.213 M

LEGEND

	CUT AREA		EXISTING BED LINE
			F.S.L.
	FILL AREA		DESIGNED BED LINE
			H.G. LINE

Prepared by :-

WAPCOS LTD.



Project Title :-

NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND

Drawing Title :-

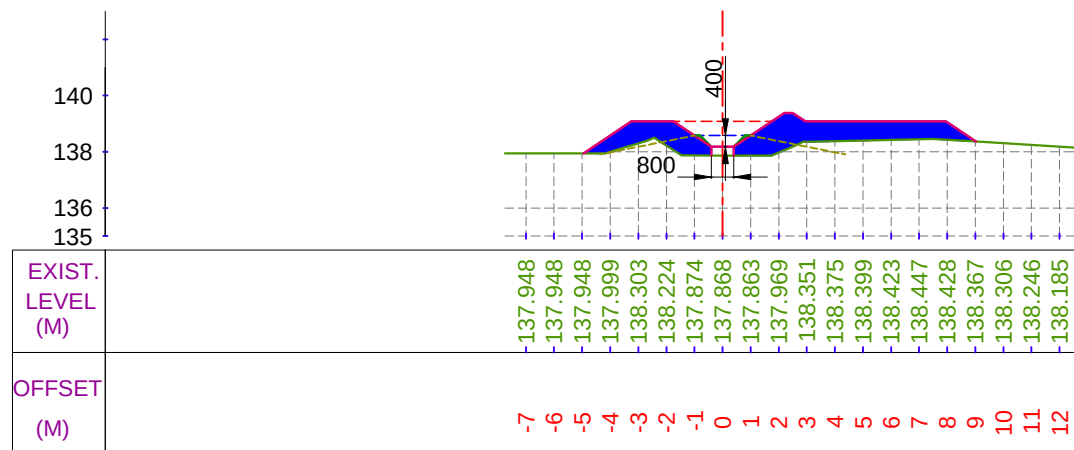
X SEC OF BARKI PARHI MR. (OFFTAKE FROM RD - 0+295 KM. (R), KULHARIA SUB DY. CANAL)

Drawing No. :-

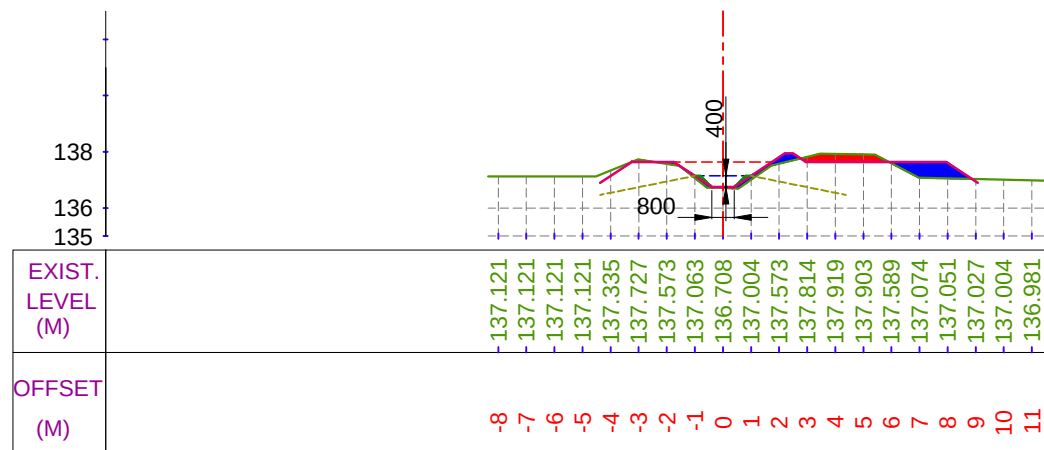
WAP/ INFRA/ NORTHKOEL/ BC/ R-09-01/ XSEC-

4 of 7

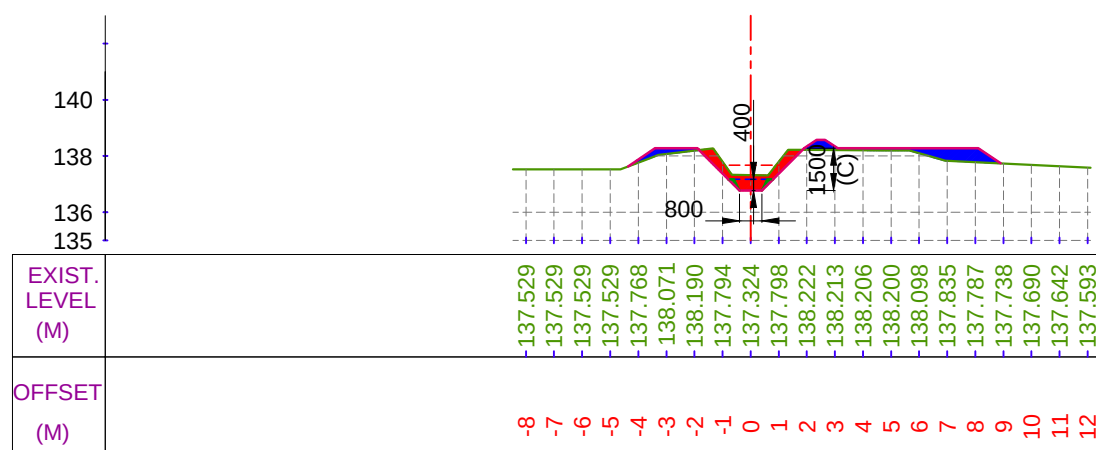
X SECTION OF BARKI PARHI MINOR



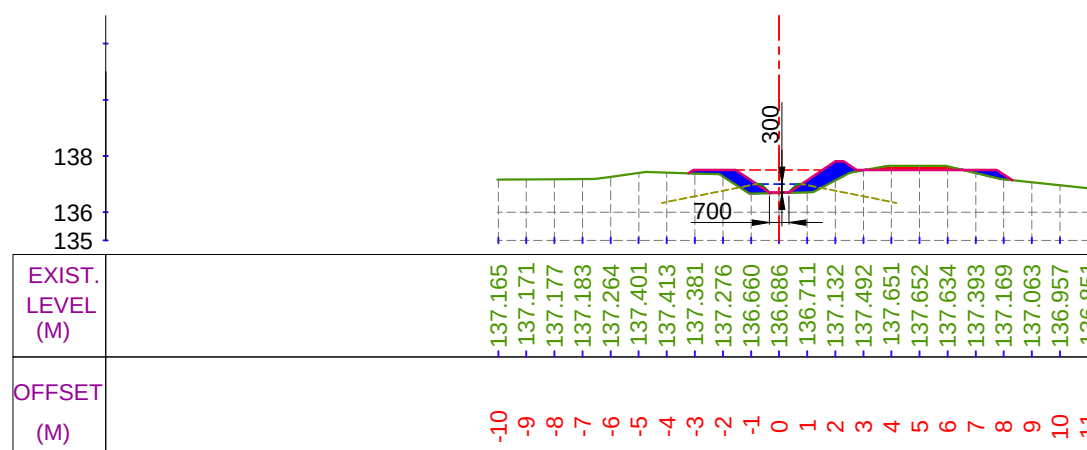
CUTTING AREA (SQ.M) = 0.000 CH. (KM):- 1+700
 FILLING AREA (SQ.M) = 9.071 DESIGNED BED LEVEL = 138.179 M



CUTTING AREA (SQ.M) = 0.756 CH. (KM):- 1+900
 FILLING AREA (SQ.M) = 1.661 DESIGNED BED LEVEL = 136.741 M



CUTTING AREA (SQ.M) = 1.422 CH. (KM):- 1+800
 FILLING AREA (SQ.M) = 1.924 DESIGNED BED LEVEL = 136.774 M



CUTTING AREA (SQ.M) = 0.397 CH. (KM):- 2+000
 FILLING AREA (SQ.M) = 2.098 DESIGNED BED LEVEL = 136.707 M

LEGEND

	CUT AREA		EXISTING BED LINE
			F.S.L.
	FILL AREA		DESIGNED BED LINE
			H.G. LINE

Prepared by :-

WAPCOS LTD.



Project Title :-

NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND

Drawing Title :-

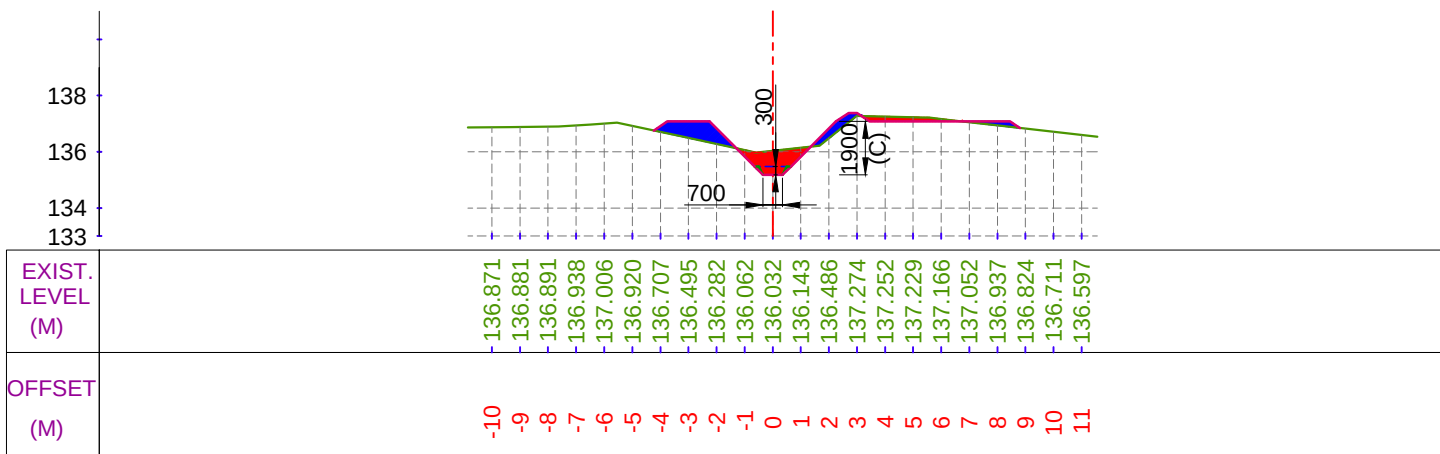
X SEC OF BARKI PARHI MR. (OFFTAKE FROM RD - 0+295 KM. (R), KULHARIA SUB DY. CANAL)

Drawing No. :-

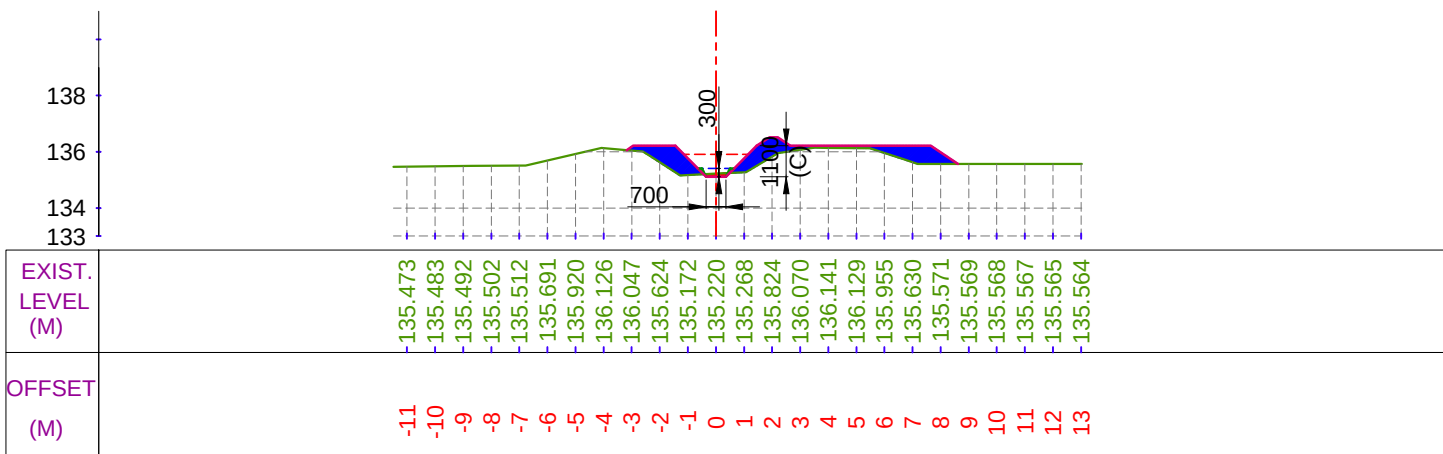
WAP/ INFRA/ NORTHKOEL/ BC/ R-09-01/ XSEC-

5 of 7

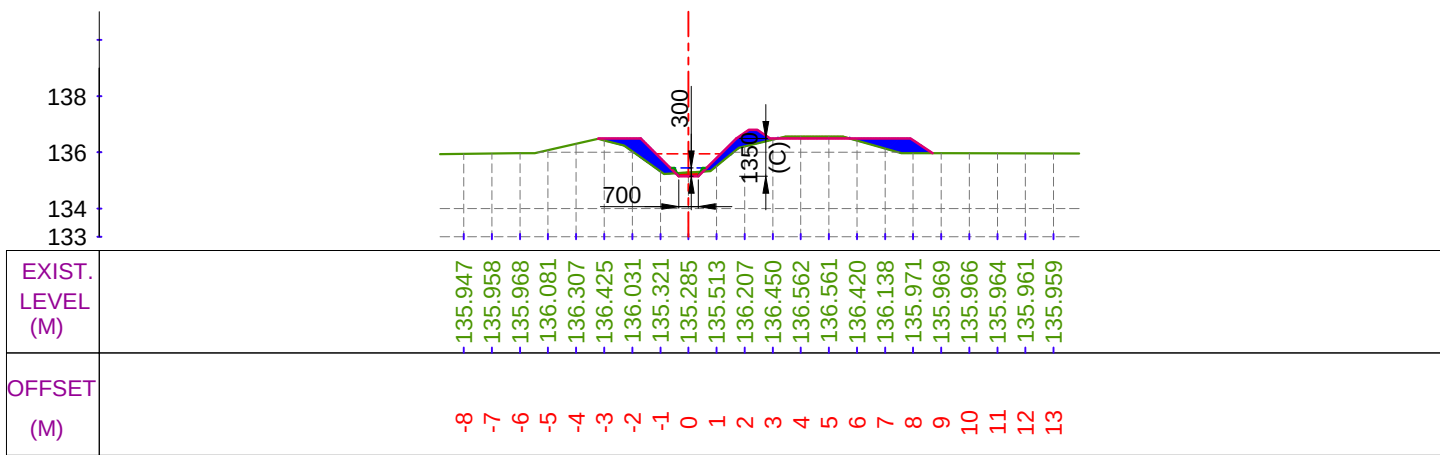
X SECTION OF BARKI PARHI MINOR



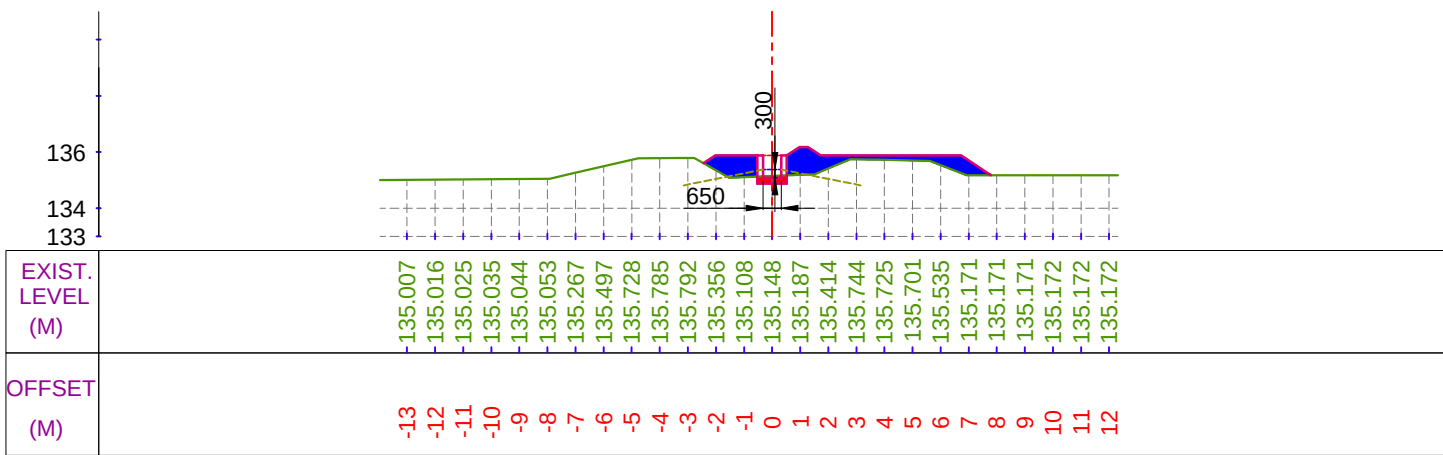
CUTTING AREA (SQ.M) = 1.803 CH. (KM):- 2+100
FILLING AREA (SQ.M) = 2.011 DESIGNED BED LEVEL = 135.180 M



CUTTING AREA (SQ.M) = 0.081 CH. (KM):- 2+300
FILLING AREA (SQ.M) = 3.875 DESIGNED BED LEVEL = 135.113 M



CUTTING AREA (SQ.M) = 0.254 CH. (KM):- 2+200
FILLING AREA (SQ.M) = 2.650 DESIGNED BED LEVEL = 135.147 M



CUTTING AREA (SQ.M) = 0.281 CH. (KM):- 2+400
FILLING AREA (SQ.M) = 3.906 DESIGNED BED LEVEL = 135.080 M

LEGEND

	CUT AREA		EXISTING BED LINE
	FILL AREA		F.S.L.
			DESIGNED BED LINE
			H.G. LINE

Prepared by :-

WAPCOS LTD.



