TENDER DOCUMENT

FOR

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

Estimated Cost (Rs. 50.95 Crores)

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

TENDER DRAWINGS

Issued to M/s

_____

WAPCOS

(भारत सरकार का उपक्रम–जल शक्ति मंत्रालय)

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

NORTH KOEL RESERVOIR PROJECT

FEBRUARY 2025

Completion of Balance Works of North Koel Reservoir Project

DRAWING REPORT – CHAIN NAWADA SUB-DY. (OFFTAKING FROM RIGHT MAIN CANAL AT 93.95 KM)







WAPCOS LIMITED

(GOVT. OF INDIA UNDERTAKING)

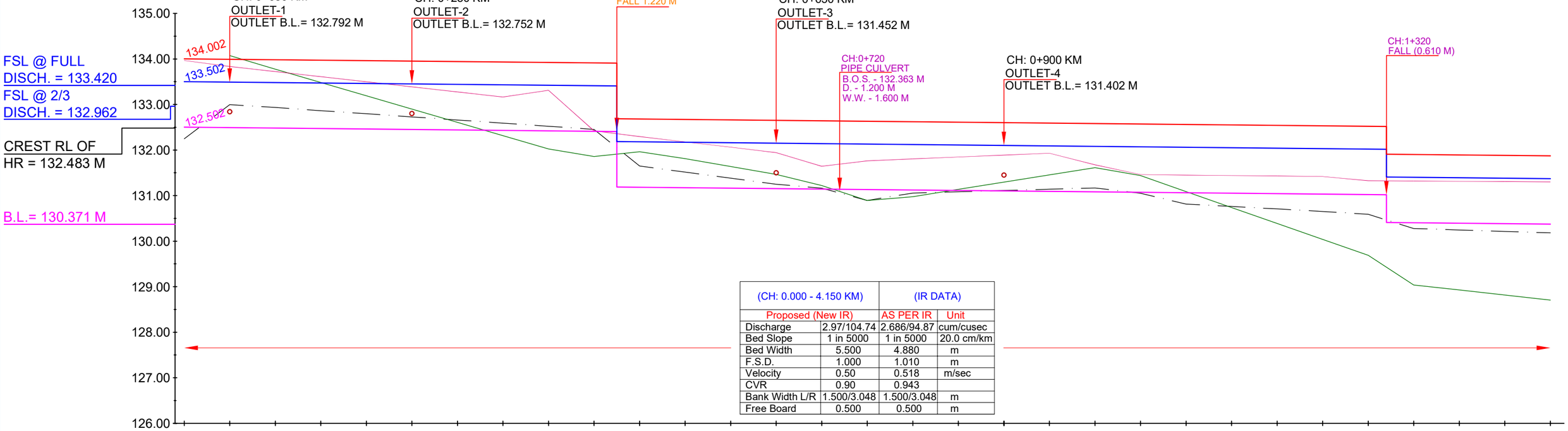
76- C SECTOR-18 INDUSTRIAL AREA, GURUGRAM-122015 (HARYANA)

INDEX		
S.NO	**DESCRIPTION**	**PAGE NO.**
1	L-SECTION OF CHAIN NAWADA SUB DY.	1
2	L-SECTION OF PARANPUR MINOR	12
3	L-SECTION OF SALAIYA MINOR	16
4	L-SECTION OF DHAMANI SUB DY.	19
5	TYPICAL X-SECTION OF CHAIN NAWADA SUB DY.	25
6	TYPICAL X-SECTION OF PARANPUR MINOR	45
7	TYPICAL X-SECTION OF SALAIYA MINOR	60
8	TYPICAL X-SECTION OF DHAMANI SUB DY.	72
9	CROSS-SECTION OF MAHUWAN SUB DY.	79
10	CROSS-SECTION OF PARANPUR MINOR	114
11	CROSS-SECTION OF SALAIYA MINOR	122
12	CROSS-SECTION OF DHAMANI SUB DY.	128
13	DRAWINGS OF STRUCTURES	140

L-SECTION

L- SECTION OF CHAIN NAWADA SUB-DISTRIBUTARY
(OFFTAKE FROM RD - 94+494 KM. (LT), NORTH KOEL RIGHT MAIN CANAL)
FROM CH 0+000 TO 1+500

DATA OF PARENT CANAL



(CH: 0.000 - 4.150 KM)		(IR DATA)	
Proposed (New IR)		AS PER IR	Unit
Discharge	2.97/104.74	2.686/94.87	cum/cusec
Bed Slope	1 in 5000	1 in 5000	20.0 cm/km
Bed Width	5.500	4.880	m
F.S.D.	1.000	1.010	m
Velocity	0.50	0.518	m/sec
CVR	0.90	0.943	
Bank Width L/R	1.500/3.048	1.500/3.048	m
Free Board	0.500	0.500	m

		0+000	0+050	0+100	0+150	0+200	0+250	0+300	0+350	0+400	0+450	0+500	0+550	0+600	0+650	0+700	0+750	0+800	0+850	0+900	0+950	1+000	1+050	1+100	1+150	1+200	1+250	1+300	1+350	1+400	1+450	1+500
DESIGN DATA	TOP OF BANK LEVEL	134.002	133.992	133.982	133.972	133.962	133.952	133.942	133.932	133.922	133.912	133.907 132.887	132.672	132.662	132.652	132.642	132.632	132.622	132.612	132.602	132.592	132.582	132.572	132.562	132.552	132.542	132.532	132.522	132.518 131.908	131.902	131.892	131.882	131.872
	F.S.L.	133.502	133.492	133.482	133.472	133.462	133.452	133.442	133.432	133.422	133.412	133.407 132.187	132.172	132.162	132.152	132.142	132.132	132.122	132.112	132.102	132.092	132.082	132.072	132.062	132.052	132.042	132.032	132.022	132.018 131.408	131.402	131.392	131.382	131.372
	Proposed Bed Level	132.502	132.492	132.482	132.472	132.462	132.452	132.442	132.432	132.422	132.412	132.407 131.187	131.172	131.162	131.152	131.142	131.132	131.122	131.112	131.102	131.092	131.082	131.072	131.062	131.052	131.042	131.032	131.022	131.018 130.408	130.402	130.392	130.382	130.372
EXISTING DATA	Bed Level	132.247	132.996	132.934	132.865	132.797	132.728	132.659	132.591	132.522	132.454	131.649	131.515	131.381	131.250	131.163	130.893	131.056	131.084	131.112	131.140	131.168	131.051	130.815	130.761	130.708	130.652	130.590	130.277	130.245	130.212	130.182
	TOP OF BANK LEVEL	133.967	133.836	133.724	133.612	133.500	133.389	133.277	133.166	133.311	132.423	132.295	132.179	132.064	131.944	131.644	131.764	131.806	131.848	131.890	131.931	131.678	131.462	131.451	131.440	131.430	131.419	131.327	131.321	131.315	131.308	131.302
	NSL		134.073	133.775	133.483	133.191	132.900	132.608	132.316	132.025	131.860	131.964	131.813	131.639	131.465	131.222	130.892	130.977	131.136	131.295	131.454	131.613	131.440	131.086	130.737	130.387	130.037	129.689	129.038	128.927	128.816	128.705
	Chainage IN KM	0+000	0+050	0+100	0+150	0+200	0+250	0+300	0+350	0+400	0+450	0+500	0+550	0+600	0+650	0+700	0+750	0+800	0+850	0+900	0+950	1+000	1+050	1+100	1+150	1+200	1+250	1+300	1+350	1+400	1+450	1+500

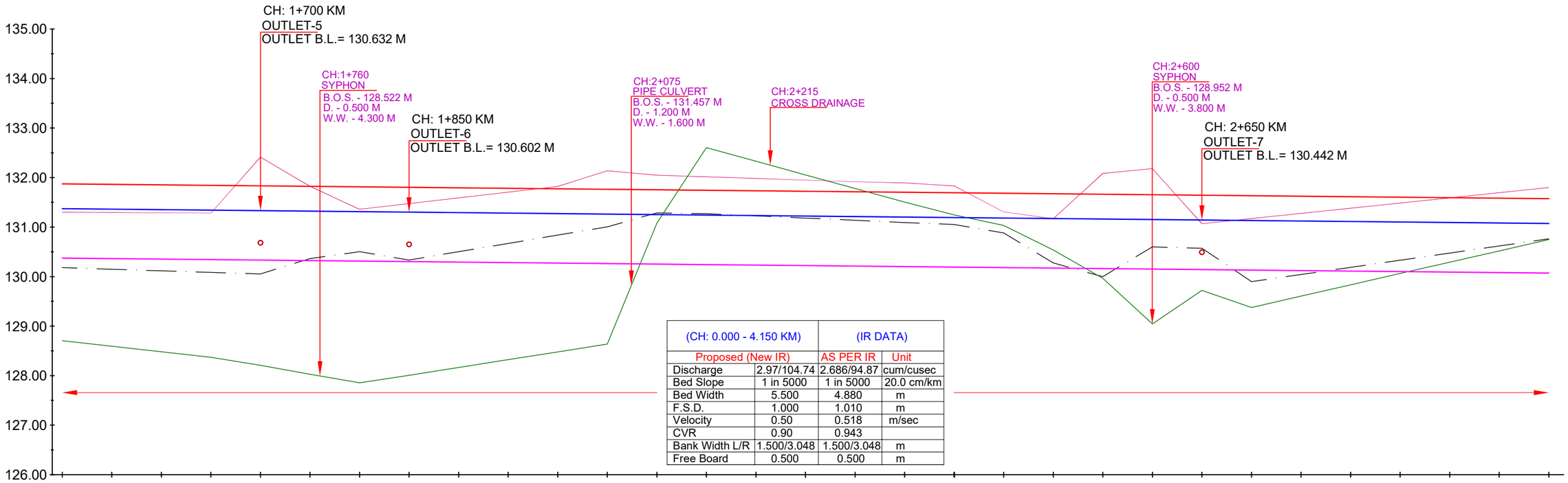
LEGEND

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

IMPLEMENTING AGENCY :-
WAPCOS LTD.

PROJECT TITLE :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
DRAWING TITLE :-	L- SECTION OF CHAIN NAWADA SUB-DY. (OFFTAKE FROM RD - 94+494 KM. (L), NORTH KOEL RIGHT MAIN CANAL)
DRAWING NO. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34/ LSEC- 01 of 10

L- SECTION OF CHAIN NAWADA SUB-DISTRIBUTARY
(OFFTAKE FROM RD - 94+494 KM. (LT), NORTH KOEL RIGHT MAIN CANAL)
FROM CH 1+500 TO 3+000



(CH: 0.000 - 4.150 KM)		(IR DATA)	
Proposed (New IR)		AS PER IR	Unit
Discharge	2.97/104.74	2.686/94.87	cum/cusec
Bed Slope	1 in 5000	1 in 5000	20.0 cm/km
Bed Width	5.500	4.880	m
F.S.D.	1.000	1.010	m
Velocity	0.50	0.518	m/sec
CVR	0.90	0.943	
Bank Width L/R	1.500/3.048	1.500/3.048	m
Free Board	0.500	0.500	m

		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+100	2+150	2+200	2+250	2+300	2+350	2+400	2+450	2+500	2+550	2+600	2+650	2+700	2+750	2+800	2+850	2+900	2+950	3+000
DESIGN DATA	TOP OF BANK LEVEL	131.872	131.862	131.852	131.842	131.832	131.822	131.812	131.802	131.792	131.782	131.772	131.762	131.752	131.742	131.732	131.722	131.712	131.702	131.692	131.682	131.672	131.662	131.652	131.642	131.632	131.622	131.612	131.602	131.592	131.582	131.572
	F.S.L.	131.372	131.362	131.352	131.342	131.332	131.322	131.312	131.302	131.292	131.282	131.272	131.262	131.252	131.242	131.232	131.222	131.212	131.202	131.192	131.182	131.172	131.162	131.152	131.142	131.132	131.122	131.112	131.102	131.092	131.082	131.072
	Proposed Bed Level	130.372	130.362	130.352	130.342	130.332	130.322	130.312	130.302	130.292	130.282	130.272	130.262	130.252	130.242	130.232	130.222	130.212	130.202	130.192	130.182	130.172	130.162	130.152	130.142	130.132	130.122	130.112	130.102	130.092	130.082	130.072
EXISTING DATA	Bed Level	130.182	130.147	130.118	130.084	130.054	130.364	130.504	130.333	130.504	130.670	130.838	131.006	131.287	131.271	131.226	131.182	131.137	131.092	131.052	130.882	130.276	129.998	130.600	130.572	129.899	130.043	130.187	130.331	130.475	130.619	130.763
	TOP OF BANK LEVEL	131.302	131.295	131.289	131.344	132.413	131.824	131.361	131.476	131.591	131.705	131.820	132.137	132.048	132.015	131.982	131.949	131.916	131.893	131.832	131.307	131.169	132.083	132.181	131.066	131.171	131.275	131.380	131.484	131.589	131.693	131.798
	NSL	128.705	128.593	128.482	128.371	128.209	128.027	127.854	128.008	128.166	128.322	128.480	128.636	131.079	132.605	132.330	132.054	131.779	131.504	131.245	131.033	130.536	129.967	129.044	129.722	129.377	129.605	129.833	130.062	130.290	130.519	130.747
	Chainage	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+100	2+150	2+200	2+250	2+300	2+350	2+400	2+450	2+500	2+550	2+600	2+650	2+700	2+750	2+800	2+850	2+900	2+950	3+000