Project Title :-

NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND

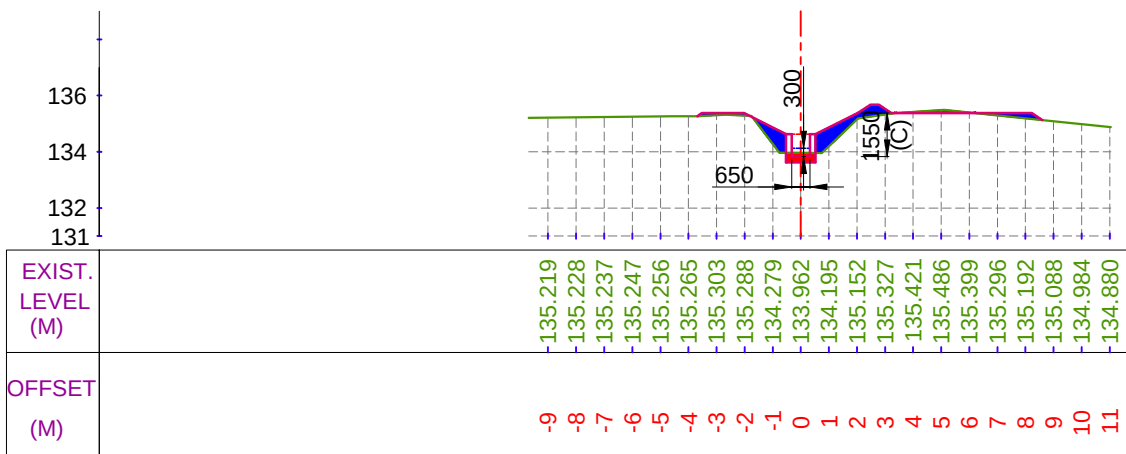
Drawing Title :-

X SEC OF BARKI PARHI MR. (OFFTAKE FROM RD - 0+295 KM. (R), KULHARIA SUB DY. CANAL)

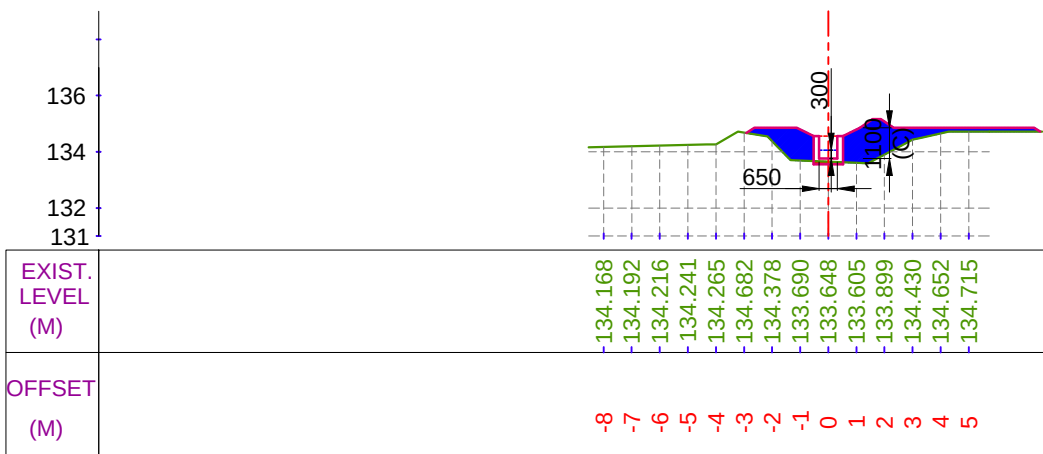
Drawing No. :-

WAP/ INFRA/ NORTHKOEL/ BC/ R-09-01/ XSEC-

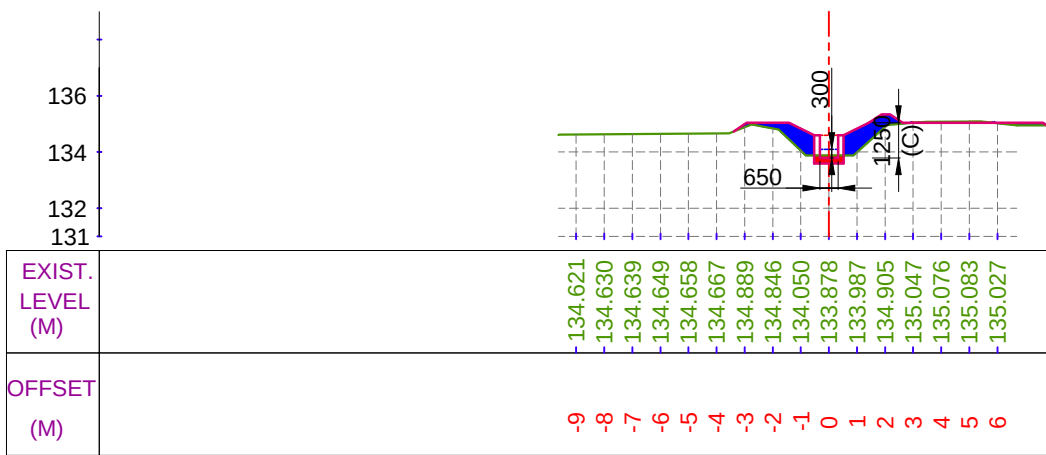
X SECTION OF BARKI PARHI MINOR



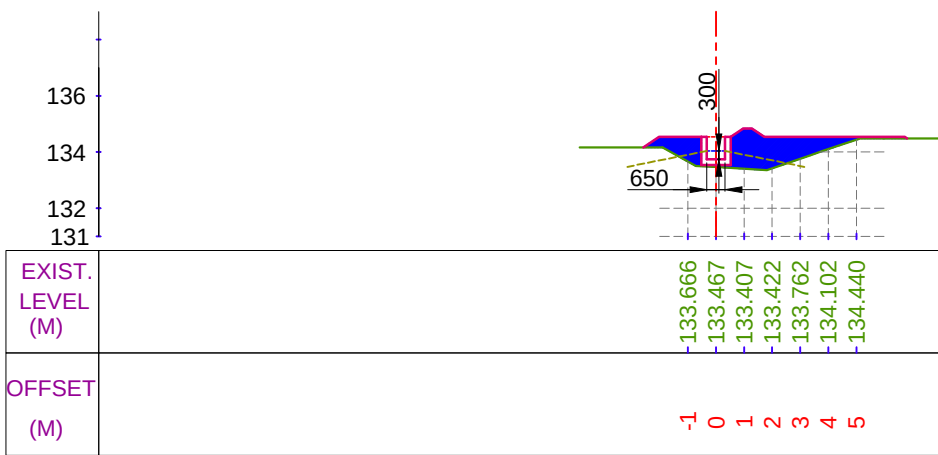
CUTTING AREA (SQ.M) = 0.520 CH. (KM):- 2+500
FILLING AREA (SQ.M) = 2.065 DESIGNED BED LEVEL = 133.827 M



CUTTING AREA (SQ.M) = 0.092 CH. (KM):- 2+700
FILLING AREA (SQ.M) = 5.060 DESIGNED BED LEVEL = 133.760 M



CUTTING AREA (SQ.M) = 0.388 CH. (KM):- 2+600
FILLING AREA (SQ.M) = 2.339 DESIGNED BED LEVEL = 133.793 M



CUTTING AREA (SQ.M) = 0.000 CH. (KM):- 2+760
FILLING AREA (SQ.M) = 5.085 DESIGNED BED LEVEL = 133.740 M

LEGEND

	CUT AREA		EXISTING BED LINE
			F.S.L.
	FILL AREA		DESIGNED BED LINE
			H.G. LINE

Prepared by :-

WAPCOS LTD.



Project Title :-

NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND

Drawing Title :-

X SEC OF BARKI PARHI MR. (OFFTAKE FROM RD - 0+295 KM. (R), KULHARIA SUB DY. CANAL)

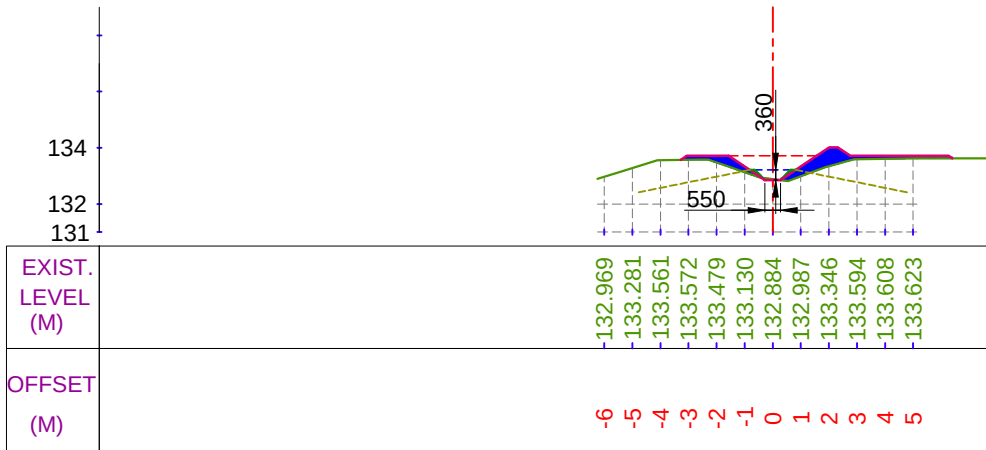
Drawing No. :-

WAP/ INFRA/ NORTHKOEL/ BC/ R-09-01/ XSEC-

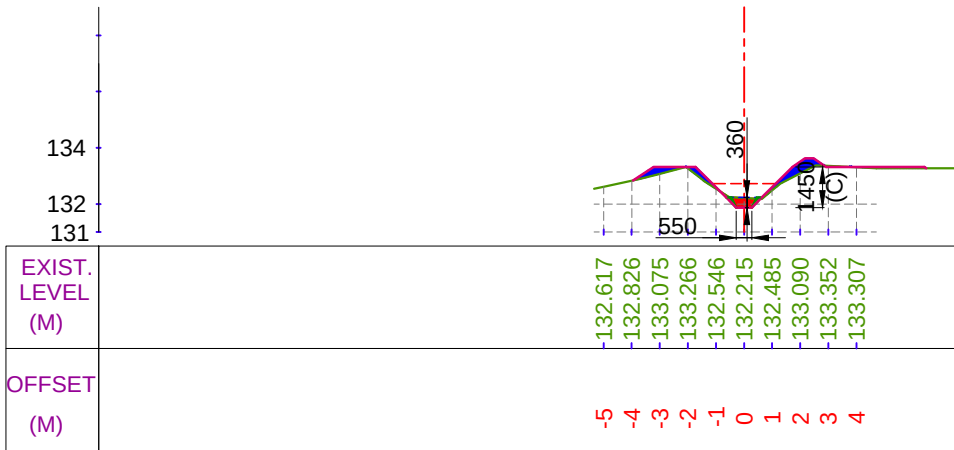
7 of 7

CROSS-SECTION OF SATTAR MINOR

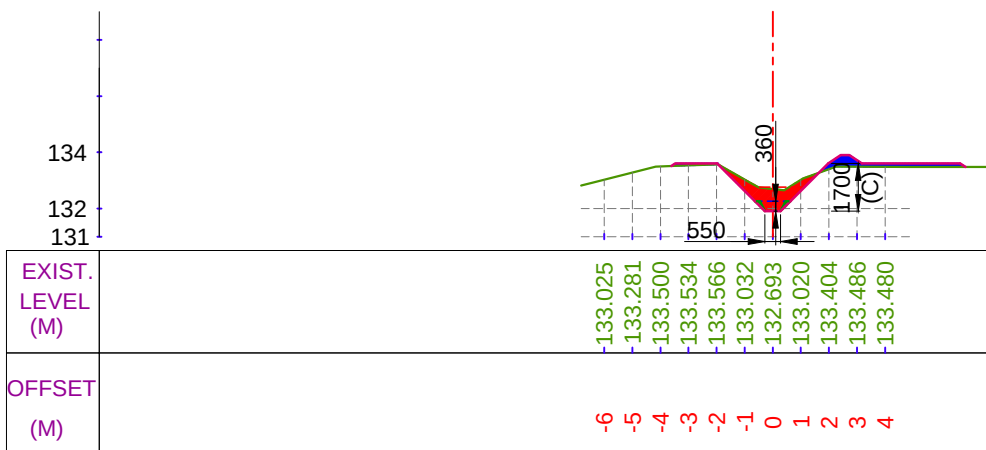
X SECTION OF SATTAR MINOR



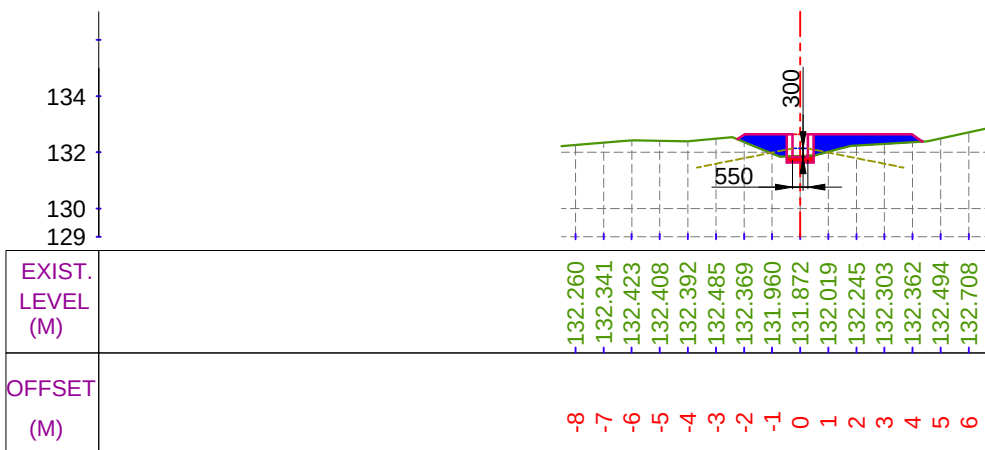
CUTTING AREA (SQ.M) = 0.021 CH. (KM):- 0+100
FILLING AREA (SQ.M) = 1.891 DESIGNED BED LEVEL = 132.850 M



CUTTING AREA (SQ.M) = 0.282 CH. (KM):- 0+300
FILLING AREA (SQ.M) = 1.078 DESIGNED BED LEVEL = 131.869 M



CUTTING AREA (SQ.M) = 1.500 CH. (KM):- 0+200
FILLING AREA (SQ.M) = 0.954 DESIGNED BED LEVEL = 131.902 M



CUTTING AREA (SQ.M) = 0.224 CH. (KM):- 0+400
FILLING AREA (SQ.M) = 2.458 DESIGNED BED LEVEL = 131.836 M

LEGEND

	CUT AREA		EXISTING BED LINE
	FILL AREA		F.S.L.
			DESIGNED BED LINE
			H.G. LINE

Prepared by :-

WAPCOS LTD.

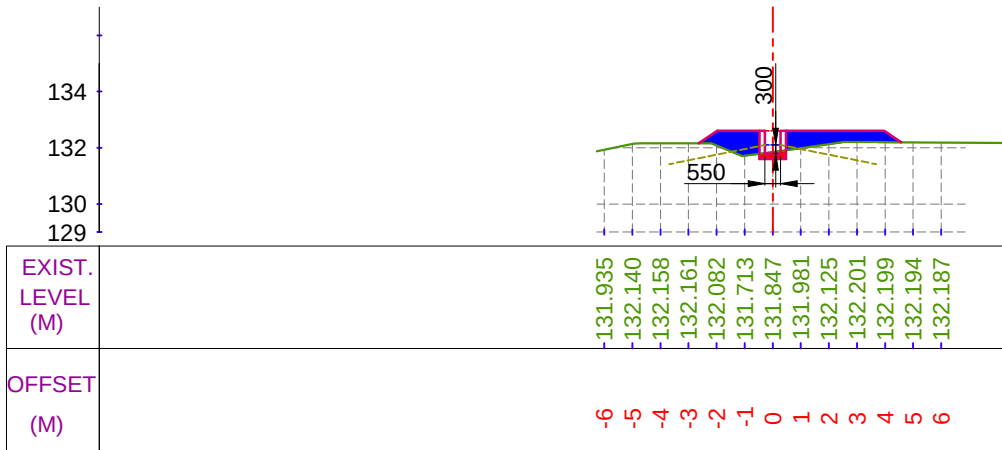


Project Title :- NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND

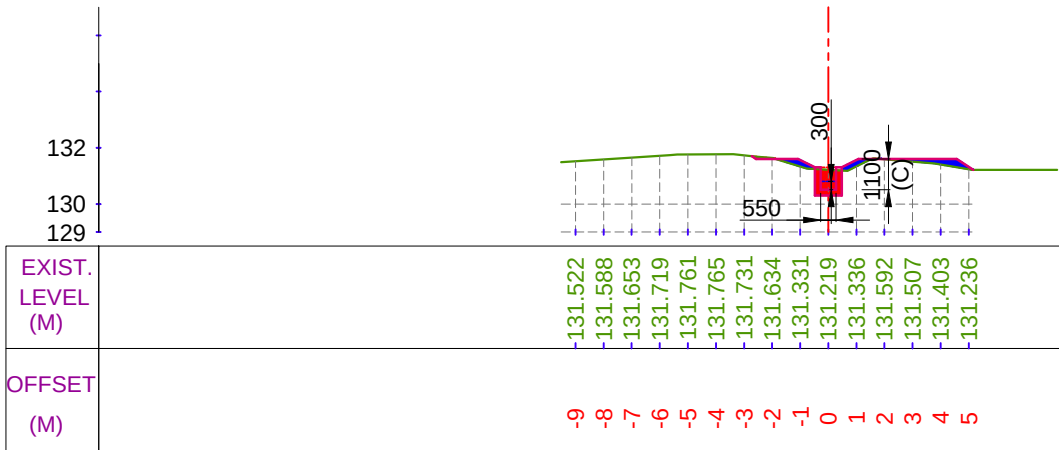
Drawing Title :- X SEC OF SATTAR MINOR (OFFTAKE FROM RD - 3+480 KM. (R), KULHARIA SUB DY. CANAL)

Drawing No. :- WAP/ INFRA/ NORTHKOEL/ BC/ R-09-02/ XSEC- 1 of 3

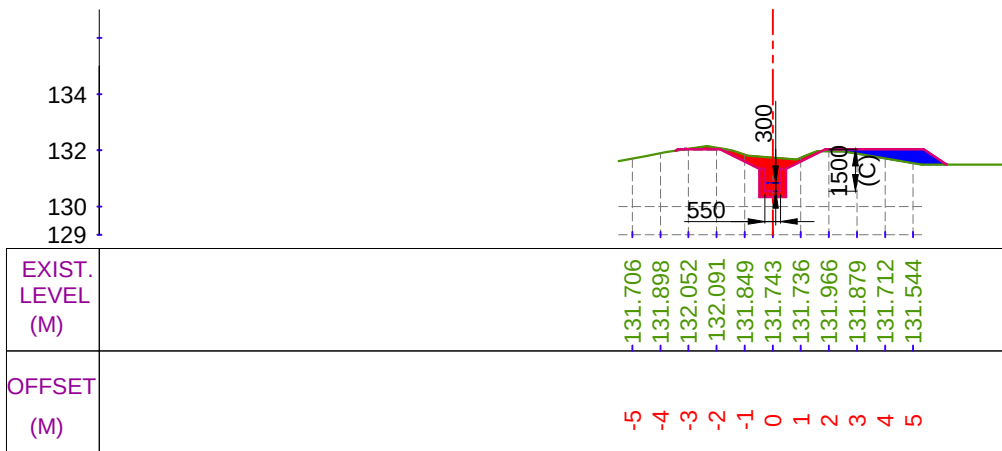
X SECTION OF SATTAR MINOR



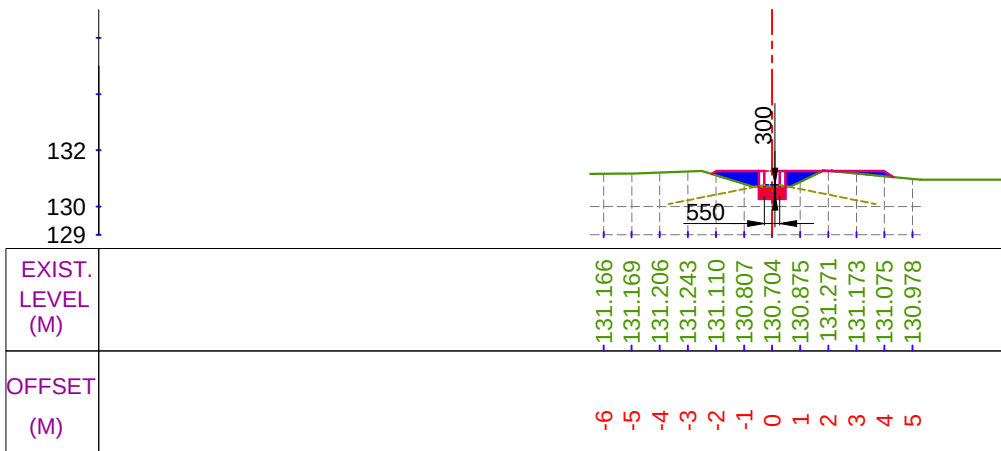
CUTTING AREA (SQ.M) = 0.236 CH. (KM):- 0+500
FILLING AREA (SQ.M) = 3.124 DESIGNED BED LEVEL = 131.799 M



CUTTING AREA (SQ.M) = 0.912 CH. (KM):- 0+700
FILLING AREA (SQ.M) = 0.819 DESIGNED BED LEVEL = 130.505 M

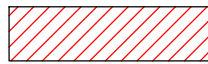


CUTTING AREA (SQ.M) = 1.891 CH. (KM):- 0+600
FILLING AREA (SQ.M) = 1.207 DESIGNED BED LEVEL = 130.542 M

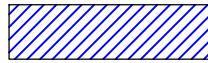


CUTTING AREA (SQ.M) = 0.416 CH. (KM):- 0+800
FILLING AREA (SQ.M) = 1.242 DESIGNED BED LEVEL = 130.468 M

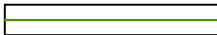
LEGEND



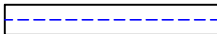
CUT AREA



FILL AREA



EXISTING BED LINE



F.S.L.