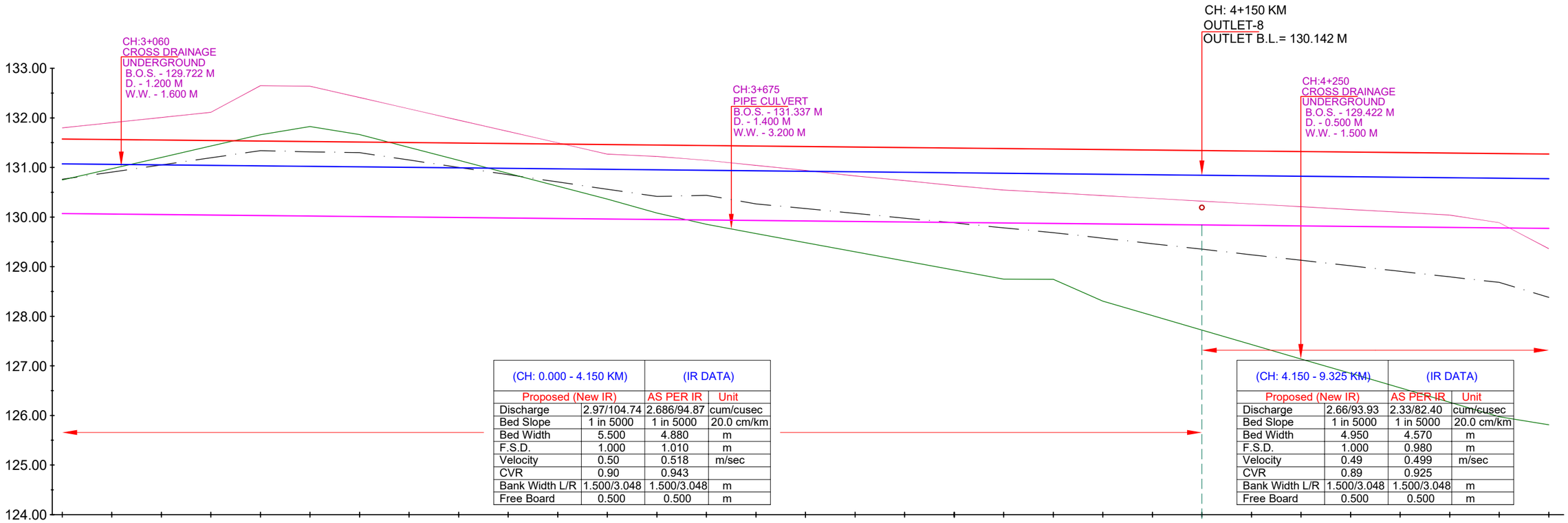
LEGEND

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

IMPLEMENTING AGENCY :-
WAPCOS LTD.

PROJECT TITLE :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
DRAWING TITLE :-	L- SECTION OF CHAIN NAWADA SUB-DY. (OFFTAKE FROM RD - 94+494 KM. (L), NORTH KOEL RIGHT MAIN CANAL)
DRAWING NO. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34/ LSEC- 02 of 10

L- SECTION OF CHAIN NAWADA SUB-DISTRIBUTARY
(OFFTAKE FROM RD - 94+494 KM. (LT), NORTH KOEL RIGHT MAIN CANAL)
FROM CH 3+000 TO 4+500



(CH: 0.000 - 4.150 KM)	(IR DATA)	
Proposed (New IR)	AS PER IR	Unit
Discharge	2.97/104.74	2.686/94.87	cum/cusec
Bed Slope	1 in 5000	1 in 5000	20.0 cm/km
Bed Width	5.500	4.880	m
F.S.D.	1.000	1.010	m
Velocity	0.50	0.518	m/sec
CVR	0.90	0.943	
Bank Width L/R	1.500/3.048	1.500/3.048	m
Free Board	0.500	0.500	m

(CH: 4.150 - 9.325 KM)	(IR DATA)	
Proposed (New IR)	AS PER IR	Unit
Discharge	2.66/93.93	2.33/82.40	cum/cusec
Bed Slope	1 in 5000	1 in 5000	20.0 cm/km
Bed Width	4.950	4.570	m
F.S.D.	1.000	0.980	m
Velocity	0.49	0.499	m/sec
CVR	0.89	0.925	
Bank Width L/R	1.500/3.048	1.500/3.048	m
Free Board	0.500	0.500	m

		3+000	3+050	3+100	3+150	3+200	3+250	3+300	3+350	3+400	3+450	3+500	3+550	3+600	3+650	3+700	3+750	3+800	3+850	3+900	3+950	4+000	4+050	4+100	4+150	4+200	4+250	4+300	4+350	4+400	4+450	4+500
DESIGN DATA	TOP OF BANK LEVEL	131.572	131.562	131.552	131.542	131.532	131.522	131.512	131.502	131.492	131.482	131.472	131.462	131.452	131.442	131.432	131.422	131.412	131.402	131.392	131.382	131.372	131.362	131.352	131.342	131.332	131.322	131.312	131.302	131.292	131.282	131.272
	F.S.L.	131.072	131.062	131.052	131.042	131.032	131.022	131.012	131.002	130.992	130.982	130.972	130.962	130.952	130.942	130.932	130.922	130.912	130.902	130.892	130.882	130.872	130.862	130.852	130.842	130.832	130.822	130.812	130.802	130.792	130.782	130.772
	Proposed Bed Level	130.072	130.062	130.052	130.042	130.032	130.022	130.012	130.002	129.992	129.982	129.972	129.962	129.952	129.942	129.932	129.922	129.912	129.902	129.892	129.882	129.872	129.862	129.852	129.842	129.832	129.822	129.812	129.802	129.792	129.782	129.772
EXISTING DATA	Bed Level	130.763	130.908	131.052	131.196	131.340	131.315	131.298	131.151	131.002	130.856	130.708	130.561	130.415	130.438	130.267	130.171	130.074	129.978	129.882	129.783	129.686	129.575	129.463	129.352	129.240	129.129	129.017	128.906	128.794	128.683	128.382
	TOP OF BANK LEVEL	131.798	131.902	132.007	132.111	132.650	132.640	132.412	132.183	131.955	131.727	131.498	131.270	131.223	131.145	131.043	130.941	130.829	130.736	130.634	130.546	130.490	130.434	130.378	130.321	130.265	130.209	130.153	130.097	130.040	129.888	129.362
	NSL	130.747	130.976	131.204	131.432	131.661	131.826	131.665	131.404	131.143	130.883	130.623	130.362	130.080	129.856	129.669	129.485	129.301	129.116	128.933	128.748	128.744	128.306	128.014	127.722	127.431	127.139	126.848	126.556	126.265	125.973	125.813
	Chainage	3+000	3+050	3+100	3+150	3+200	3+250	3+300	3+350	3+400	3+450	3+500	3+550	3+600	3+650	3+700	3+750	3+800	3+850	3+900	3+950	4+000	4+050	4+100	4+150	4+200	4+250	4+300	4+350	4+400	4+450	4+500