DESIGNED BED LINE



H.G. LINE

Prepared by :-

WAPCOS LTD.



Project Title :-

NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND

Drawing Title :-

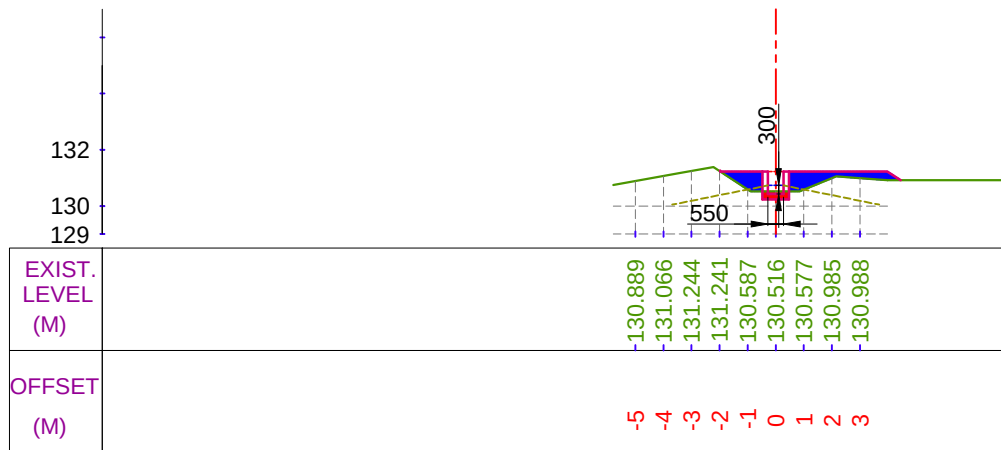
X SEC OF SATTAR MINOR (OFFTAKE FROM RD - 3+480 KM. (R), KULHARIA SUB DY. CANAL)

Drawing No. :-

WAP/ INFRA/ NORTHKOEL/ BC/ R-09-02/ XSEC-

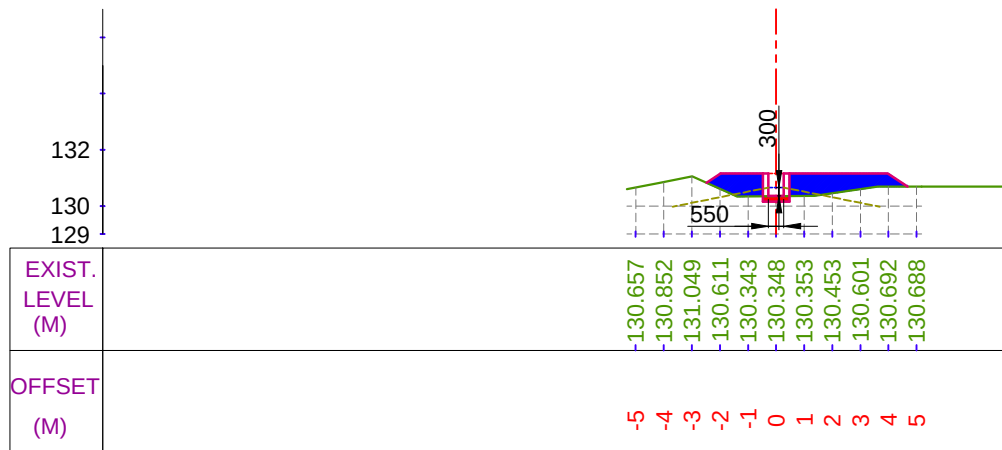
2 of 3

X SECTION OF SATTAR MINOR



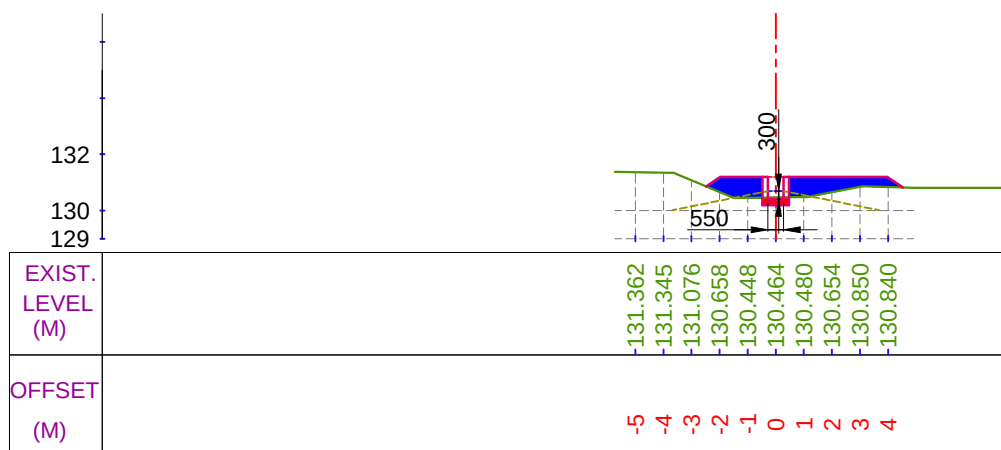
EXIST. LEVEL (M)	130.889	131.066	131.244	131.241	130.587	130.516	130.577	130.985	130.988
OFFSET (M)	-5	-4	-3	-2	-1	0	1	2	3

CUTTING AREA (SQ.M) = 0.272 CH. (KM):- 0+900
FILLING AREA (SQ.M) = 2.065 DESIGNED BED LEVEL = 130.430 M



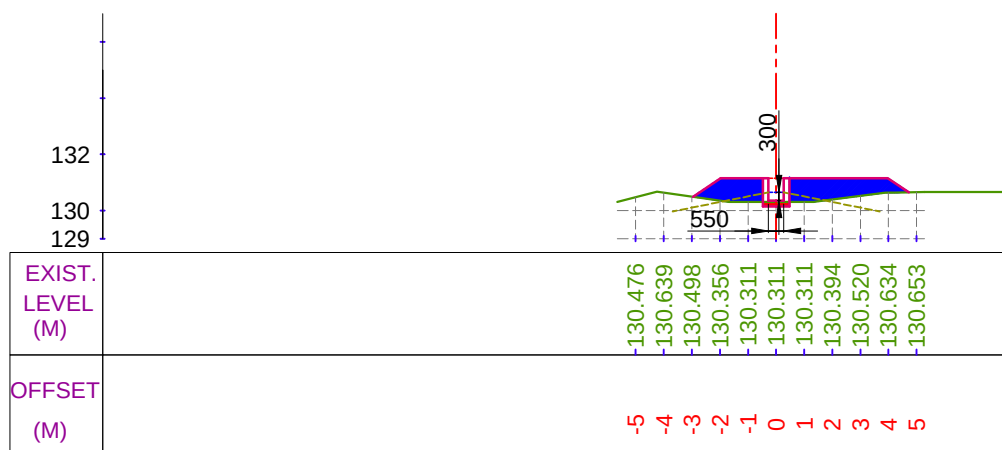
EXIST. LEVEL (M)	130.657	130.852	131.049	130.611	130.343	130.348	130.353	130.453	130.601	130.692	130.688
OFFSET (M)	-5	-4	-3	-2	-1	0	1	2	3	4	5

CUTTING AREA (SQ.M) = 0.182 CH. (KM):- 1+100
FILLING AREA (SQ.M) = 3.746 DESIGNED BED LEVEL = 130.356 M



EXIST. LEVEL (M)	131.362	131.345	131.076	130.658	130.448	130.464	130.480	130.654	130.850	130.840
OFFSET (M)	-5	-4	-3	-2	-1	0	1	2	3	4

CUTTING AREA (SQ.M) = 0.257 CH. (KM):- 1+000
FILLING AREA (SQ.M) = 3.088 DESIGNED BED LEVEL = 130.393 M



EXIST. LEVEL (M)	130.476	130.639	130.498	130.356	130.311	130.311	130.311	130.394	130.520	130.634	130.653
OFFSET (M)	-5	-4	-3	-2	-1	0	1	2	3	4	5

CUTTING AREA (SQ.M) = 0.155 CH. (KM):- 1+123
FILLING AREA (SQ.M) = 4.327 DESIGNED BED LEVEL = 130.348 M

LEGEND

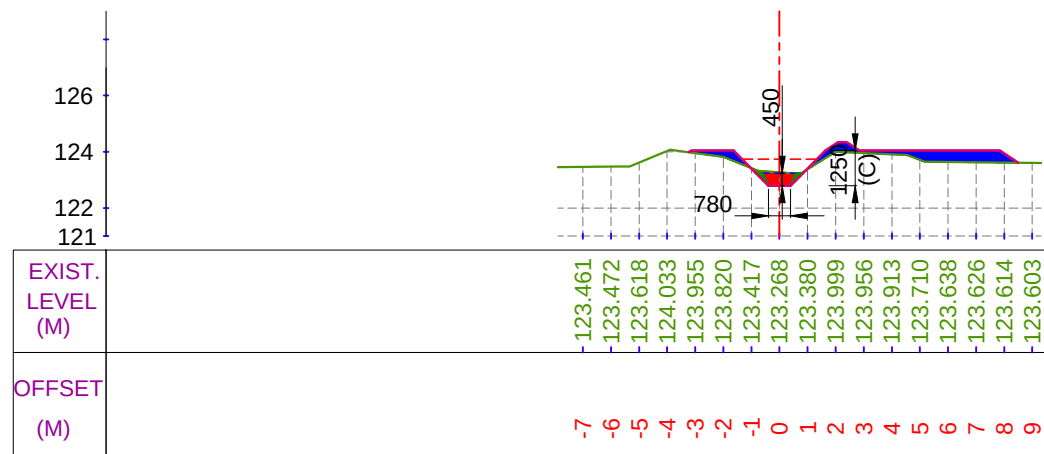
	CUT AREA		EXISTING BED LINE
	FILL AREA		F.S.L.
			DESIGNED BED LINE
			H.G. LINE

Prepared by :-
WAPCOS LTD.

Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
Drawing Title :-	X SEC OF SATTAR MINOR (OFFTAKE FROM RD - 3+480 KM. (R), KULHARIA SUB DY. CANAL)
Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-09-02/ XSEC- 3 of 3

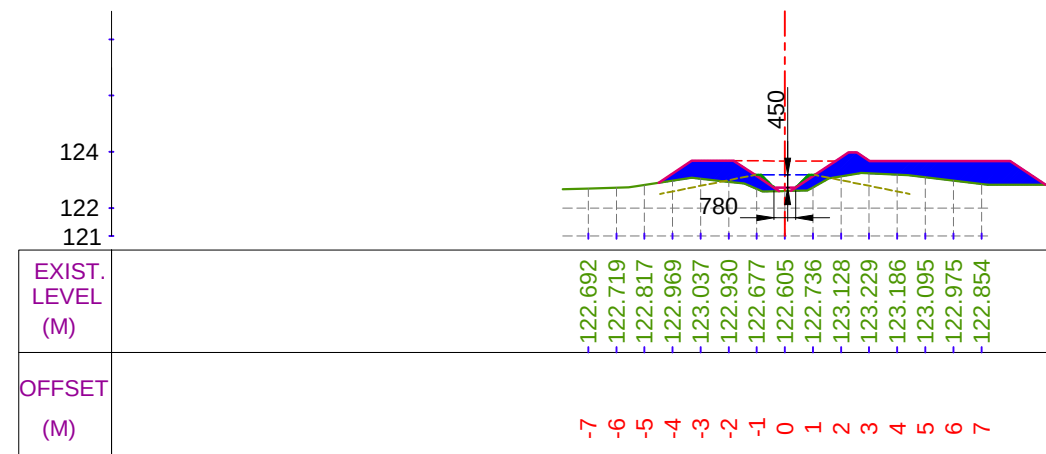
***CROSS-SECTION
OF MOHAR KARMA MINOR***

X SECTION OF MOHAR KARMA MINOR



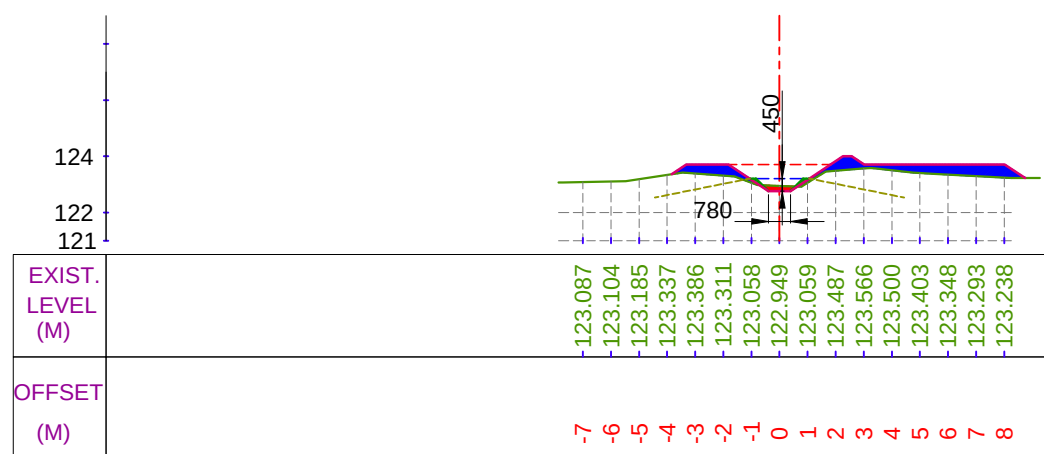
EXIST. LEVEL (M)	123.461	123.472	123.618	124.033	123.955	123.820	123.417	123.268	123.380	123.999	123.956	123.913	123.710	123.638	123.626	123.614	123.603
OFFSET (M)	-7	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6	7	8	9

CUTTING AREA (SQ.M) = 0.516 CH. (KM):- 0+100
FILLING AREA (SQ.M) = 2.416 DESIGNED BED LEVEL = 122.792 M



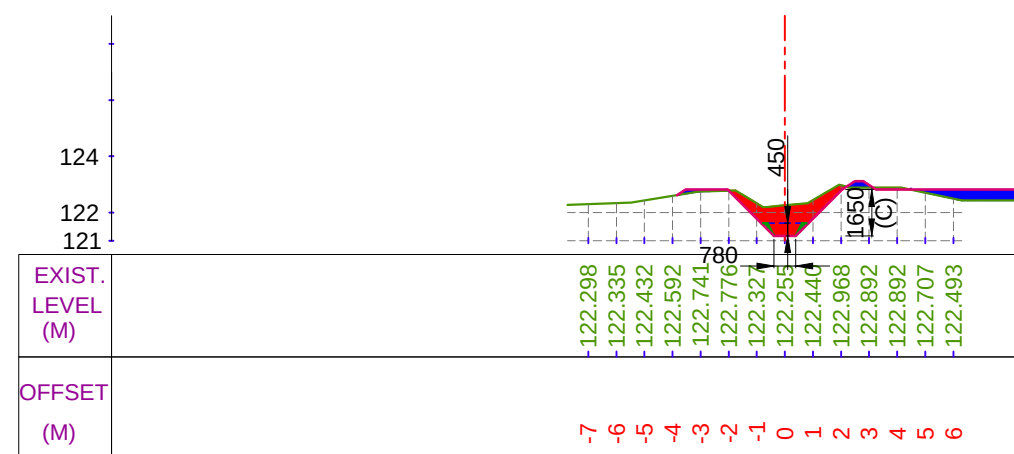
EXIST. LEVEL (M)	122.692	122.719	122.817	122.969	123.037	122.930	122.677	122.605	122.736	123.128	123.229	123.186	123.095	122.975	122.854
OFFSET (M)	-7	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6	7

CUTTING AREA (SQ.M) = 0.000 CH. (KM):- 0+300
FILLING AREA (SQ.M) = 7.208 DESIGNED BED LEVEL = 122.725 M



EXIST. LEVEL (M)	123.087	123.104	123.185	123.337	123.386	123.311	123.058	122.949	123.059	123.487	123.566	123.500	123.403	123.348	123.293	123.238
OFFSET (M)	-7	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6	7	8

CUTTING AREA (SQ.M) = 0.186 CH. (KM):- 0+200
FILLING AREA (SQ.M) = 3.161 DESIGNED BED LEVEL = 122.758 M



EXIST. LEVEL (M)	122.298	122.335	122.432	122.592	122.741	122.776	122.327	122.255	122.441	122.968	122.892	122.892	122.707	122.493
OFFSET (M)	-7	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6

CUTTING AREA (SQ.M) = 2.609 CH. (KM):- 0+400
FILLING AREA (SQ.M) = 1.508 DESIGNED BED LEVEL = 121.168 M

LEGEND

	CUT AREA		EXISTING BED LINE
	FILL AREA		F.S.L.
			DESIGNED BED LINE
			H.G. LINE

Prepared by :-

WAPCOS LTD.



Project Title :-

NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND

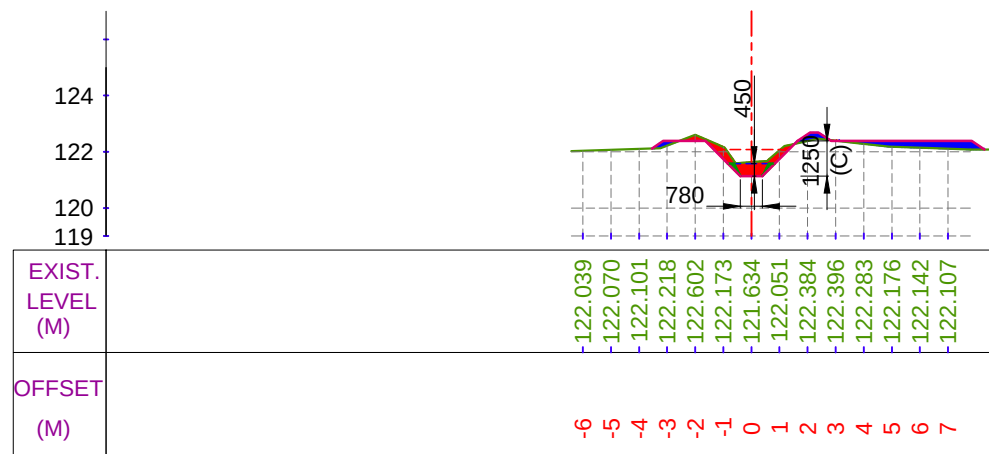
Drawing Title :-

X SEC OF MOHAR KARMA MR. (OFFTAKE FROM RD - 9+220 KM. (L), KULHARIA SUB DY. CANAL)