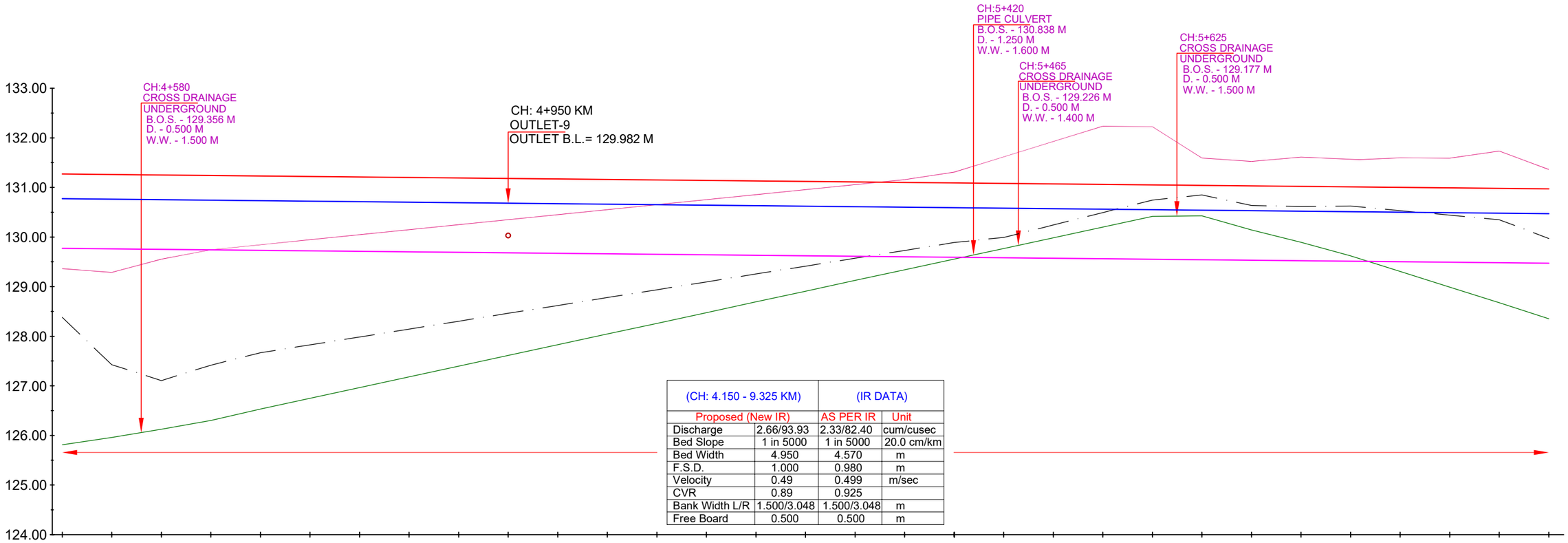
LEGEND

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

IMPLEMENTING AGENCY :-
WAPCOS LTD.

PROJECT TITLE :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
DRAWING TITLE :-	L- SECTION OF CHAIN NAWADA SUB-DY. (OFFTAKE FROM RD - 94+494 KM. (L), NORTH KOEL RIGHT MAIN CANAL)
DRAWING NO. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34/ LSEC- 03 of 10

L- SECTION OF CHAIN NAWADA SUB-DISTRIBUTARY
(OFFTAKE FROM RD - 94+494 KM. (LT), NORTH KOEL RIGHT MAIN CANAL)
FROM CH 4+500 TO 6+000



(CH: 4.150 - 9.325 KM)		(IR DATA)	
Proposed (New IR)		AS PER IR	Unit
Discharge	2.66/93.93	2.33/82.40	cum/cusec
Bed Slope	1 in 5000	1 in 5000	20.0 cm/km
Bed Width	4.950	4.570	m
F.S.D.	1.000	0.980	m
Velocity	0.49	0.499	m/sec
CVR	0.89	0.925	
Bank Width L/R	1.500/3.048	1.500/3.048	m
Free Board	0.500	0.500	m

		4+500	4+550	4+600	4+650	4+700	4+750	4+800	4+850	4+900	4+950	5+000	5+050	5+100	5+150	5+200	5+250	5+300	5+350	5+400	5+450	5+500	5+550	5+600	5+650	5+700	5+750	5+800	5+850	5+900	5+950	6+000
DESIGN DATA	TOP OF BANK LEVEL	131.272	131.262	131.252	131.242	131.232	131.222	131.212	131.202	131.192	131.182	131.172	131.162	131.152	131.142	131.132	131.122	131.112	131.102	131.092	131.082	131.072	131.062	131.052	131.042	131.032	131.022	131.012	131.002	130.992	130.982	130.972
	F.S.L.	130.772	130.762	130.752	130.742	130.732	130.722	130.712	130.702	130.692	130.682	130.672	130.662	130.652	130.642	130.632	130.622	130.612	130.602	130.592	130.582	130.572	130.562	130.552	130.542	130.532	130.522	130.512	130.502	130.492	130.482	130.472
	Proposed Bed Level	129.772	129.762	129.752	129.742	129.732	129.722	129.712	129.702	129.692	129.682	129.672	129.662	129.652	129.642	129.632	129.622	129.612	129.602	129.592	129.582	129.572	129.562	129.552	129.542	129.532	129.522	129.512	129.502	129.492	129.482	129.472
EXISTING DATA	Bed Level	128.382	127.427	127.107	127.416	127.667	127.827	127.984	128.144	128.302	128.462	128.620	128.779	128.937	129.096	129.255	129.413	129.572	129.730	129.889	129.992	130.243	130.494	130.745	130.848	130.635	130.616	130.624	130.532	130.442	130.350	129.971
	TOP OF BANK LEVEL	129.362	129.289	129.555	129.743	129.844	129.946	130.047	130.148	130.248	130.350	130.451	130.552	130.653	130.754	130.855	130.956	131.057	131.158	131.308	131.617	131.927	132.236	132.226	131.594	131.526	131.611	131.604	131.597	131.590	131.733	131.363
	NSL	125.813	125.958	126.125	126.301	126.532	126.747	126.964	127.180	127.396	127.612	127.828	128.044	128.260	128.476	128.693	128.908	129.125	129.341	129.557	129.767	129.983	130.200	130.416	130.428	130.144	129.893	129.619	129.306	128.991	128.675	128.353
	Chainage																															

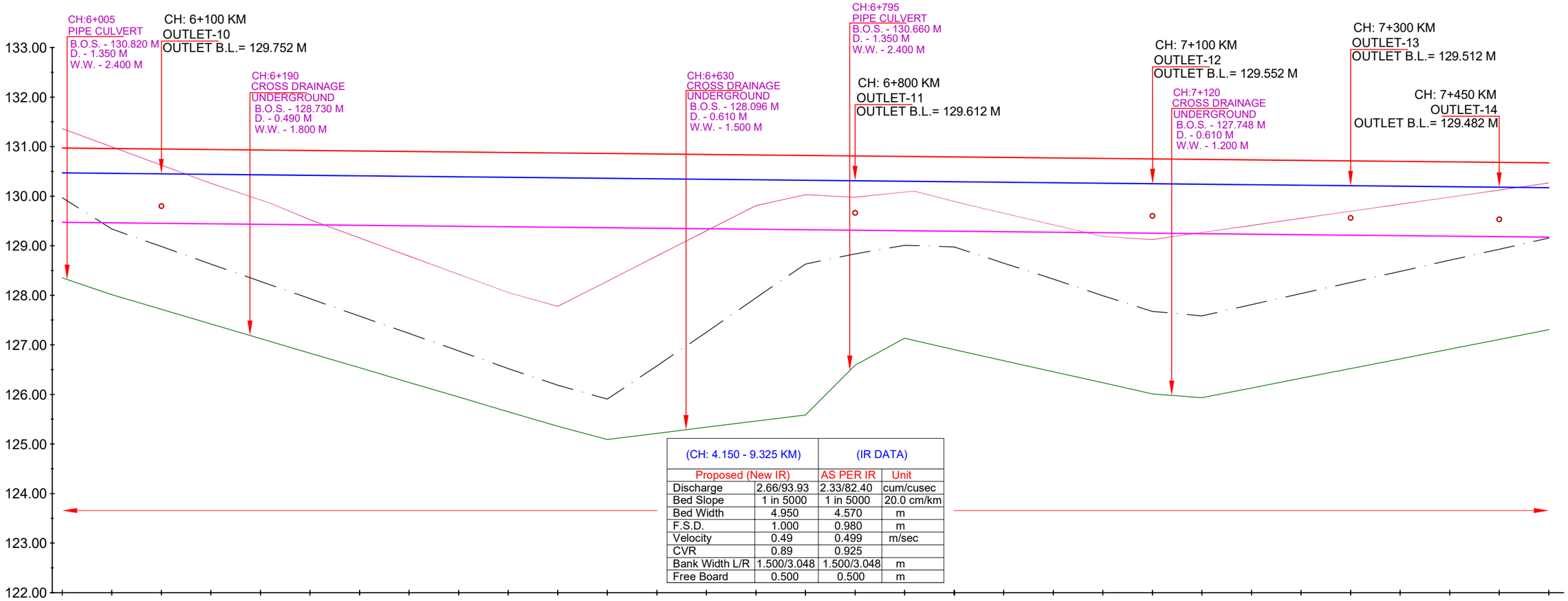
LEGEND

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

IMPLEMENTING AGENCY :-
WAPCOS LTD.

PROJECT TITLE :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
DRAWING TITLE :-	L- SECTION OF CHAIN NAWADA SUB-DY. (OFFTAKE FROM RD - 94+494 KM. (L), NORTH KOEL RIGHT MAIN CANAL)
DRAWING NO. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34/ LSEC- 04 of 10

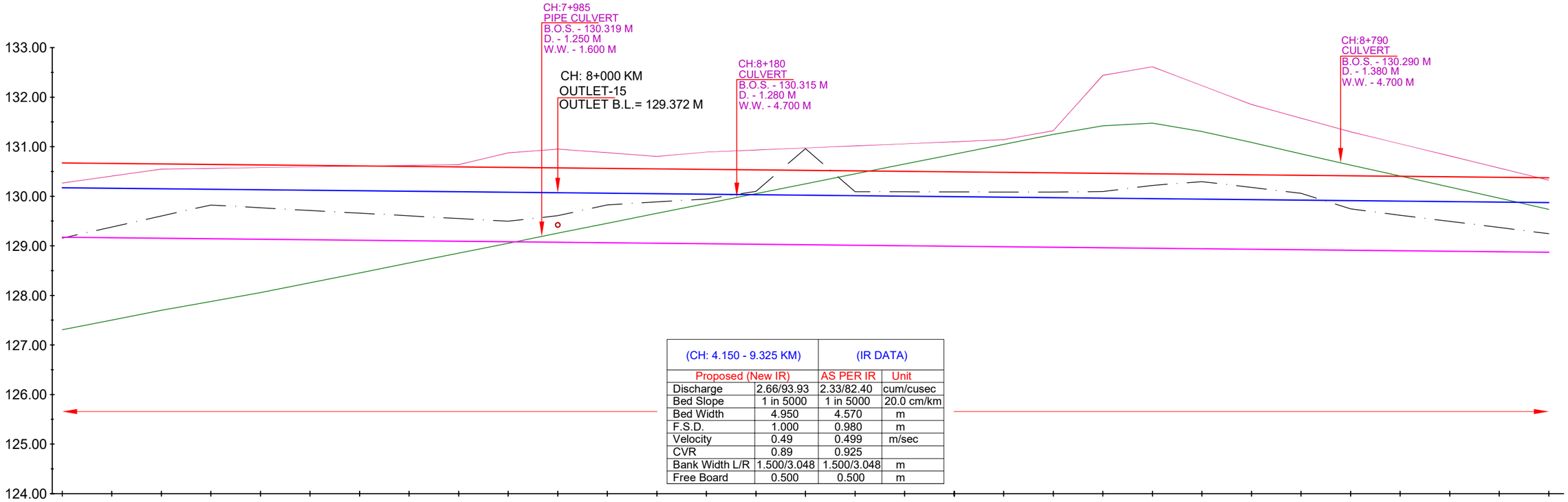
L- SECTION OF CHAIN NAWADA SUB-DISTRIBUTARY
(OFFTAKE FROM RD - 94+494 KM. (LT), NORTH KOEL RIGHT MAIN CANAL)
FROM CH 6+000 TO 7+500



(CH: 4.150 - 9.325 KM)		(IR DATA)	
Proposed (New IR)		AS PER IR	Unit
Discharge	2.66/93.93	2.33/82.40	cum/cusec
Bed Slope	1 in 5000	1 in 5000	20.0 cm/km
Bed Width	4.950	4.570	m
F.S.D.	1.000	0.980	m
Velocity	0.49	0.499	m/sec
CVR	0.89	0.925	
Bank Width L/R	1.500/3.048	1.500/3.048	m
Free Board	0.500	0.500	m

| | | |

L- SECTION OF CHAIN NAWADA SUB-DISTRIBUTARY
(OFFTAKE FROM RD - 94+494 KM. (LT), NORTH KOEL RIGHT MAIN CANAL)
FROM CH 7+500 TO 9+000



(CH: 4.150 - 9.325 KM)		(IR DATA)	
Proposed (New IR)		AS PER IR	Unit
Discharge	2.66/93.93	2.33/82.40	cum/cusec
Bed Slope	1 in 5000	1 in 5000	20.0 cm/km
Bed Width	4.950	4.570	m
F.S.D.	1.000	0.980	m
Velocity	0.49	0.499	m/sec
CVR	0.89	0.925	
Bank Width L/R	1.500/3.048	1.500/3.048	m
Free Board	0.500	0.500	m