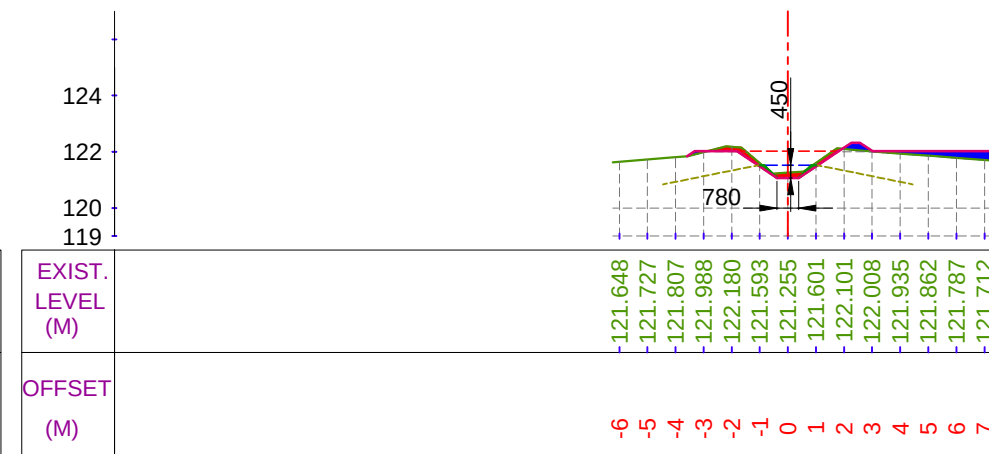
Drawing No. :-

WAP/ INFRA/ NORTHKOEL/ BC/ R-09-03/ XSEC-

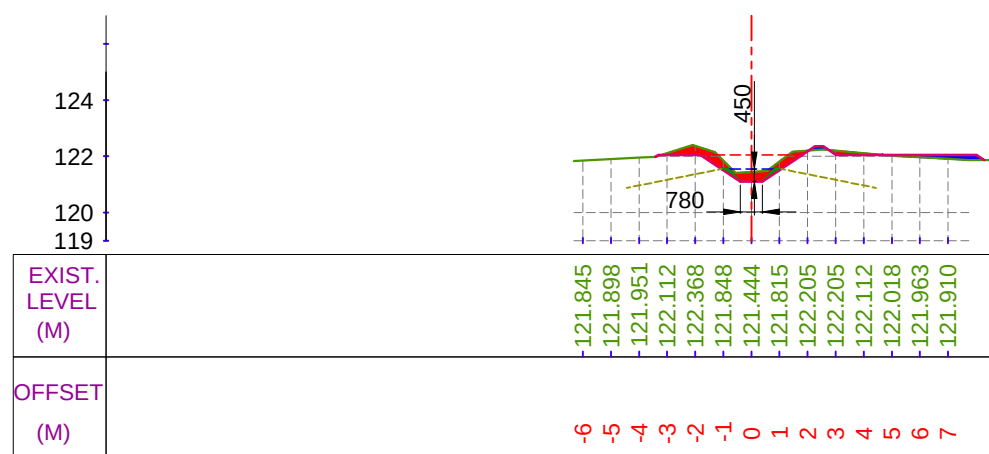
X SECTION OF MOHAR KARMA MINOR



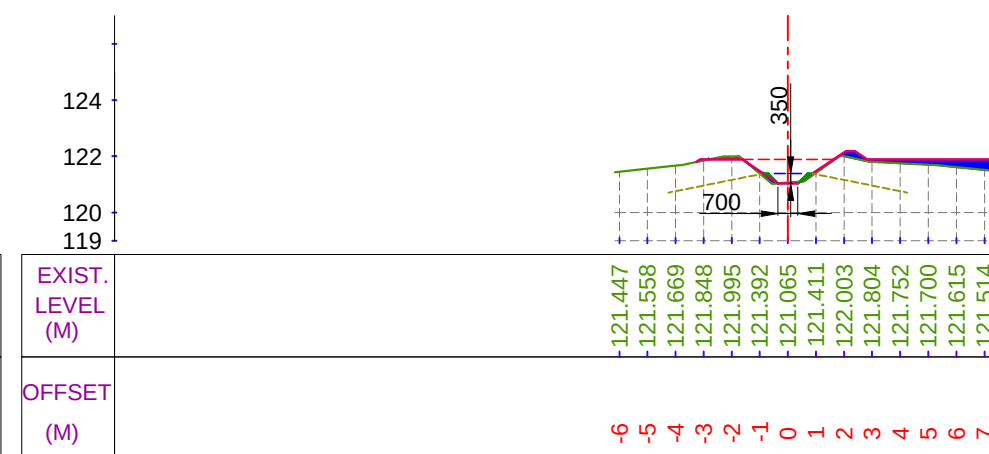
CUTTING AREA (SQ.M) = 1.125 CH. (KM):- 0+500
FILLING AREA (SQ.M) = 1.318 DESIGNED BED LEVEL = 121.134 M



CUTTING AREA (SQ.M) = 0.583 CH. (KM):- 0+700
FILLING AREA (SQ.M) = 1.288 DESIGNED BED LEVEL = 121.068 M



CUTTING AREA (SQ.M) = 1.482 CH. (KM):- 0+600
FILLING AREA (SQ.M) = 0.437 DESIGNED BED LEVEL = 121.101 M



CUTTING AREA (SQ.M) = 0.124 CH. (KM):- 0+800
FILLING AREA (SQ.M) = 1.622 DESIGNED BED LEVEL = 121.034 M

LEGEND

	CUT AREA		EXISTING BED LINE
	FILL AREA		F.S.L.
			DESIGNED BED LINE
			H.G. LINE

Prepared by :-

WAPCOS LTD.



Project Title :-

NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND

Drawing Title :-

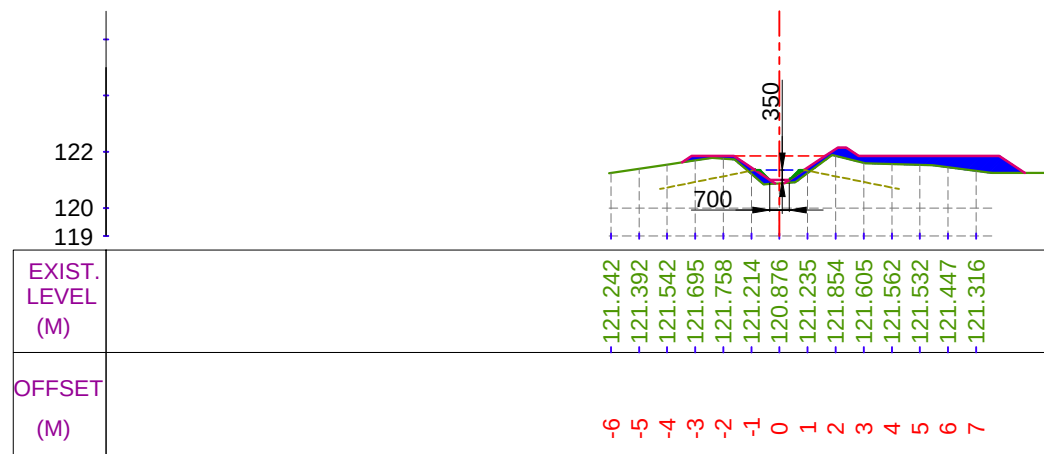
X SEC OF MOHAR KARMA MR. (OFFTAKE FROM RD - 9+220 KM. (L), KULHARIA SUB DY. CANAL)

Drawing No. :-

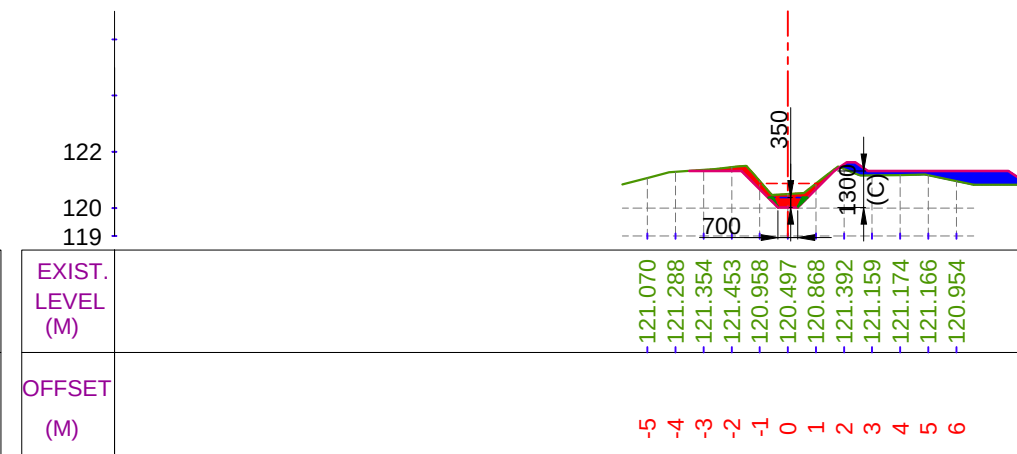
WAP/ INFRA/ NORTHKOEL/ BC/ R-09-03/ XSEC-

2 of 6

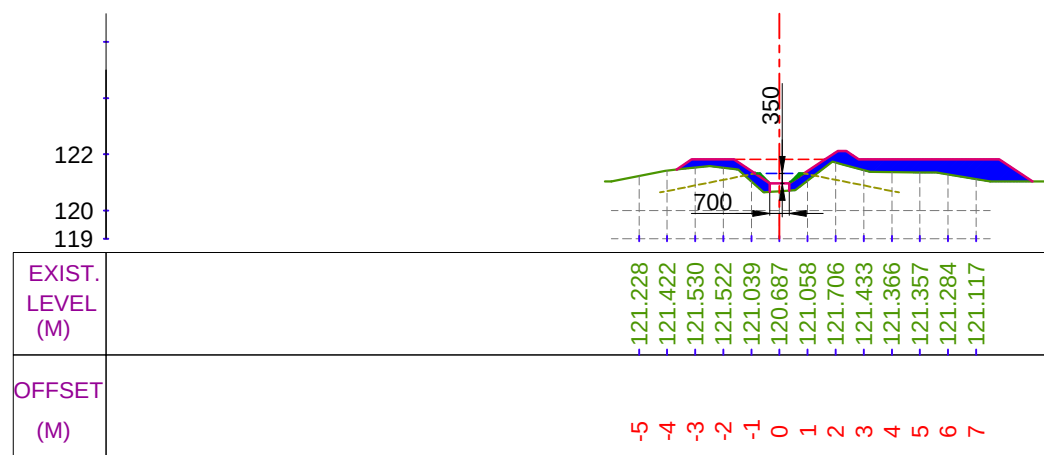
X SECTION OF MOHAR KARMA MINOR



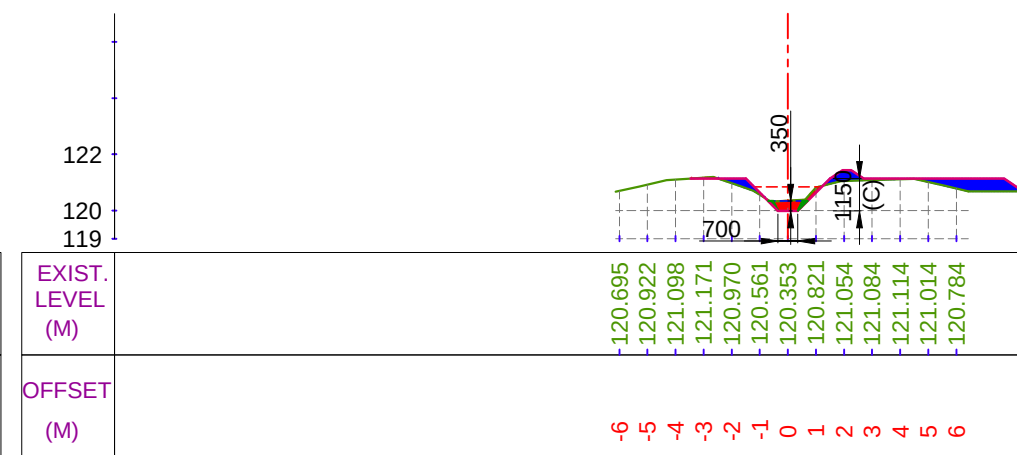
CUTTING AREA (SQ.M) = 0.000 CH. (KM):- 0+900
FILLING AREA (SQ.M) = 3.232 DESIGNED BED LEVEL = 121.001 M



CUTTING AREA (SQ.M) = 1.079 CH. (KM):- 1+100
FILLING AREA (SQ.M) = 1.905 DESIGNED BED LEVEL = 120.020 M



CUTTING AREA (SQ.M) = 0.000 CH. (KM):- 1+000
FILLING AREA (SQ.M) = 4.991 DESIGNED BED LEVEL = 120.968 M



CUTTING AREA (SQ.M) = 0.437 CH. (KM):- 1+200
FILLING AREA (SQ.M) = 1.864 DESIGNED BED LEVEL = 119.987 M

LEGEND

	CUT AREA		EXISTING BED LINE
			F.S.L.
	FILL AREA		DESIGNED BED LINE
			H.G. LINE

Prepared by :-

WAPCOS LTD.



Project Title :-

NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND

Drawing Title :-

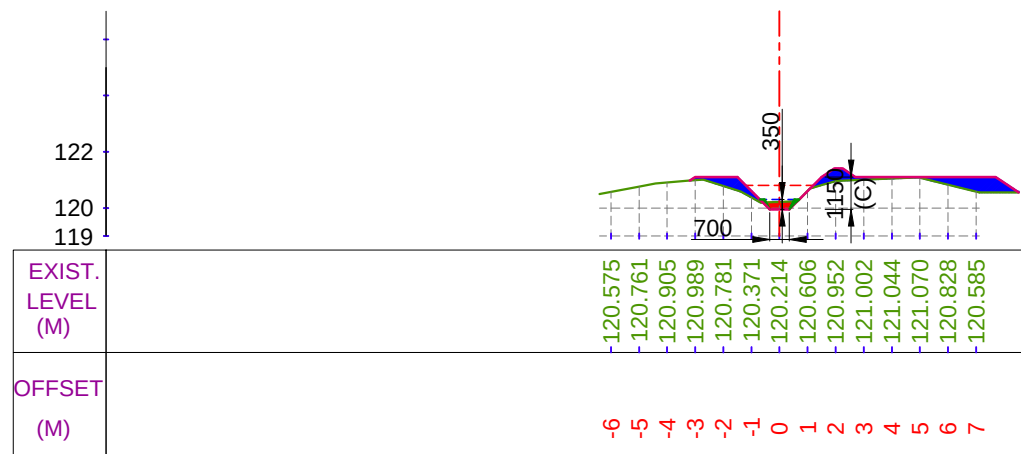
X SEC OF MOHAR KARMA MR. (OFFTAKE FROM RD - 9+220 KM. (L), KULHARIA SUB DY. CANAL)

Drawing No. :-

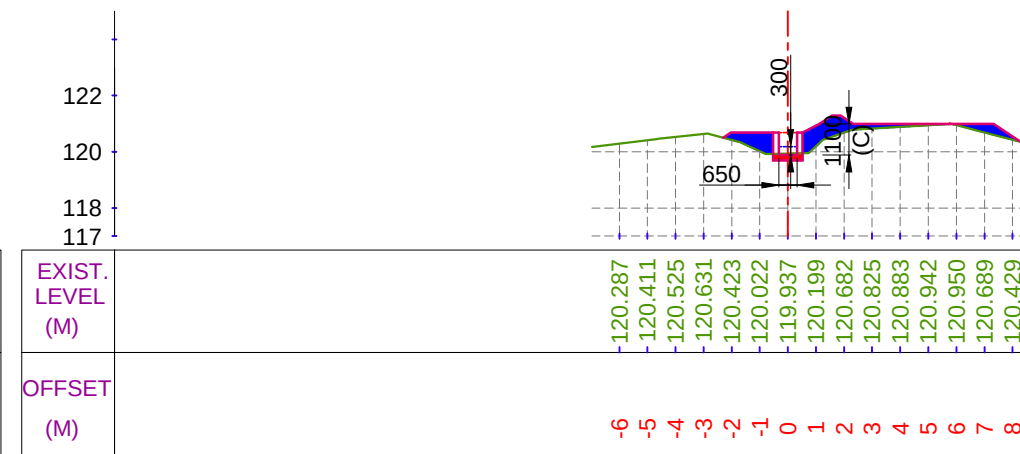
WAP/ INFRA/ NORTHKOEL/ BC/ R-09-03/ XSEC-

3 of 6

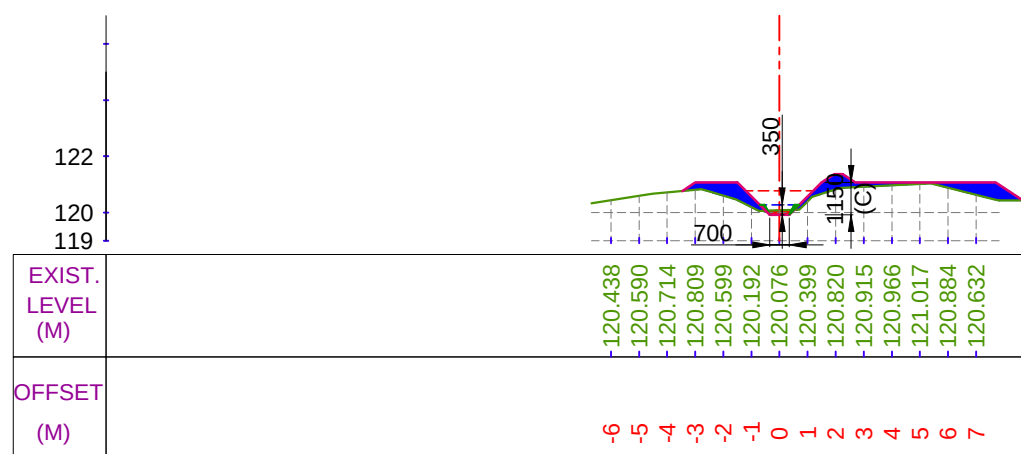
X SECTION OF MOHAR KARMA MINOR



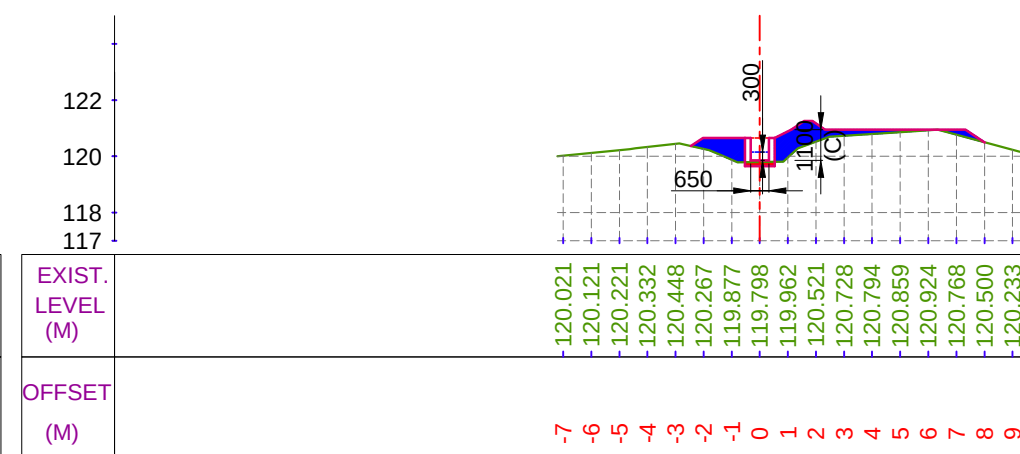
CUTTING AREA (SQ.M) = 0.216 CH. (KM):- 1+300
FILLING AREA (SQ.M) = 2.422 DESIGNED BED LEVEL = 119.954 M



CUTTING AREA (SQ.M) = 0.263 CH. (KM):- 1+500
FILLING AREA (SQ.M) = 2.813 DESIGNED BED LEVEL = 119.887 M



CUTTING AREA (SQ.M) = 0.121 CH. (KM):- 1+400
FILLING AREA (SQ.M) = 3.076 DESIGNED BED LEVEL = 119.920 M



CUTTING AREA (SQ.M) = 0.151 CH. (KM):- 1+600
FILLING AREA (SQ.M) = 3.289 DESIGNED BED LEVEL = 119.854 M

LEGEND

	CUT AREA		EXISTING BED LINE
			F.S.L.
	FILL AREA		DESIGNED BED LINE
			H.G. LINE

Prepared by :-

WAPCOS LTD.



Project Title :-

NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND

Drawing Title :-

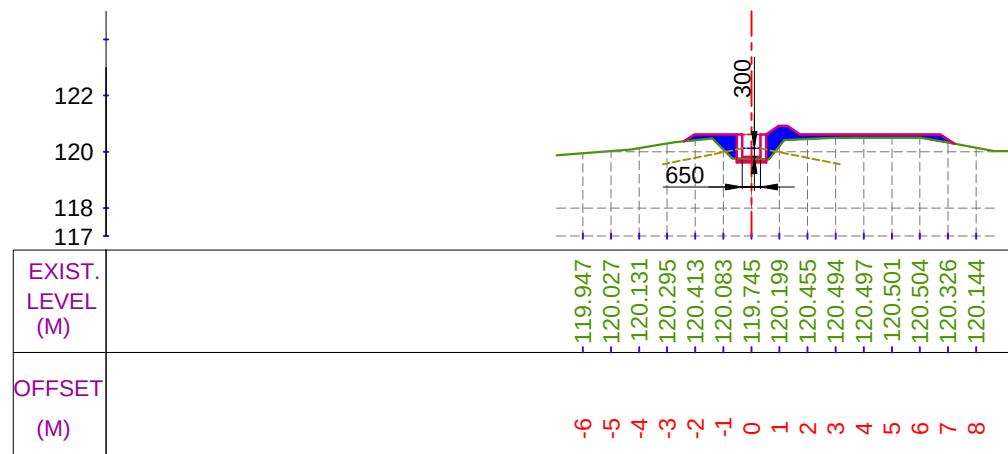
X SEC OF MOHAR KARMA MR. (OFFTAKE FROM RD - 9+220 KM. (L), KULHARIA SUB DY. CANAL)

Drawing No. :-

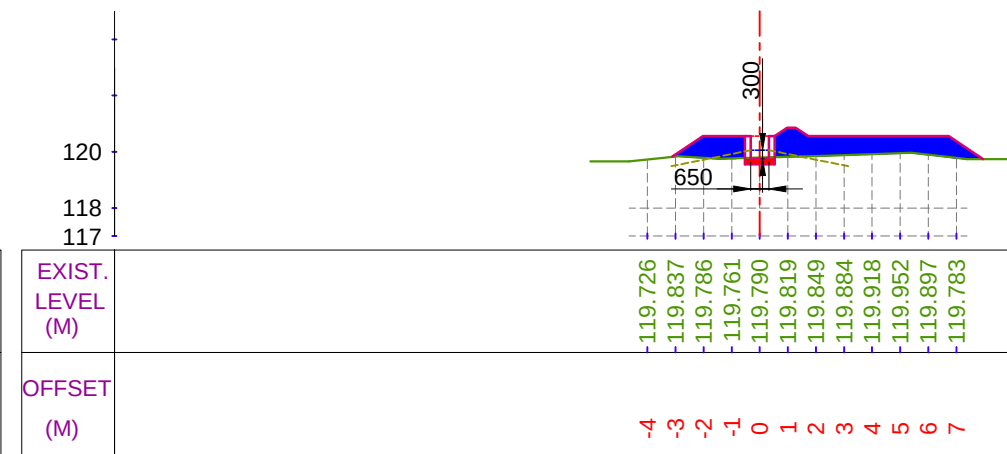
WAP/ INFRA/ NORTHKOEL/ BC/ R-09-03/ XSEC-

4 of 6

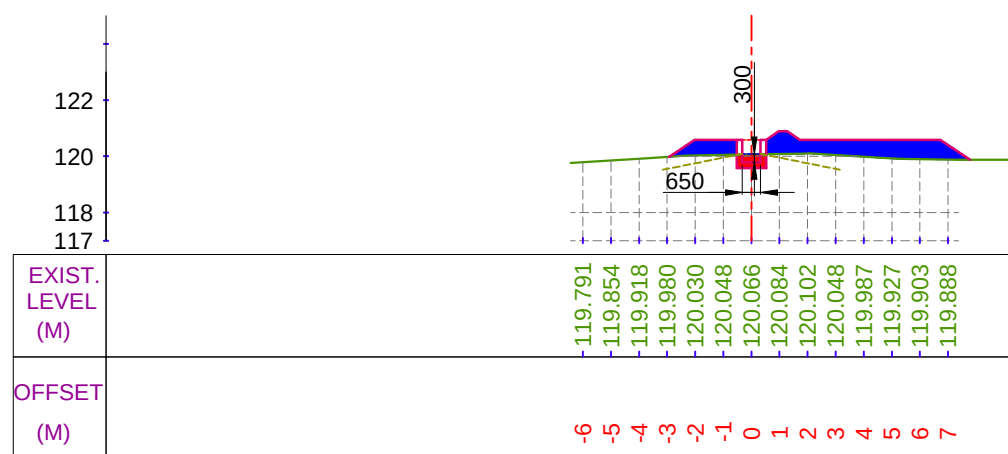
X SECTION OF MOHAR KARMA MINOR



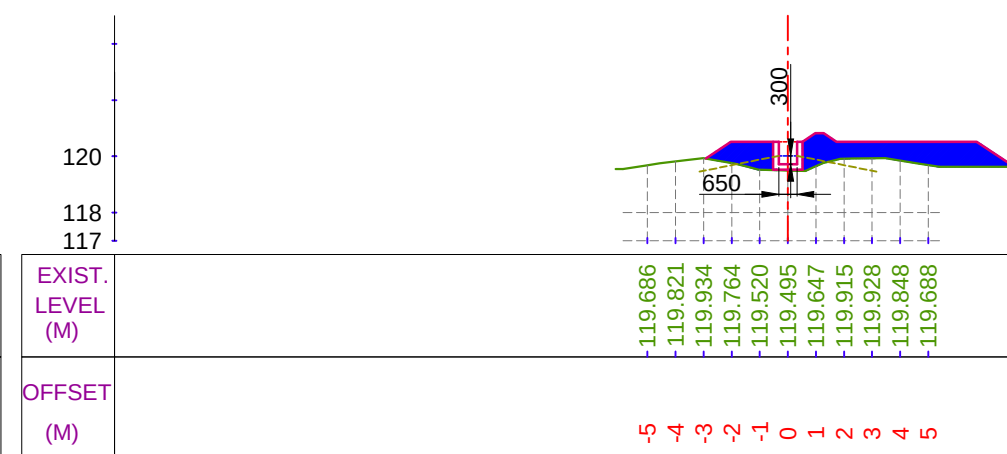
CUTTING AREA (SQ.M) = 0.131 CH. (KM):- 1+700
FILLING AREA (SQ.M) = 2.104 DESIGNED BED LEVEL = 119.820 M



CUTTING AREA (SQ.M) = 0.248 CH. (KM):- 1+900
FILLING AREA (SQ.M) = 6.436 DESIGNED BED LEVEL = 119.754 M



CUTTING AREA (SQ.M) = 0.503 CH. (KM):- 1+800
FILLING AREA (SQ.M) = 5.277 DESIGNED BED LEVEL = 119.787 M



CUTTING AREA (SQ.M) = 0.000 CH. (KM):- 2+000
FILLING AREA (SQ.M) = 7.222 DESIGNED BED LEVEL = 119.720 M

LEGEND

	CUT AREA		EXISTING BED LINE
	FILL AREA		F.S.L.
			DESIGNED BED LINE
			H.G. LINE

Prepared by :-

WAPCOS LTD.



Project Title :-

NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND

Drawing Title :-

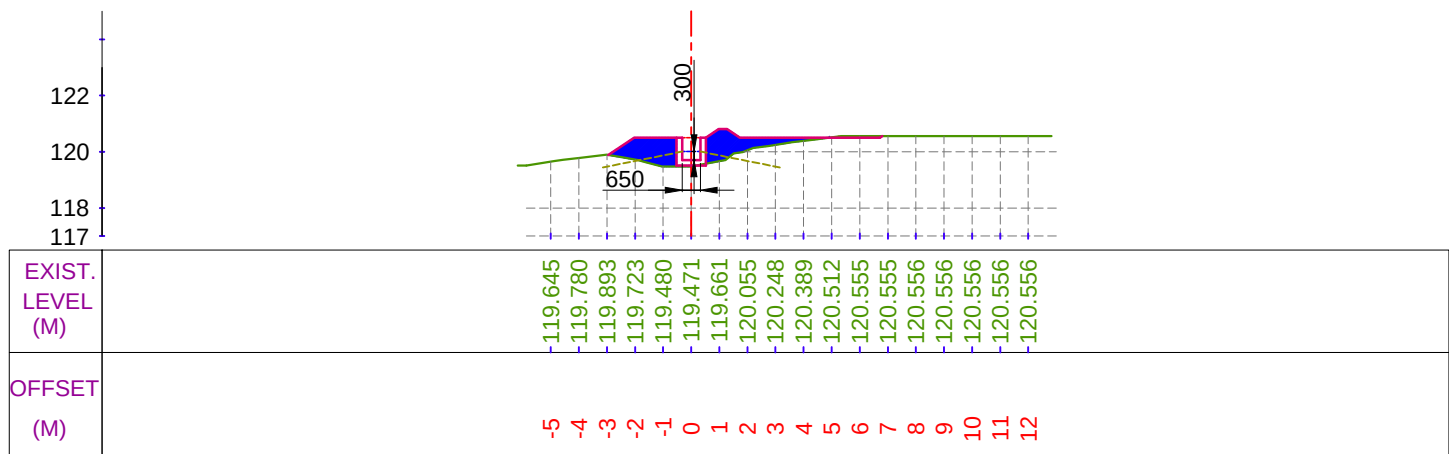
X SEC OF MOHAR KARMA MR. (OFFTAKE FROM RD - 9+220 KM. (L), KULHARIA SUB DY. CANAL)

Drawing No. :-

WAP/ INFRA/ NORTHKOEL/ BC/ R-09-03/ XSEC-

5 of 6

X SECTION OF MOHAR KARMA MINOR



CUTTING AREA (SQ.M) = 0.089 CH. (KM):- 2+042
FILLING AREA (SQ.M) = 3.653 DESIGNED BED LEVEL = 119.706 M

LEGEND

	CUT AREA		EXISTING BED LINE
			F.S.L.
	FILL AREA		DESIGNED BED LINE
			H.G. LINE

Prepared by :-

WAPCOS LTD.

Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
Drawing Title :-	X SEC OF MOHAR KARMA MR. (OFFTAKE FROM RD - 9+220 KM. (L), KULHARIA SUB DY. CANAL)
Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-09-03/ XSEC- 6 of 6

***STRUCTURES
DRAWING OF
KULHARIA SUB DY***

NOTES:-

- 1. ALL DIMENSIONS ARE IN mm AND LEVELS IN METRES EXCEPT OTHERWISE MENTIONED.
- 2. THE DRAWING SHALL NOT BE SCALED OFF, ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED.
- 3. ALL CONCRETE WORK SHALL CONFORM TO IS: 456 -2000. GRADE OF CONCRETE IN DIFFERENT COMPONENTS SHALL BE AS FOLLOWS.

FLOOR	M 20
FOUNDATION OF ABUTMENTS & WING WALL	M 20
PCC UNDER FLOOR	M 15
ABUTMENTS / WING WALLS	M 20
- 4. ANY OVER DIGGING SHALL BE FILLED BY CONCRETE 1:3:6 GRADE.
- 5. SKIN REINFORCEMENT SHALL BE PROVIDED IN FLOOR AND ABUTMENT OF 12 MM DIA BARS @ 250 MM.

HYDRAULIC:- DATA

	U/S	D/S	UNIT
FULL SUPPLY DISCHARGE	1.780	1.780	CUMEC
VERTICAL DROP	0.457	0.457	METRE
FULL SUPPLY DEPTH	0.900	0.900	METRE
BED WIDTH	3.600	3.600	METRE
BED SLOPE	1 : 4000	1 : 4000	

SECTION AT 5-5
(SCALE A)

SECTION AT 6-6
(SCALE A)

SECTION A-A
(SCALE A)

SECTION AT 1-1
(SCALE A)

SECTION AT 2-2
(SCALE A)

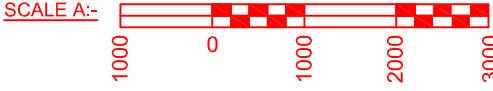
SECTION AT 3-3
(SCALE A)

U/S CROSS SECTION
(SCALE A)

D/S CROSS SECTION
(SCALE A)

HALF TOP / HALF FOUNDATION PLAN
(SCALE A)

SECTION AT 4-4
(SCALE A)

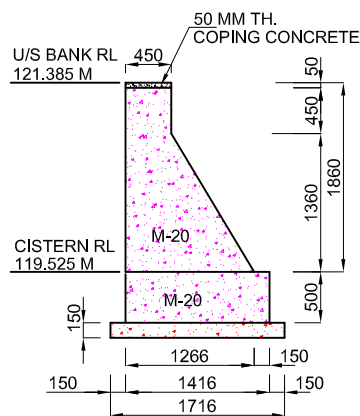


Prepared by :-

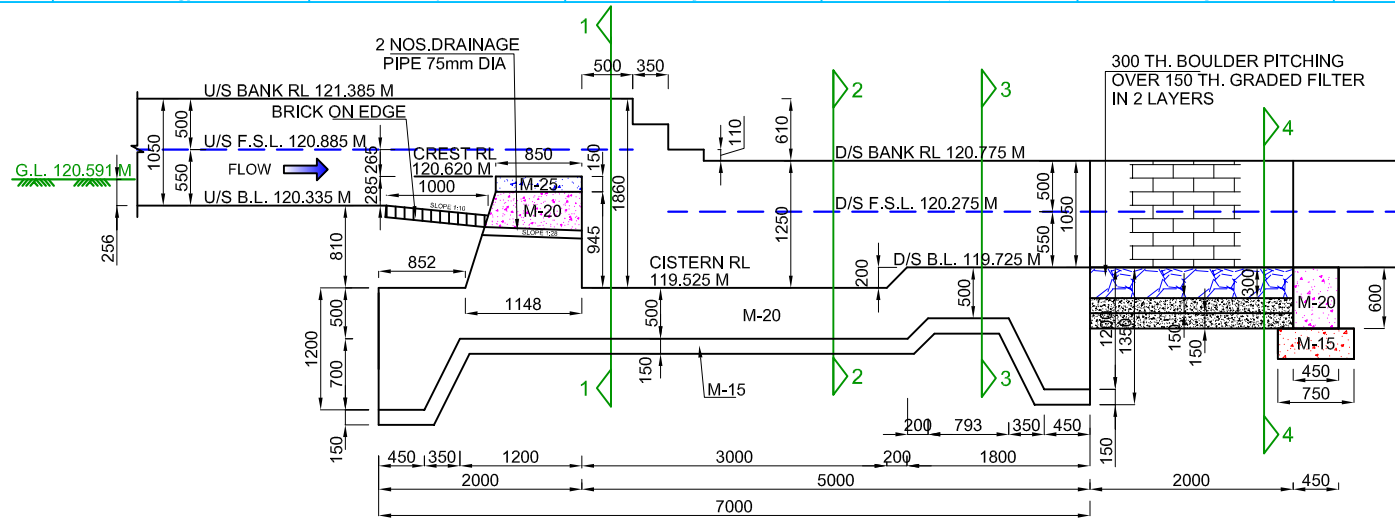
WAPCOS LTD.



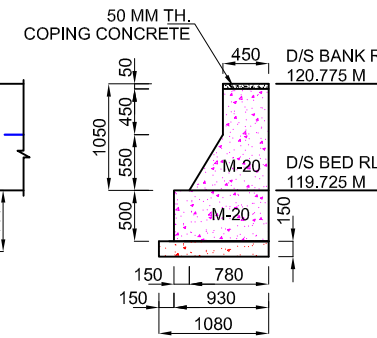
Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND		
Drawing Title :-	SHARDA TYPE 0.457 M HT. FALL AT KM. 1.900 OF KULHARIA SUB-DY. (OFFTAKE FROM RD - 43+667 KM. (L), NORTH KOEL RMC)		
Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-09/ FALL		1 of 1
Drawn by:-	Checked by:-	Approved by:-	



SECTION AT 5-5
(SCALE A)



SECTION A-A
(SCALE A)



SECTION AT 6-6
(SCALE A)

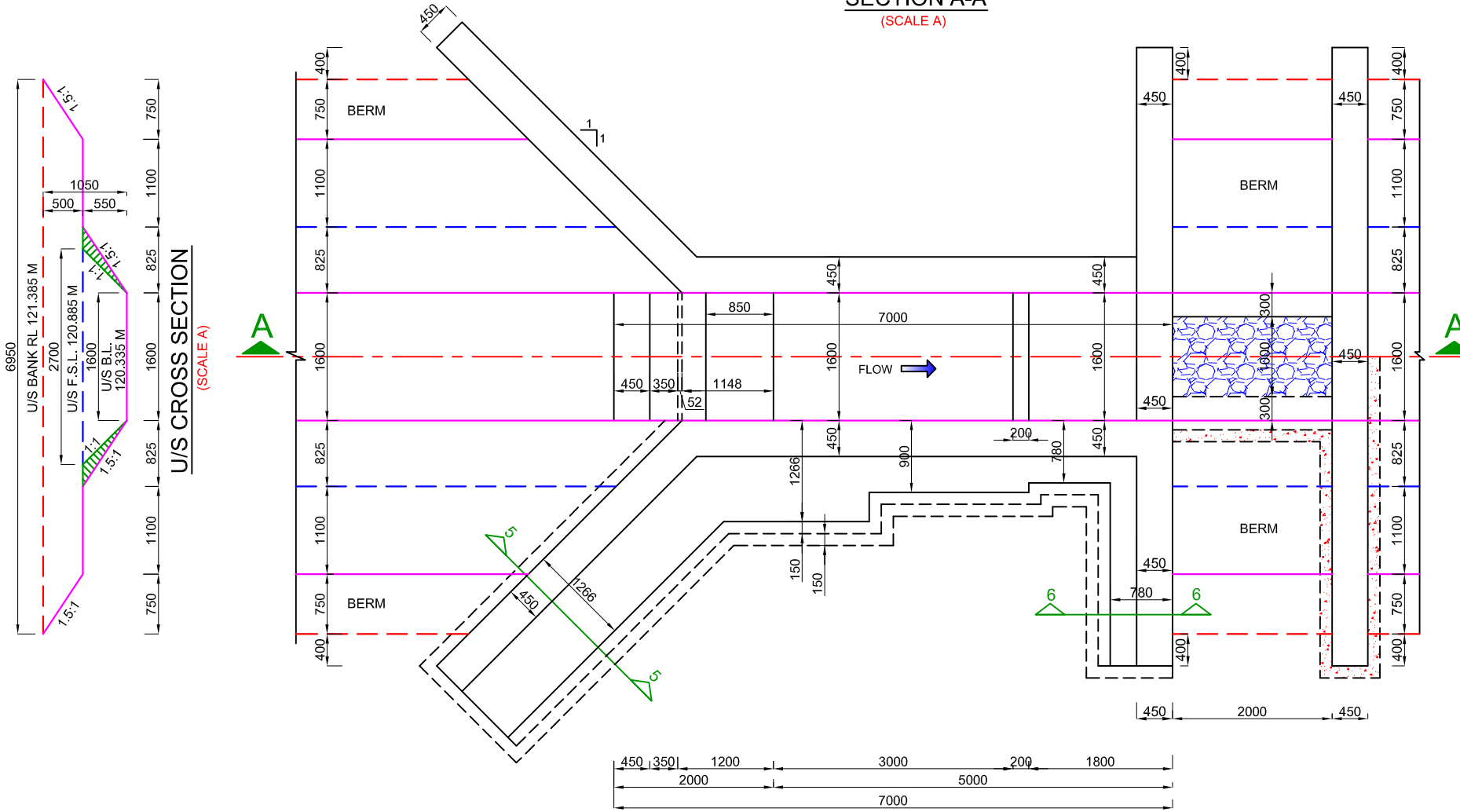
NOTES:-

1. ALL DIMENSIONS ARE IN mm AND LEVELS IN METRES EXCEPT OTHERWISE MENTIONED.
2. THE DRAWING SHALL NOT BE SCALED OFF, ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED.
3. ALL CONCRETE WORK SHALL CONFORM TO IS: 456-2000. GRADE OF CONCRETE IN DIFFERENT COMPONENTS SHALL BE AS FOLLOWS,

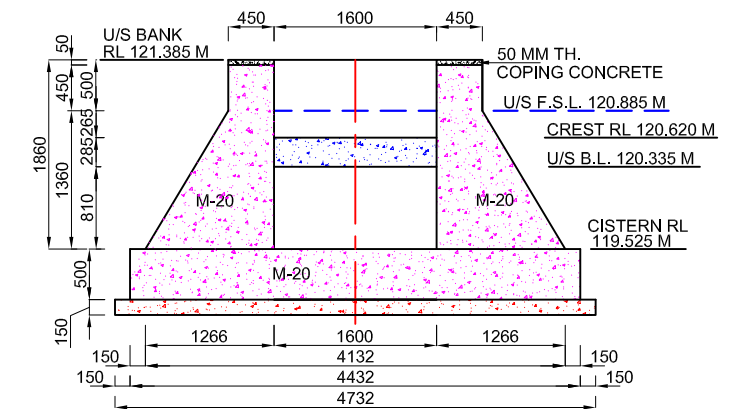
COMPONENT	GRADE
FLOOR	M 20
FOUNDATION OF ABUTMENTS & WING WALL	M 20
PCC UNDER FLOOR	M 15
ABUTMENTS / WING WALLS	M 20
4. ANY OVER DIGGING SHALL BE FILLED BY CONCRETE 1:3:6 GRADE.
5. SKIN REINFORCEMENT SHALL BE PROVIDED IN FLOOR AND ABUTMENT OF 12 MM DIA BARS @ 250 MM.