		7+500	7+550	7+600	7+650	7+700	7+750	7+800	7+850	7+900	7+950	8+000	8+050	8+100	8+150	8+200	8+250	8+300	8+350	8+400	8+450	8+500	8+550	8+600	8+650	8+700	8+750	8+800	8+850	8+900	8+950	9+000
DESIGN DATA	TOP OF BANK LEVEL	130.672	130.662	130.652	130.642	130.632	130.622	130.612	130.602	130.592	130.582	130.572	130.562	130.552	130.542	130.532	130.522	130.512	130.502	130.492	130.482	130.472	130.462	130.452	130.442	130.432	130.422	130.412	130.402	130.392	130.382	130.372
	F.S.L.	130.172	130.162	130.152	130.142	130.132	130.122	130.112	130.102	130.092	130.082	130.072	130.062	130.052	130.042	130.032	130.022	130.012	130.002	129.992	129.982	129.972	129.962	129.952	129.942	129.932	129.922	129.912	129.902	129.892	129.882	129.872
	Proposed Bed Level	129.172	129.162	129.152	129.142	129.132	129.122	129.112	129.102	129.092	129.082	129.072	129.062	129.052	129.042	129.032	129.022	129.012	129.002	128.992	128.982	128.972	128.962	128.952	128.942	128.932	128.922	128.912	128.902	128.892	128.882	128.872
EXISTING DATA	Bed Level	129.155	129.379	129.603	129.823	129.768	129.714	129.660	129.606	129.551	129.497	129.608	129.826	129.888	129.945	130.099	130.096	130.094	130.091	130.089	130.086	130.085	130.096	130.220	130.296	130.178	130.059	129.745	129.618	129.494	129.370	129.246
	TOP OF BANK LEVEL	130.266	130.409	130.549	130.564	130.579	130.594	130.609	130.624	130.639	130.877	130.953	130.879	130.805	130.893	130.934	130.976	131.017	131.059	131.100	131.142	131.322	132.440	132.614	132.234	131.854	131.574	131.303	131.058	130.814	130.570	130.326
	NSL	127.306	127.502	127.698	127.875	128.055	128.255	128.454	128.653	128.853	129.052	129.257	129.455	129.656	129.855	130.052	130.251	130.451	130.650	130.849	131.048	131.248	131.423	131.475	131.307	131.087	130.857	130.629	130.410	130.185	129.961	129.736
Chainage																																

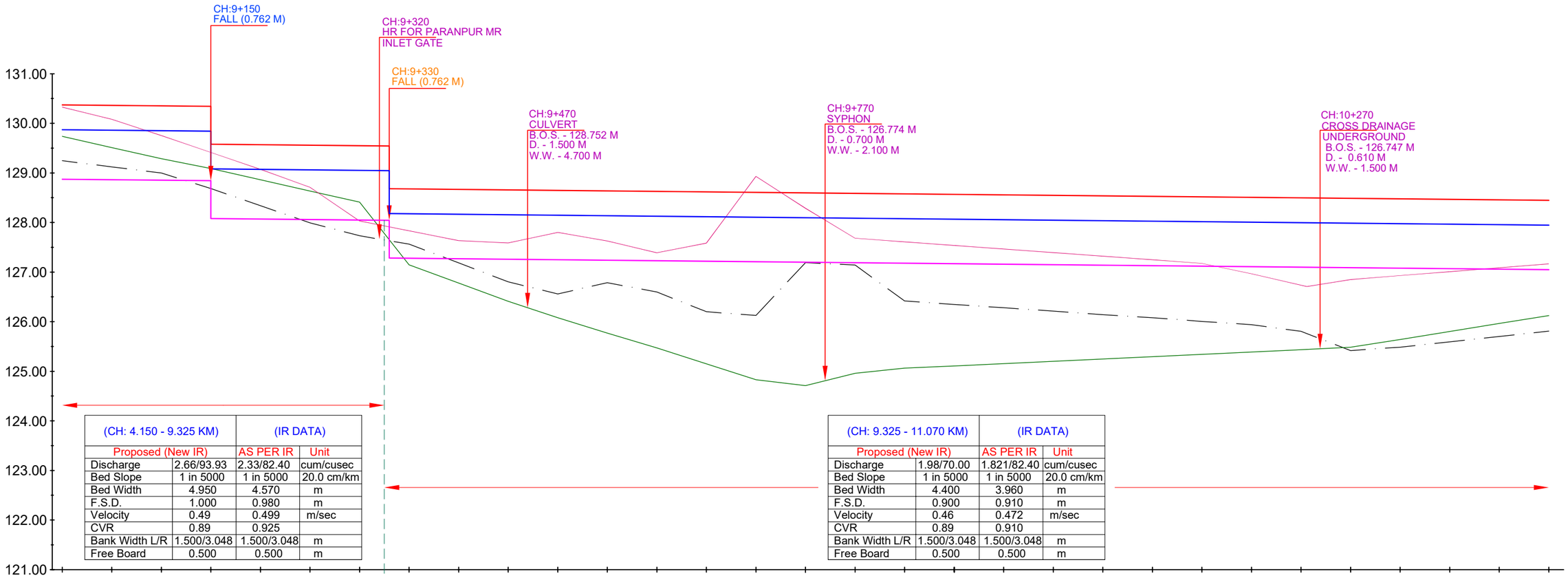
LEGEND

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

IMPLEMENTING AGENCY :-
WAPCOS LTD.

PROJECT TITLE :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
DRAWING TITLE :-	L- SECTION OF CHAIN NAWADA SUB-DY. (OFFTAKE FROM RD - 94+494 KM. (L), NORTH KOEL RIGHT MAIN CANAL)
DRAWING NO. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34/ LSEC- 06 of 10

L- SECTION OF CHAIN NAWADA SUB-DISTRIBUTARY
(OFFTAKE FROM RD - 94+494 KM. (LT), NORTH KOEL RIGHT MAIN CANAL)
FROM CH 9+000 TO 10+500



(CH: 4.150 - 9.325 KM)		(IR DATA)	
Proposed (New IR)		AS PER IR	Unit
Discharge	2.66/93.93	2.33/82.40	cum/cusec
Bed Slope	1 in 5000	1 in 5000	20.0 cm/km
Bed Width	4.950	4.570	m
F.S.D.	1.000	0.980	m
Velocity	0.49	0.499	m/sec
CVR	0.89	0.925	
Bank Width L/R	1.500/3.048	1.500/3.048	m
Free Board	0.500	0.500	m