HYDRAULIC:- DATA

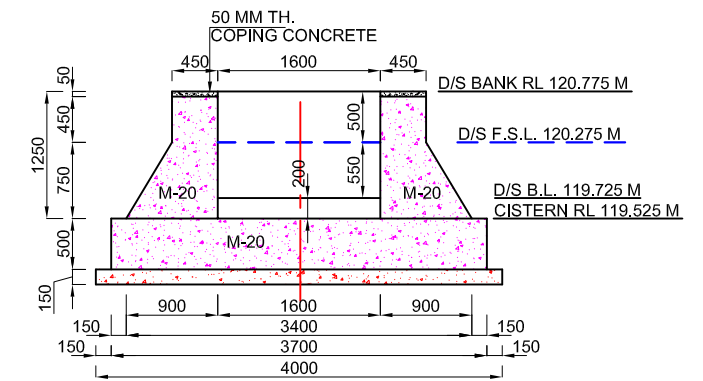
	U/S	D/S	UNIT
FULL SUPPLY DISCHARGE	0.350	0.350	CUMEC
VERTICAL DROP	0.610	0.610	METRE
FULL SUPPLY DEPTH	0.550	0.550	METRE
BED WIDTH	1.600	1.600	METRE
BED SLOPE	1 : 3600	1 : 3600	



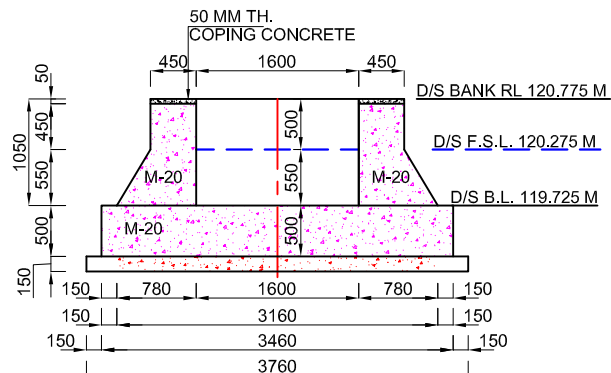
HALF TOP / HALF FOUNDATION PLAN
(SCALE A)



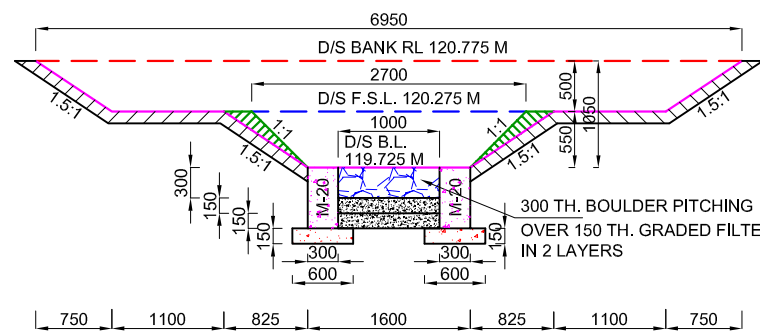
SECTION AT 1-1
(SCALE A)



SECTION AT 2-2
(SCALE A)

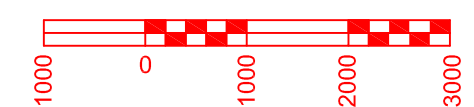


SECTION AT 3-3
(SCALE A)



SECTION AT 4-4
(SCALE A)

SCALE A:-



Prepared by :-

WAPCOS LTD.



Project Title :-

NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND

Drawing Title :-

SHARDA TYPE 0.610 M HT. FALL AT KM. 10.750 OF KULHARIA SUB-DY. (OFFTAKE FROM RD - 43+667 KM. (L), NORTH KOEL RMC)

Drawing No. :-

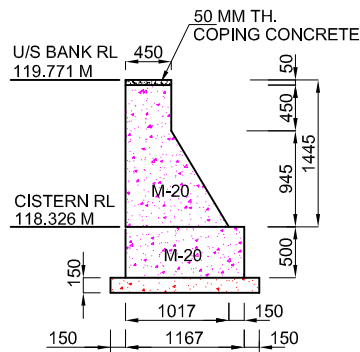
WAP/ INFRA/ NORTHKOEL/ BC/ R-09/ FALL

1 of 1

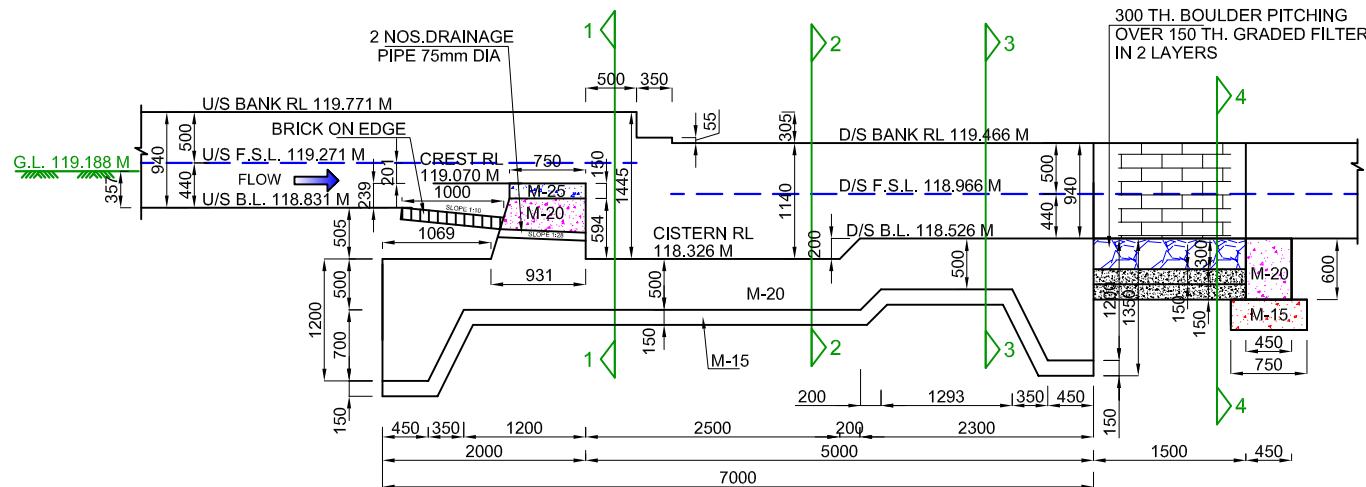
Drawn by:-

Checked by:-

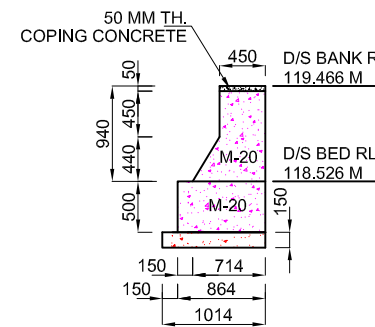
Approved by:-



SECTION AT 5-5
(SCALE A)



SECTION A-A
(SCALE A)



SECTION AT 6-6
(SCALE A)

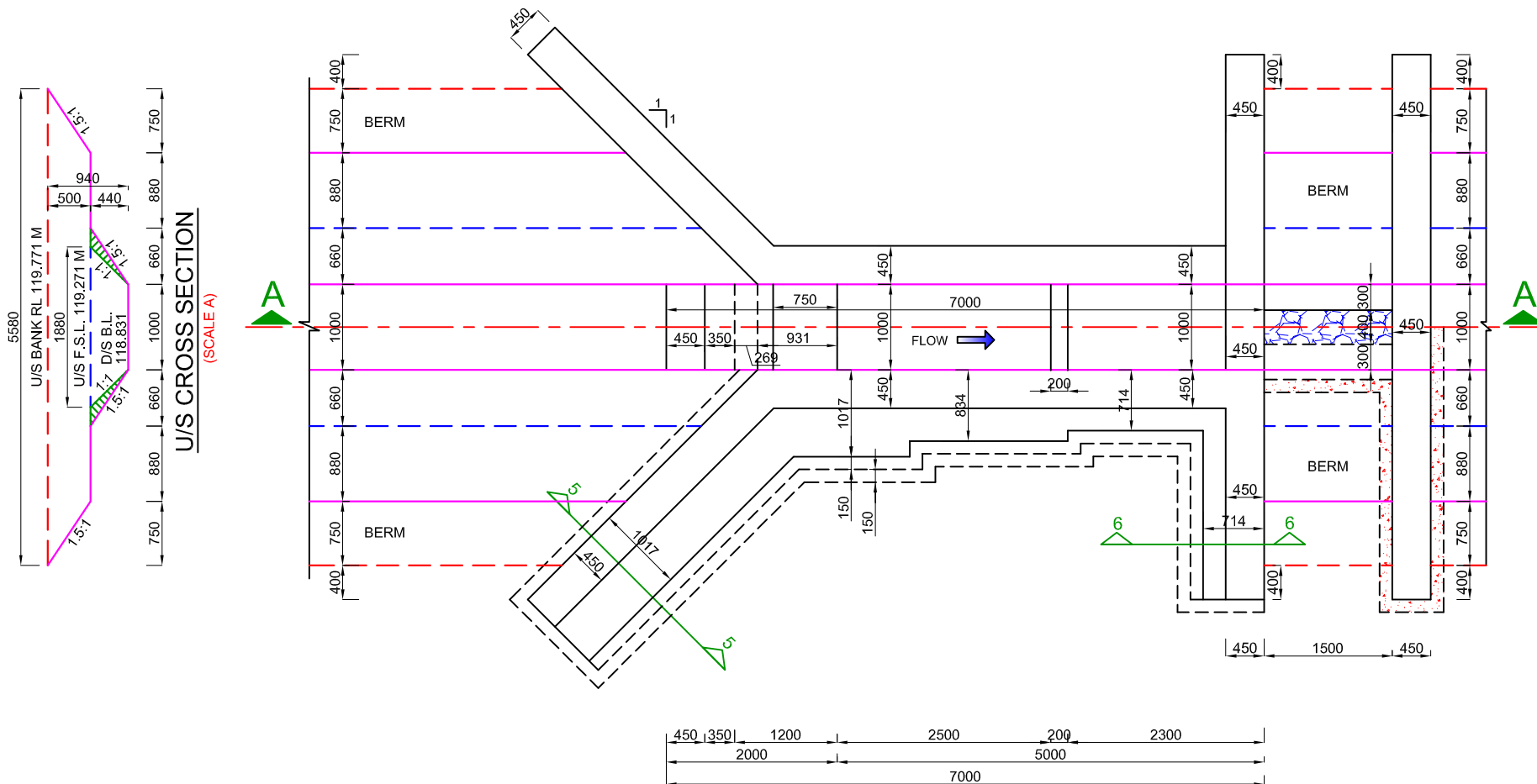
NOTES:-

1. ALL DIMENSIONS ARE IN mm AND LEVELS IN METRES EXCEPT OTHERWISE MENTIONED.
2. THE DRAWING SHALL NOT BE SCALED OFF, ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED.
3. ALL CONCRETE WORK SHALL CONFORM TO IS: 456-2000. GRADE OF CONCRETE IN DIFFERENT COMPONENTS SHALL BE AS FOLLOWS.

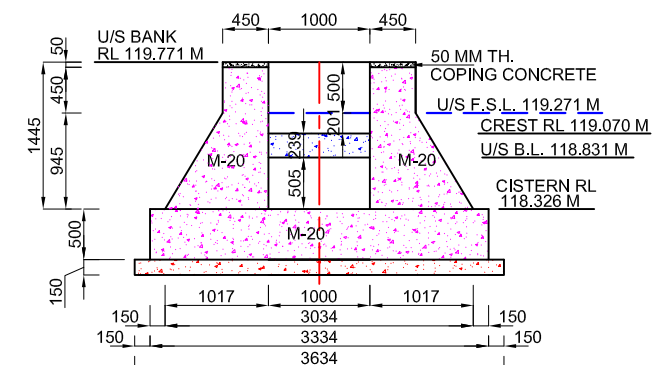
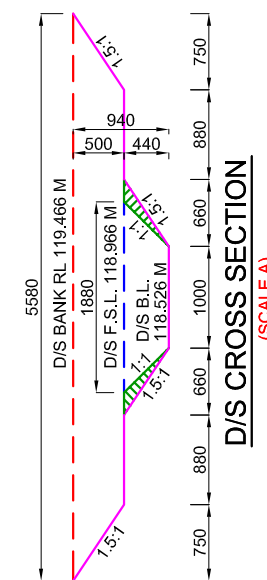
FLOOR	M 20
FOUNDATION OF ABUTMENTS & WING WALL	M 20
PCC UNDER FLOOR	M 15
ABUTMENTS / WING WALLS	M 20
4. ANY OVER DIGGING SHALL BE FILLED BY CONCRETE 1:3:6 GRADE.
5. SKIN REINFORCEMENT SHALL BE PROVIDED IN FLOOR AND ABUTMENT OF 12 MM DIA BARS @ 250 MM.

HYDRAULIC:- DATA

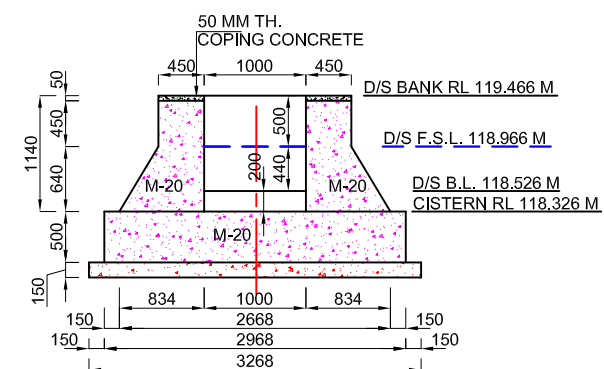
	U/S	D/S	UNIT
FULL SUPPLY DISCHARGE	0.140	0.140	CUMEC
VERTICAL DROP	0.305	0.305	METRE
FULL SUPPLY DEPTH	0.440	0.440	METRE
BED WIDTH	1.000	1.000	METRE
BED SLOPE	1 : 3500	1 : 3500	



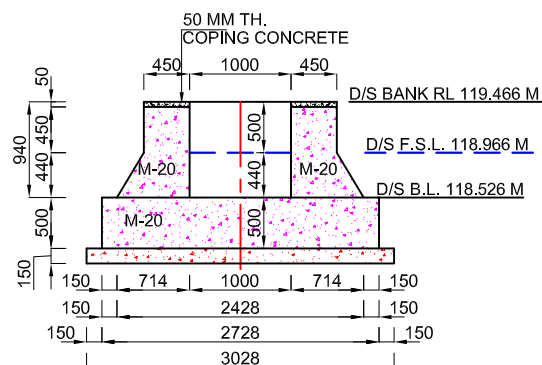
HALF TOP / HALF FOUNDATION PLAN
(SCALE A)



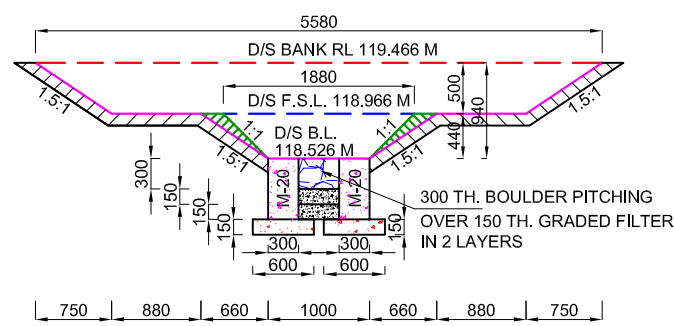
SECTION AT 1-1
(SCALE A)



SECTION AT 2-2
(SCALE A)

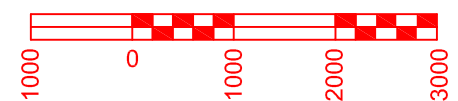


SECTION AT 3-3
(SCALE A)



SECTION AT 4-4
(SCALE A)

SCALE A:-



Prepared by :-

WAPCOS LTD.