(CH: 9.325 - 11.070 KM)		(IR DATA)	
Proposed (New IR)		AS PER IR	Unit
Discharge	1.98/70.00	1.821/82.40	cum/cusec
Bed Slope	1 in 5000	1 in 5000	20.0 cm/km
Bed Width	4.400	3.960	m
F.S.D.	0.900	0.910	m
Velocity	0.46	0.472	m/sec
CVR	0.89	0.910	
Bank Width L/R	1.500/3.048	1.500/3.048	m
Free Board	0.500	0.500	m

		9+000	9+050	9+100	9+150	9+200	9+250	9+300	9+325	9+350	9+400	9+450	9+500	9+550	9+600	9+650	9+700	9+750	9+800	9+850	9+900	9+950	10+000	10+050	10+100	10+150	10+200	10+250	10+300	10+350	10+400	10+450	10+500
DESIGN DATA	TOP OF BANK LEVEL	130.372	130.362	130.352	130.342 129.580	129.570	129.560	129.550 129.445	129.444 128.692	128.678	128.668	128.658	128.648	128.638	128.628	128.618	128.608	128.598	128.588	128.578	128.568	128.558	128.548	128.538	128.528	128.518	128.508	128.498	128.488	128.478	128.468	128.458	128.448
	F.S.L.	129.872	129.862	129.852	129.842 129.080	129.070	129.060	129.050 129.045	129.044 128.182	128.178	128.168	128.158	128.148	128.138	128.128	128.118	128.108	128.098	128.088	128.078	128.068	128.058	128.048	128.038	128.028	128.018	128.008	127.998	127.988	127.978	127.968	127.958	127.948
	Proposed Bed Level	128.872	128.862	128.852	128.842 128.080	128.070	128.060	128.050 128.045	128.044 127.282	127.278	127.268	127.258	127.248	127.238	127.228	127.218	127.208	127.198	127.188	127.178	127.168	127.158	127.148	127.138	127.128	127.118	127.108	127.098	127.088	127.078	127.068	127.058	127.048
EXISTING DATA	Bed Level	129.246	129.122	128.998	128.684	128.338	127.995	127.733		127.563	127.186	126.805	126.560	126.787	126.599	126.201	126.126	127.189	127.142	126.419	126.348	126.281	126.213	126.142	126.079	126.006	125.940	125.805	125.418	125.487	125.594	125.702	125.810
	TOP OF BANK LEVEL	130.326	130.083	129.753	129.413	129.072	128.710	128.032		127.833	127.635	127.588	127.801	127.627	127.391	127.585	128.930	128.288	127.683	127.611	127.538	127.466	127.394	127.321	127.248	127.176	126.967	126.789	126.851	126.930	127.009	127.088	127.167
	NSL	129.736	129.511	129.287	129.088	128.861	128.634	128.411		127.145	126.778	126.412	126.079	125.770	125.470	125.150	124.829	124.711	124.960	125.062	125.108	125.155	125.201	125.248	125.294	125.340	125.387	125.436	125.486	125.642	125.803	125.963	126.123
	Chainage																																

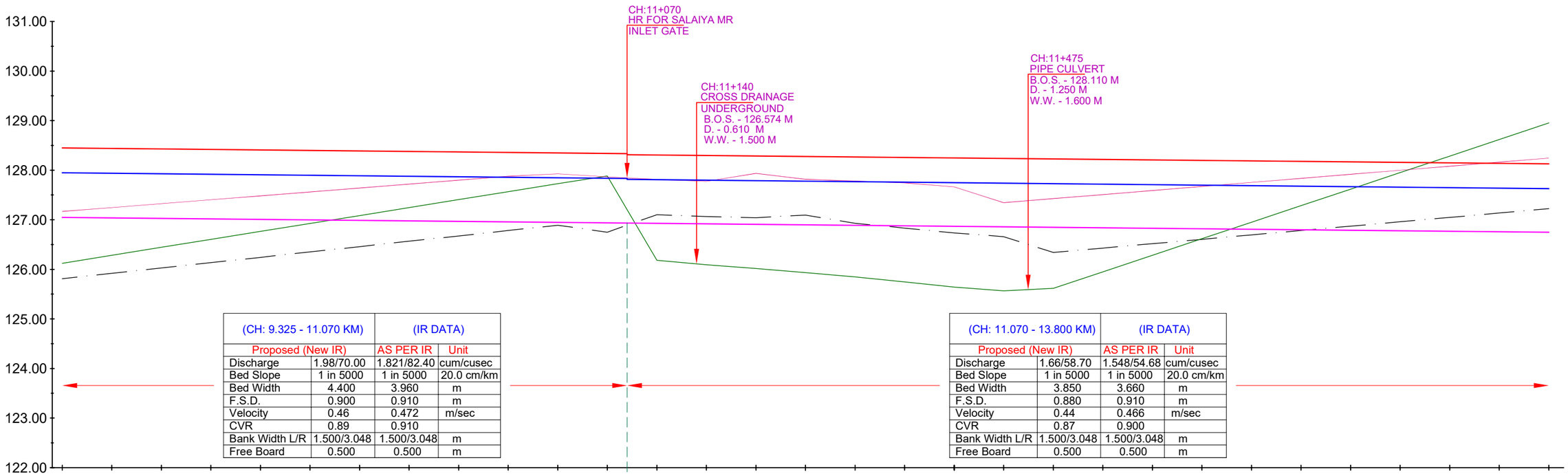
LEGEND

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

IMPLEMENTING AGENCY :-
WAPCOS LTD.

PROJECT TITLE :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
DRAWING TITLE :-	L- SECTION OF CHAIN NAWADA SUB-DY. (OFFTAKE FROM RD - 94+494 KM. (L), NORTH KOEL RIGHT MAIN CANAL)
DRAWING NO. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34/ LSEC- 07 of 10

L- SECTION OF CHAIN NAWADA SUB-DISTRIBUTARY
(OFFTAKE FROM RD - 94+494 KM. (LT), NORTH KOEL RIGHT MAIN CANAL)
FROM CH 10+500 TO 12+000



(CH: 9.325 - 11.070 KM)		(IR DATA)	
Proposed (New IR)		AS PER IR	Unit
Discharge	1.98/70.00	1.821/82.40	cum/cusec
Bed Slope	1 in 5000	1 in 5000	20.0 cm/km
Bed Width	4.400	3.960	m
F.S.D.	0.900	0.910	m
Velocity	0.46	0.472	m/sec
CVR	0.89	0.910	
Bank Width L/R	1.500/3.048	1.500/3.048	m
Free Board	0.500	0.500	m

(CH: 11.070 - 13.800 KM)		(IR DATA)	
Proposed (New IR)		AS PER IR	Unit
Discharge	1.66/58.70	1.548/54.68	cum/cusec
Bed Slope	1 in 5000	1 in 5000	20.0 cm/km
Bed Width	3.850	3.660	m
F.S.D.	0.880	0.910	m
Velocity	0.44	0.466	m/sec
CVR	0.87	0.900	
Bank Width L/R	1.500/3.048	1.500/3.048	m
Free Board	0.500	0.500	m