Project Title :-

NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND

Drawing Title :-

SHARDA TYPE 0.305 M HT. FALL AT KM. 11.760 OF KULHARIA SUB-DY. (OFFTAKE FROM RD - 43+667 KM. (L), NORTH KOEL RMC)

Drawing No. :-

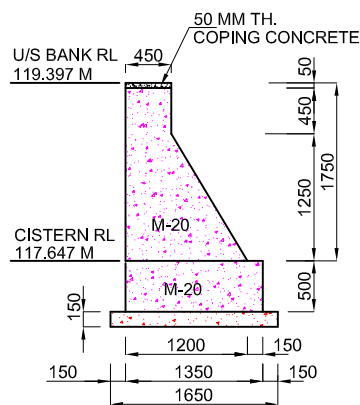
WAP/ INFRA/ NORTHKOEL/ BC/ R-09/ FALL

1 of 1

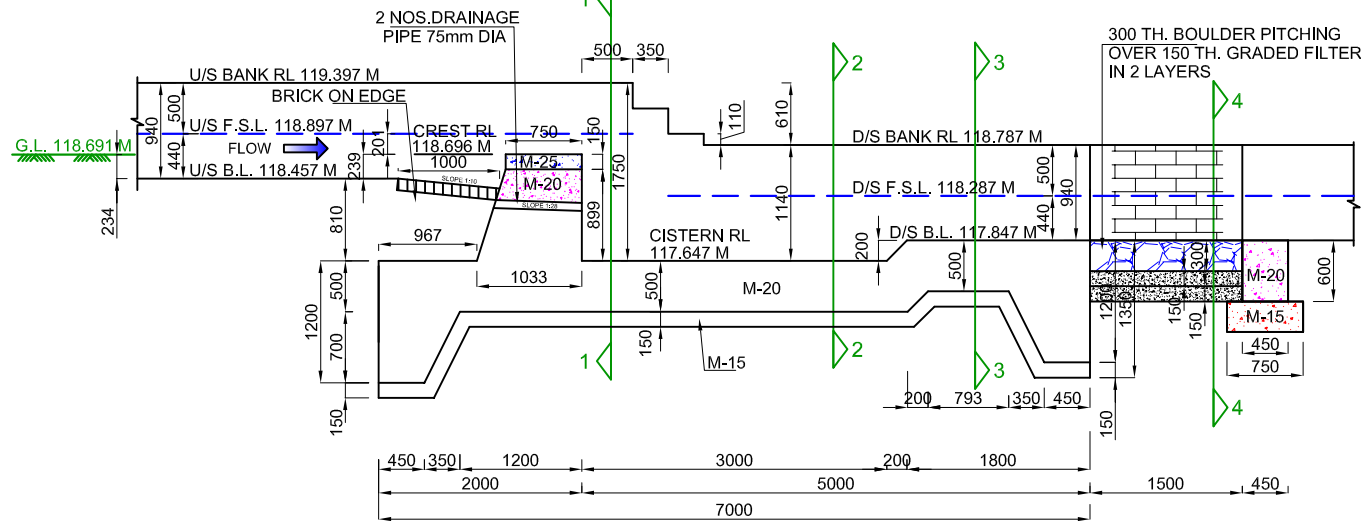
Drawn by:-

Checked by:-

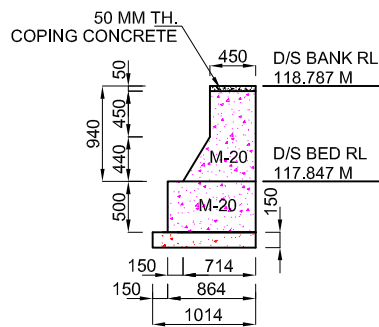
Approved by:-



SECTION AT 5-5
(SCALE A)



SECTION A-A
(SCALE A)



SECTION AT 6-6
(SCALE A)

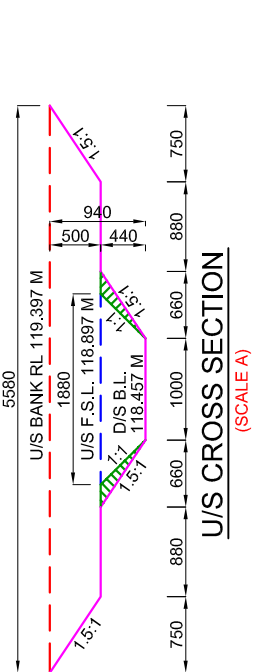
NOTES:-

1. ALL DIMENSIONS ARE IN mm AND LEVELS IN METRES EXCEPT OTHERWISE MENTIONED.
2. THE DRAWING SHALL NOT BE SCALED OFF, ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED.
3. ALL CONCRETE WORK SHALL CONFORM TO IS: 456-2000. GRADE OF CONCRETE IN DIFFERENT COMPONENTS SHALL BE AS FOLLOWS,

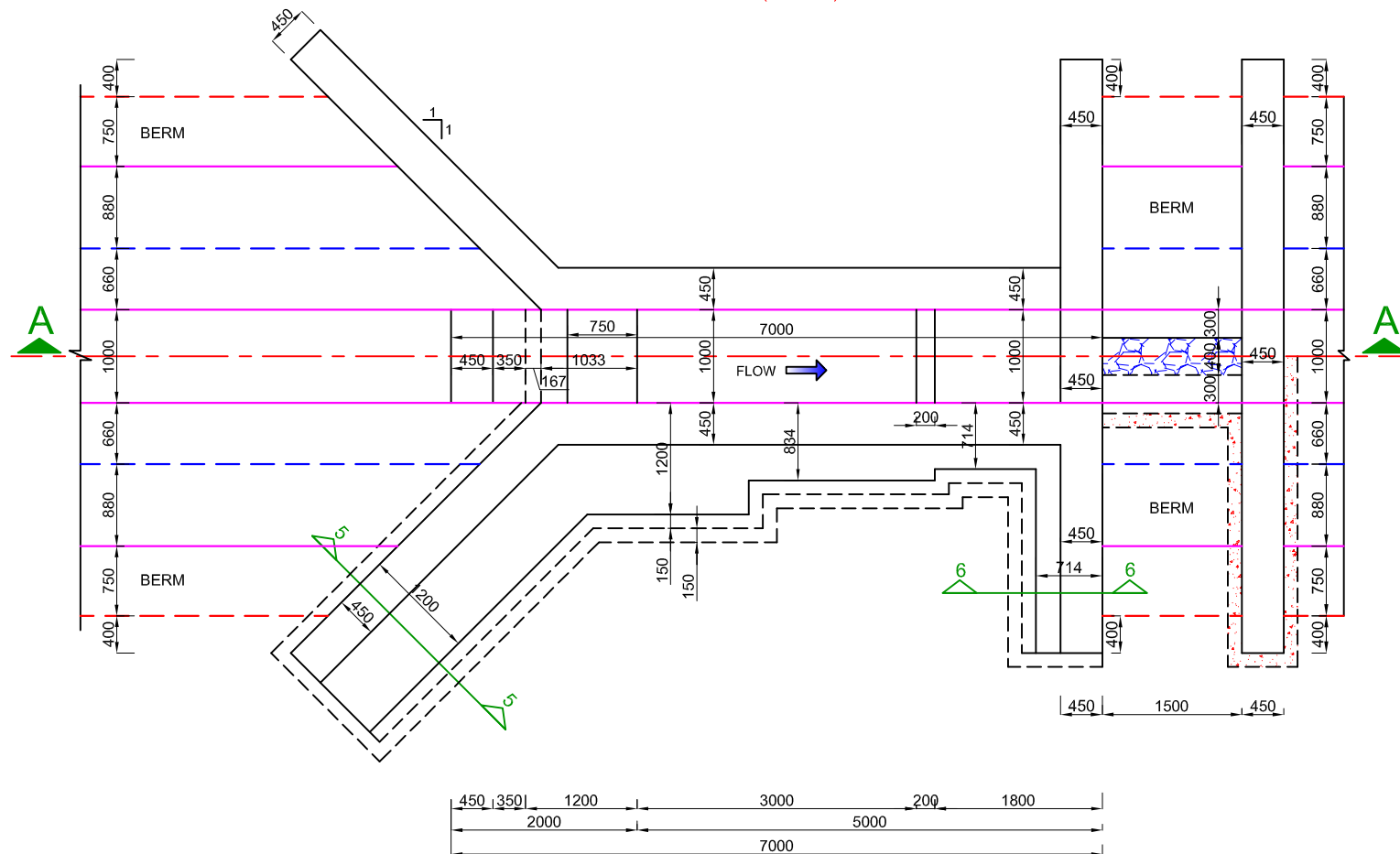
	M 20
FLOOR	M 20
FOUNDATION OF ABUTMENTS & WING WALL	M 20
PCC UNDER FLOOR	M 15
ABUTMENTS / WING WALLS	M 20
4. ANY OVER DIGGING SHALL BE FILLED BY CONCRETE 1:3:6 GRADE.
5. SKIN REINFORCEMENT SHALL BE PROVIDED IN FLOOR AND ABUTMENT OF 12 MM DIA BARS @ 250 MM.

HYDRAULIC:- DATA

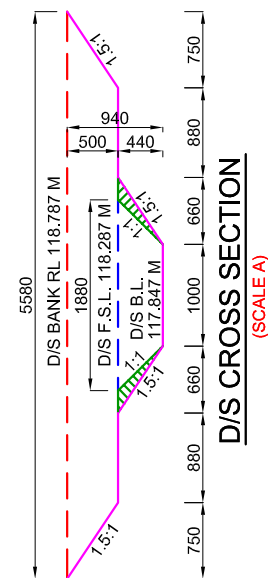
	U/S	D/S	UNIT
FULL SUPPLY DISCHARGE	0.140	0.140	CUMEC
VERTICAL DROP	0.610	0.610	METRE
FULL SUPPLY DEPTH	0.440	0.440	METRE
BED WIDTH	1.000	1.000	METRE
BED SLOPE	1 : 3500	1 : 3500	



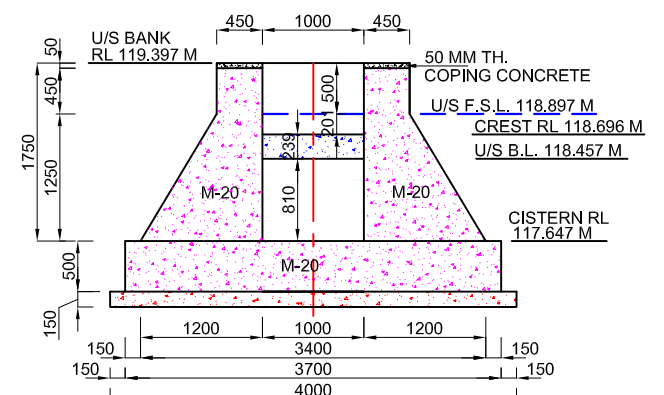
U/S CROSS SECTION
(SCALE A)



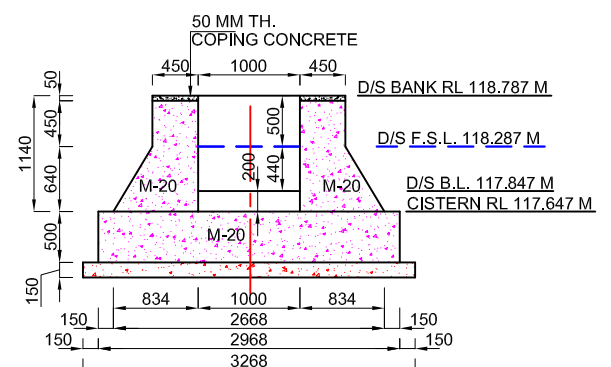
HALF TOP / HALF FOUNDATION PLAN
(SCALE A)



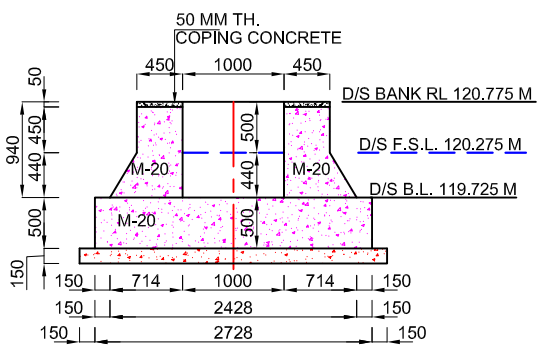
D/S CROSS SECTION
(SCALE A)



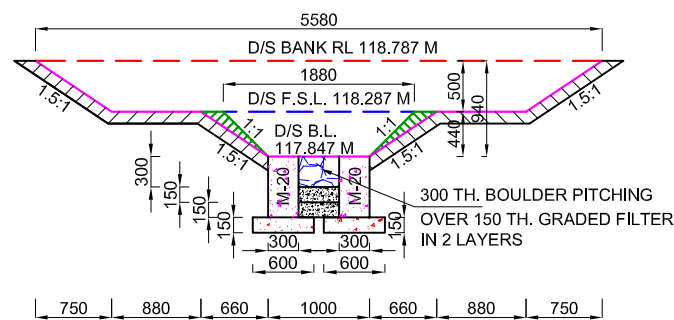
SECTION AT 1-1
(SCALE A)



SECTION AT 2-2
(SCALE A)

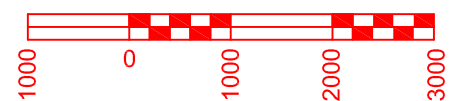


SECTION AT 3-3
(SCALE A)



SECTION AT 4-4
(SCALE A)

SCALE A:-



Prepared by :-

WAPCOS LTD.



Project Title :-

NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND

Drawing Title :-

SHARDA TYPE 0.610 M HT. FALL AT KM. 12.000 OF KULHARIA SUB-DY. (OFFTAKE FROM RD - 43+667 KM. (L), NORTH KOEL RMC)

Drawing No. :-

WAP/ INFRA/ NORTHKOEL/ BC/ R-09/ FALL

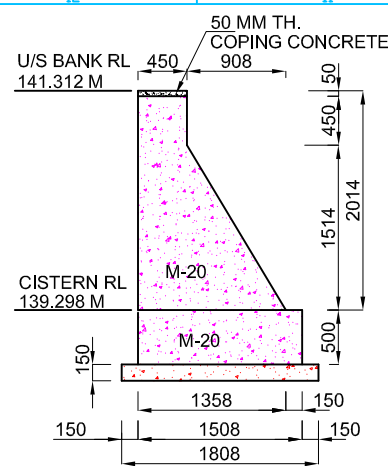
1 of 1

Drawn by:-

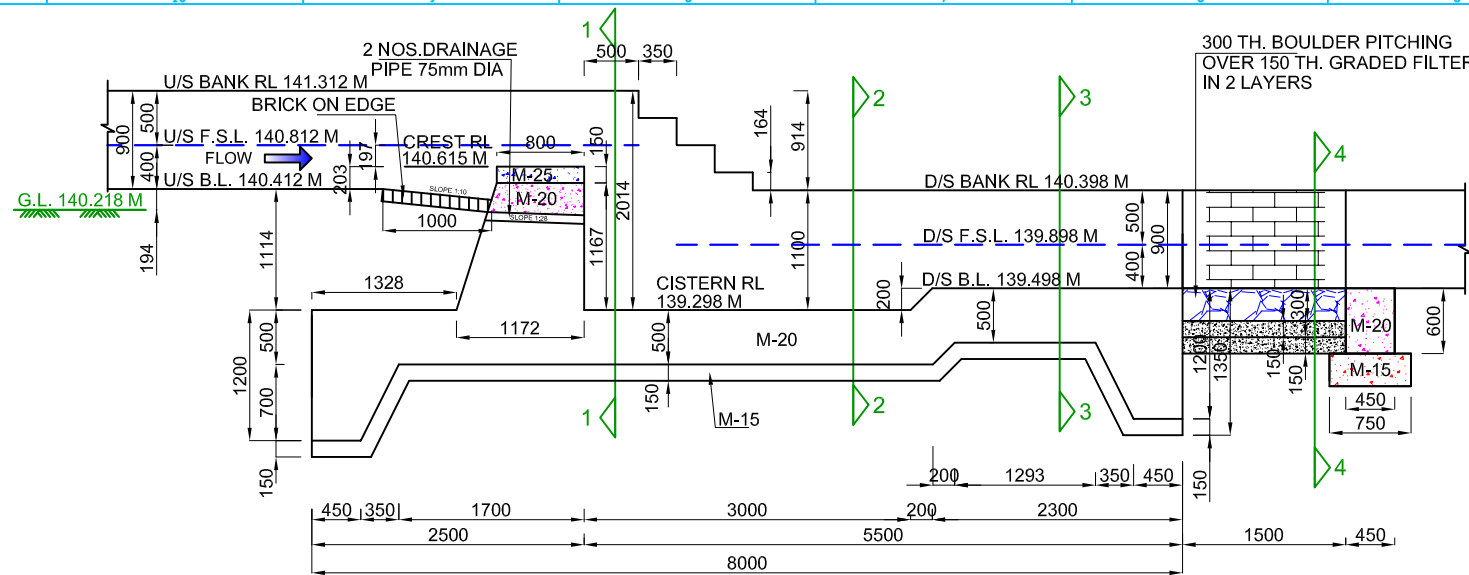
Checked by:-

Approved by:-

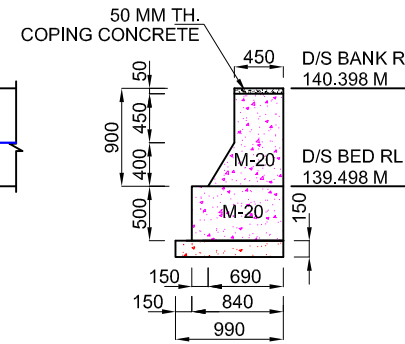
STRUCTURES
DRAWING OF BARKI
PARHI MINOR



SECTION AT 5-5
(SCALE A)



SECTION A-A
(SCALE A)



SECTION AT 6-6
(SCALE A)

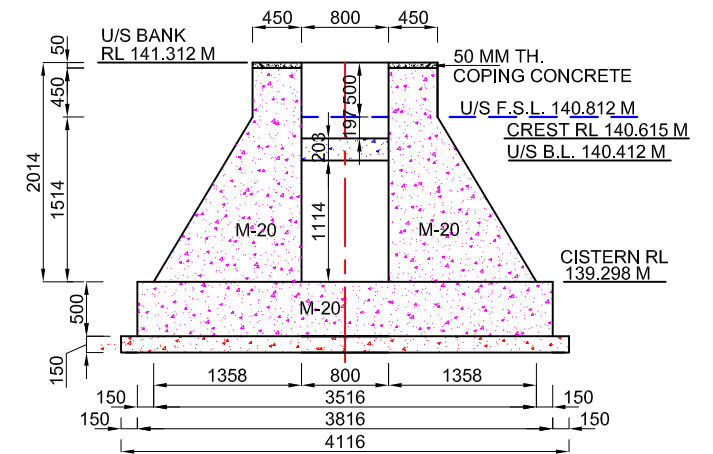
NOTES:-

- ALL DIMENSIONS ARE IN mm AND LEVELS IN METRES EXCEPT OTHERWISE MENTIONED.
- THE DRAWING SHALL NOT BE SCALED OFF, ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED.
- ALL CONCRETE WORK SHALL CONFORM TO IS: 456 -2000. GRADE OF CONCRETE IN DIFFERENT COMPONENTS SHALL BE AS FOLLOWS,

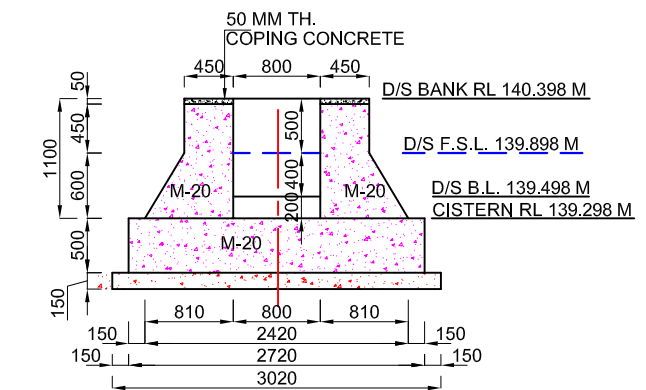
FLOOR	M 20
FOUNDATION OF ABUTMENTS & WING WALL	M 20
PCC UNDER FLOOR	M 15
ABUTMENTS / WING WALLS	M 20
- ANY OVER DIGGING SHALL BE FILLED BY CONCRETE 1:3:6 GRADE.
- SKIN REINFORCEMENT SHALL BE PROVIDED IN FLOOR AND ABUTMENT OF 12 MM DIA BARS @ 250 MM.

HYDRAULIC:- DATA

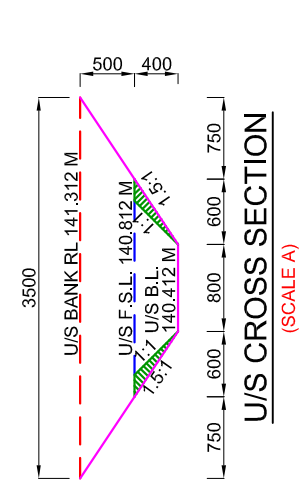
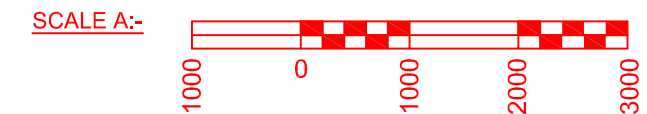
	U/S	D/S	UNIT
FULL SUPPLY DISCHARGE	0.140	0.140	CUMEC
VERTICAL DROP	0.914	0.914	METRE
FULL SUPPLY DEPTH	0.400	0.400	METRE
BED WIDTH	0.800	0.800	METRE
BED SLOPE	1 : 3000	1 : 3000	



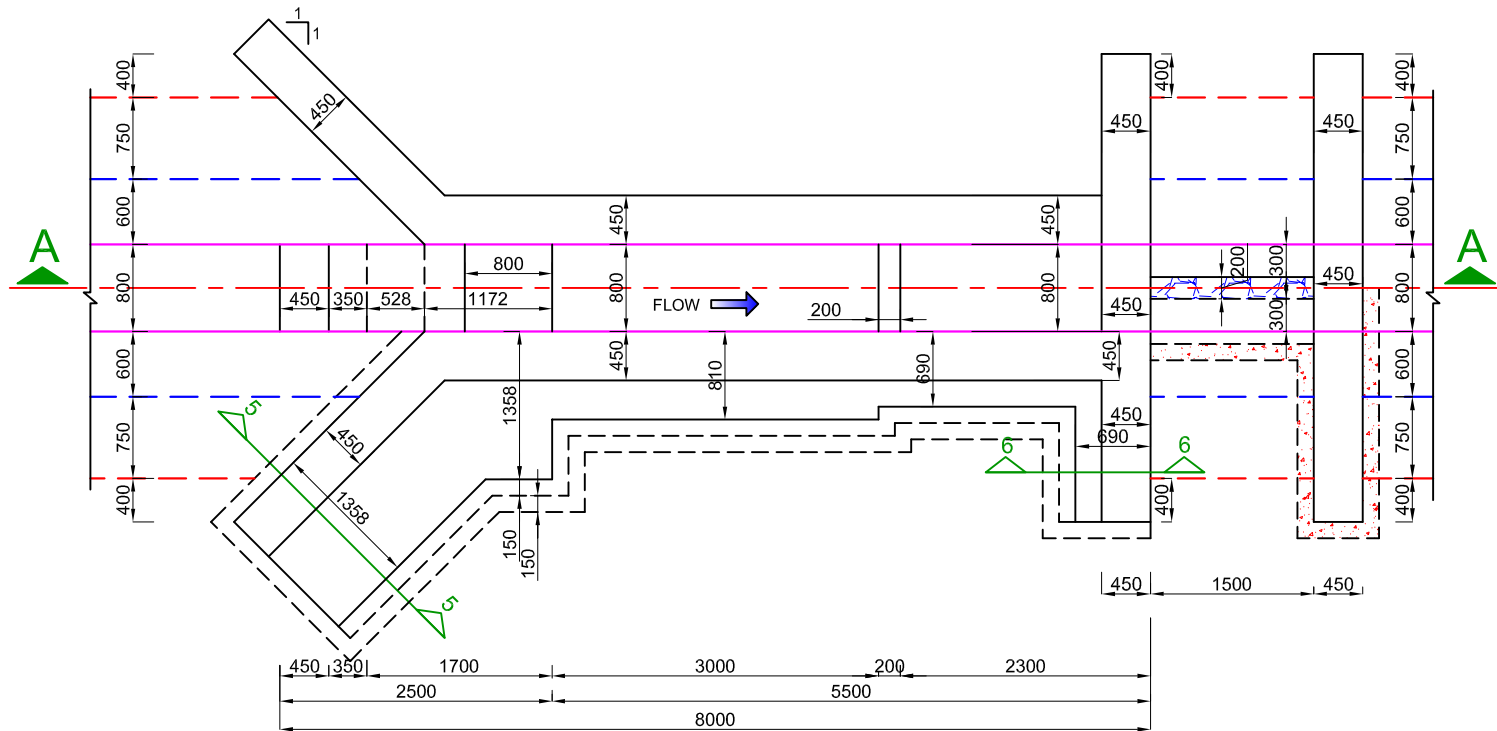
SECTION AT 1-1
(SCALE A)



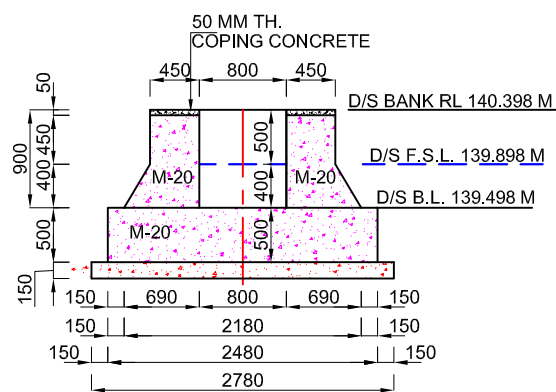
SECTION AT 2-2
(SCALE A)



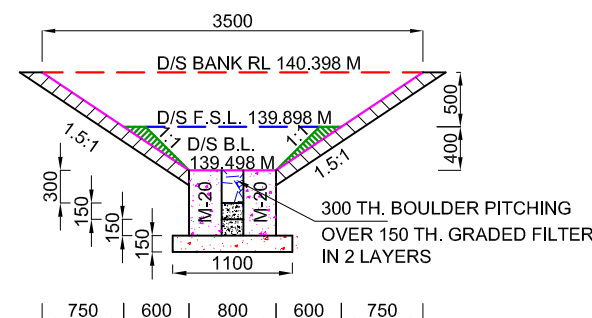
U/S CROSS SECTION
(SCALE A)



HALF TOP / HALF FOUNDATION PLAN
(SCALE A)



SECTION AT 3-3
(SCALE A)



SECTION AT 4-4
(SCALE A)

Prepared by :-

WAPCOS LTD.



Project Title :-

NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND

Drawing Title :-

SHARDA TYPE 0.914 M HT. FALL AT KM. 0.945 OF BARKI PARHI MR. (OFFTAKE FROM RD - 0+295 KM. (R), KULHARIA SUB-DY. CANAL)

Drawing No. :-

WAP/ INFRA/ NORTHKOEL/ BC/ R-09-01/ FALL

1 of 1

Drawn by:-

Checked by:-

Approved by:-

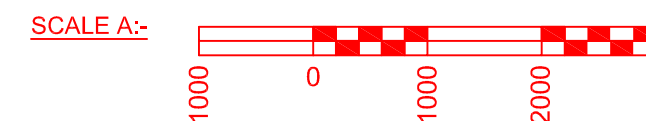
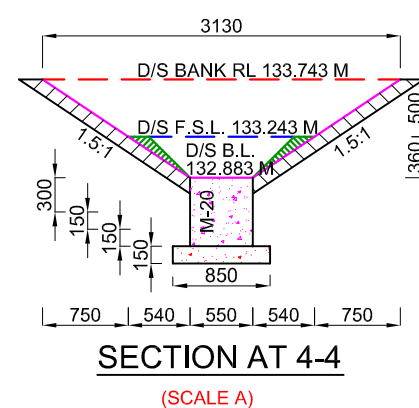
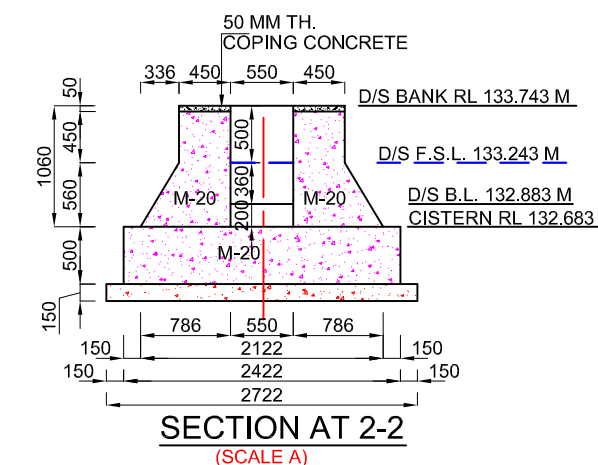
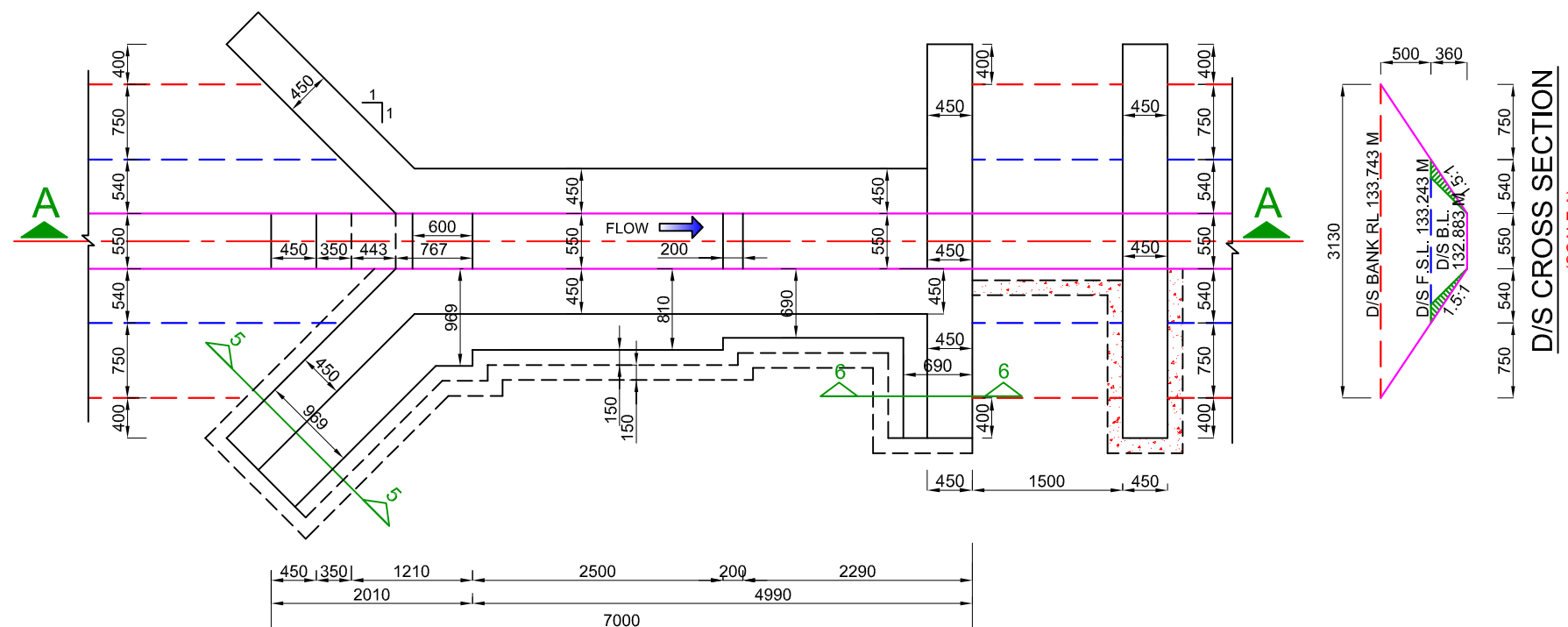
***STRUCTURES
DRAWING OF
SATTAR MINOR***

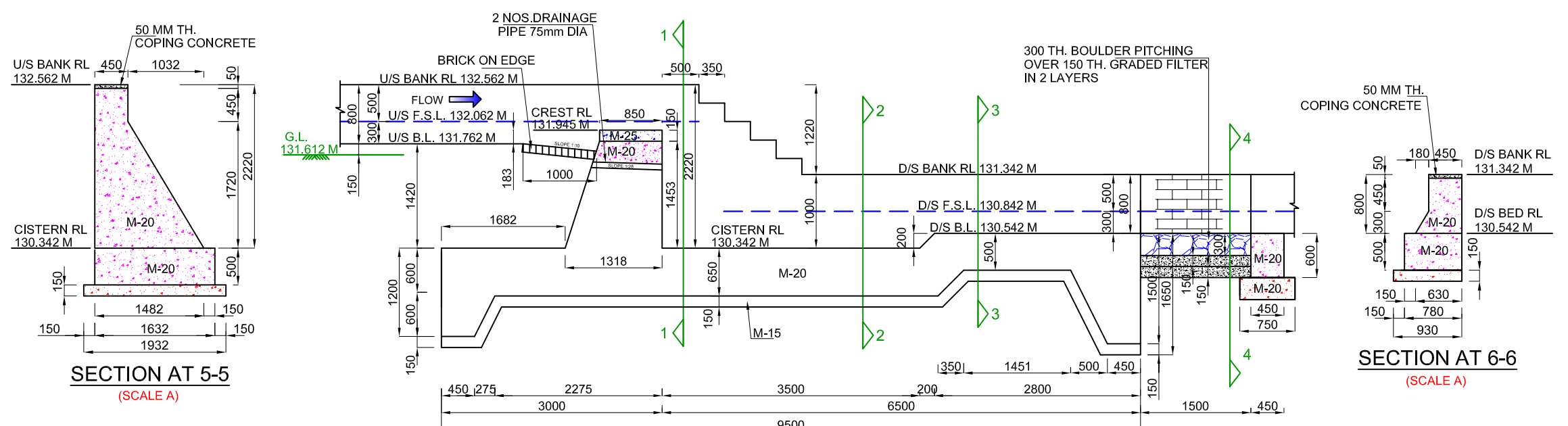


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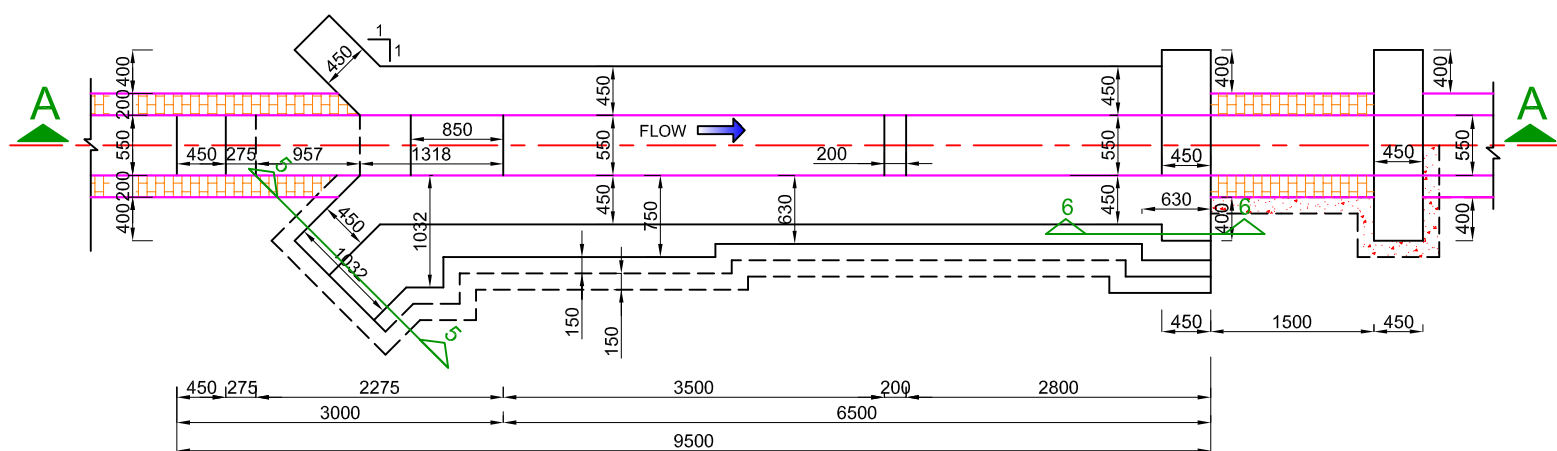
FLOOR	M 20
FOUNDATION OF ABUTMENTS & WING WALL	M 20
PCC UNDER FLOOR	M 15
ABUTMENTS / WING WALLS	M 20
4. ANY OVER DIGGING SHALL BE FILLED BY CONCRETE 1:3:6 GRADE.
5. SKIN REINFORCEMENT SHALL BE PROVIDED IN FLOOR AND ABUTMENT OF 12 MM DIA BARS @ 250 MM.

	U/S	D/S	UNIT
FULL SUPPLY DISCHARGE	0.060	0.060	CUMEC
VERTICAL DROP	0.305	0.305	METRE
FULL SUPPLY DEPTH	0.360	0.360	METRE
BED WIDTH	0.550	0.550	METRE
BED SLOPE	1 : 3000	1 : 3000	

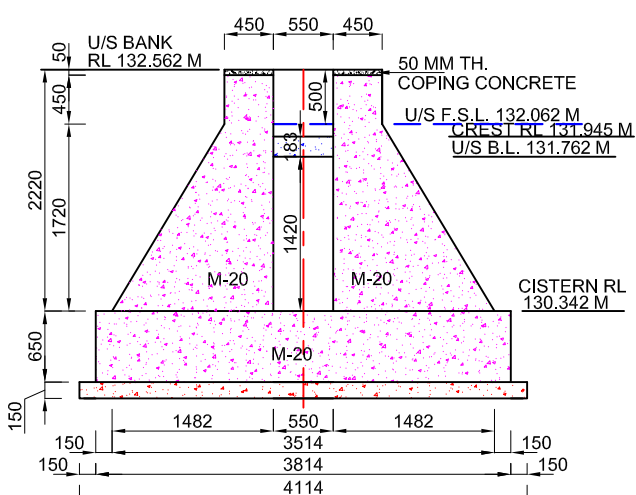




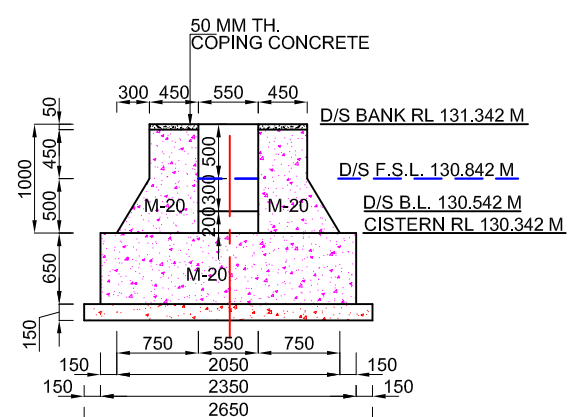
SECTION A-A
(SCALE A)



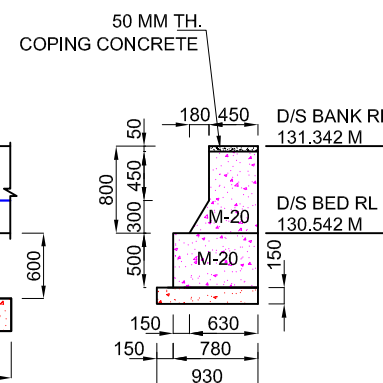
HALF TOP / HALF FOUNDATION PLAN
(SCALE A)



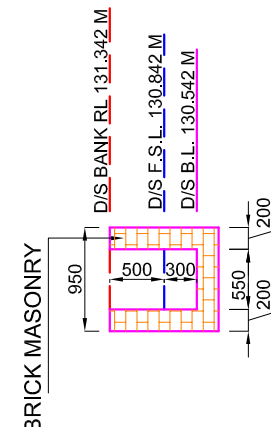
SECTION AT 1-1
(SCALE A)



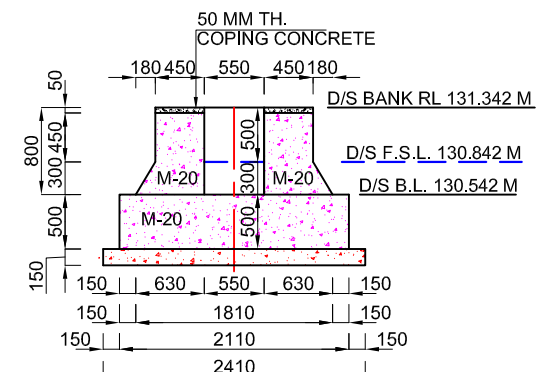
SECTION AT 2-2
(SCALE A)



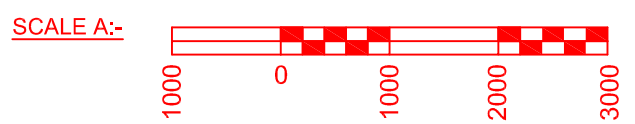
SECTION AT 6-6
(SCALE A)



SECTION AT 4-4
(SCALE A)



SECTION AT 3-3
(SCALE A)



NOTES:-

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FLOOR	M 20
FOUNDATION OF ABUTMENTS & WING WALL	M 20
PCC UNDER FLOOR	M 15
ABUTMENTS / WING WALLS	M 20
4. ANY OVER DIGGING SHALL BE FILLED BY CONCRETE 1:3:6 GRADE.
5. SKIN REINFORCEMENT SHALL BE PROVIDED IN FLOOR AND ABUTMENT OF 12 MM DIA BARS @ 250 MM.

HYDRAULIC:- DATA

	U/S	D/S	UNIT
FULL SUPPLY DISCHARGE	0.030	0.030	CUMEC
VERTICAL DROP	1.220	1.220	METRE
FULL SUPPLY DEPTH	0.300	0.300	METRE
BED WIDTH	0.550	0.550	METRE
BED SLOPE	1 : 3000	1 : 3000	

Prepared by :- WAPCOS LTD. 	Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND		
	Drawing Title :-	SHARDA TYPE 1.220 M HT. FALL AT KM. 1.305 OF SATTAR MR. (OFFTAKE FROM RD - 3+480 KM. (R), KULHARIA SUB-DY. CANAL)		
	Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-09-02/ FALL 1 of 1		
	Drawn by:-	Checked by:-	Approved by:-	