		10+500	10+550	10+600	10+650	10+700	10+750	10+800	10+850	10+900	10+950	11+000	11+050	11+070	11+100	11+150	11+200	11+250	11+300	11+350	11+400	11+450	11+500	11+550	11+600	11+650	11+700	11+750	11+800	11+850	11+900	11+950	12+000
DESIGN DATA	TOP OF BANK LEVEL	128.448	128.438	128.428	128.418	128.408	128.398	128.388	128.378	128.368	128.358	128.348	128.338	128.334 / 128.314	128.308	128.298	128.288	128.278	128.268	128.258	128.248	128.238	128.228	128.218	128.208	128.198	128.188	128.178	128.168	128.158	128.148	128.138	128.128
	F.S.L.	127.948	127.938	127.928	127.918	127.908	127.898	127.888	127.878	127.868	127.858	127.848	127.838	127.834 / 127.814	127.808	127.798	127.788	127.778	127.768	127.758	127.748	127.738	127.728	127.718	127.708	127.698	127.688	127.678	127.668	127.658	127.648	127.638	127.628
	Proposed Bed Level	127.048	127.038	127.028	127.018	127.008	126.998	126.988	126.978	126.968	126.958	126.948	126.938	126.934	126.928	126.918	126.908	126.898	126.888	126.878	126.868	126.858	126.848	126.838	126.828	126.818	126.808	126.798	126.788	126.778	126.768	126.758	126.748
EXISTING DATA	Bed Level	125.810	125.918	126.027	126.134	126.242	126.351	126.458	126.567	126.674	126.783	126.890	126.750		127.103	127.066	127.041	127.096	126.929	126.833	126.735	126.660	126.341	126.429	126.518	126.606	126.695	126.783	126.871	126.960	127.048	127.136	127.224
	TOP OF BANK LEVEL	127.167	127.246	127.325	127.405	127.483	127.562	127.641	127.720	127.800	127.878	127.927	127.865		127.813	127.776	127.935	127.818	127.781	127.745	127.664	127.345	127.427	127.508	127.591	127.672	127.754	127.835	127.917	127.999	128.081	128.162	128.244
	NSL	126.123	126.284	126.444	126.605	126.765	126.925	127.085	127.246	127.406	127.567	127.727	127.884		126.182	126.094	126.016	125.935	125.849	125.746	125.643	125.565	125.616	125.949	126.283	126.617	126.950	127.284	127.618	127.951	128.285	128.619	128.952
	Chainage	10+500	10+550	10+600	10+650	10+700	10+750	10+800	10+850	10+900	10+950	11+000	11+050	11+070	11+100	11+150	11+200	11+250	11+300	11+350	11+400	11+450	11+500	11+550	11+600	11+650	11+700	11+750	11+800	11+850	11+900	11+950	12+000

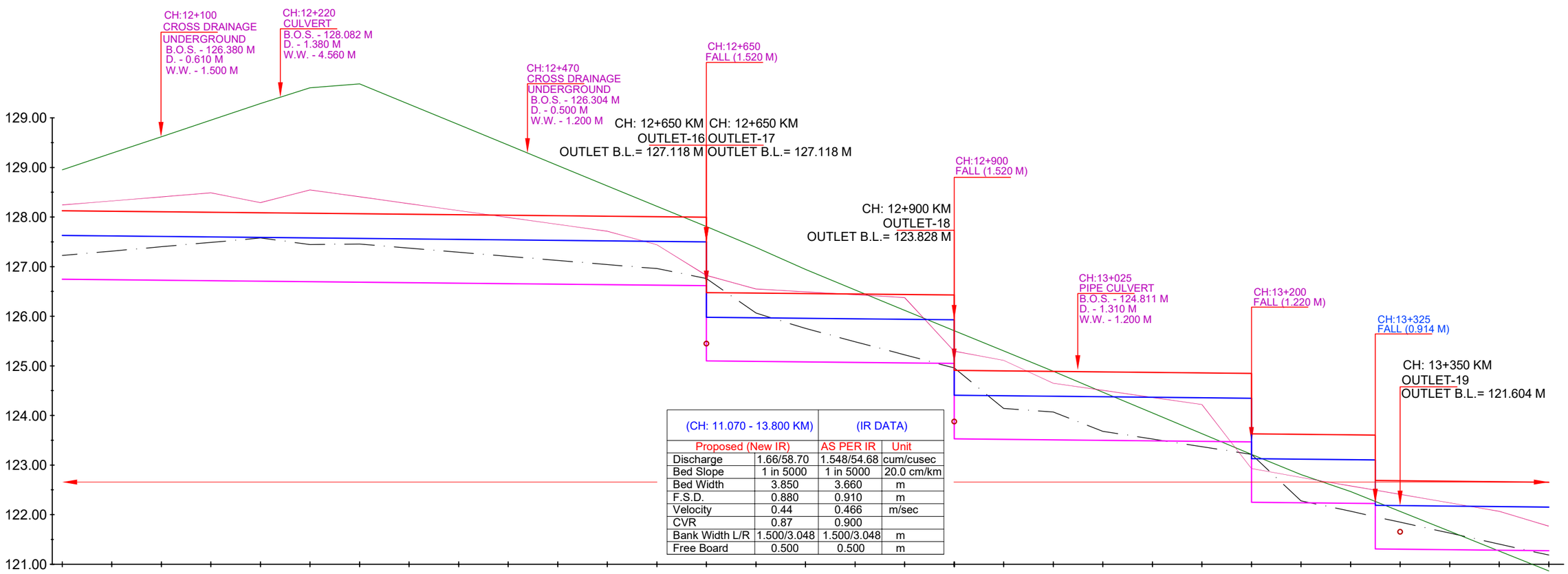
LEGEND

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

IMPLEMENTING AGENCY :-
WAPCOS LTD.

PROJECT TITLE :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
DRAWING TITLE :-	L- SECTION OF CHAIN NAWADA SUB-DY. (OFFTAKE FROM RD - 94+494 KM. (L), NORTH KOEL RIGHT MAIN CANAL)
DRAWING NO. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34/ LSEC- 08 of 10

L- SECTION OF CHAIN NAWADA SUB-DISTRIBUTARY
(OFFTAKE FROM RD - 94+494 KM. (LT), NORTH KOEL RIGHT MAIN CANAL)
FROM CH 12+000 TO 13+500



(CH: 11.070 - 13.800 KM)		(IR DATA)	
Proposed (New IR)		AS PER IR	Unit
Discharge	1.66/58.70	1.548/54.68	cum/cusec
Bed Slope	1 in 5000	1 in 5000	20.0 cm/km
Bed Width	3.850	3.660	m
F.S.D.	0.880	0.910	m
Velocity	0.44	0.466	m/sec
CVR	0.87	0.900	
Bank Width L/R	1.500/3.048	1.500/3.048	m
Free Board	0.500	0.500	m

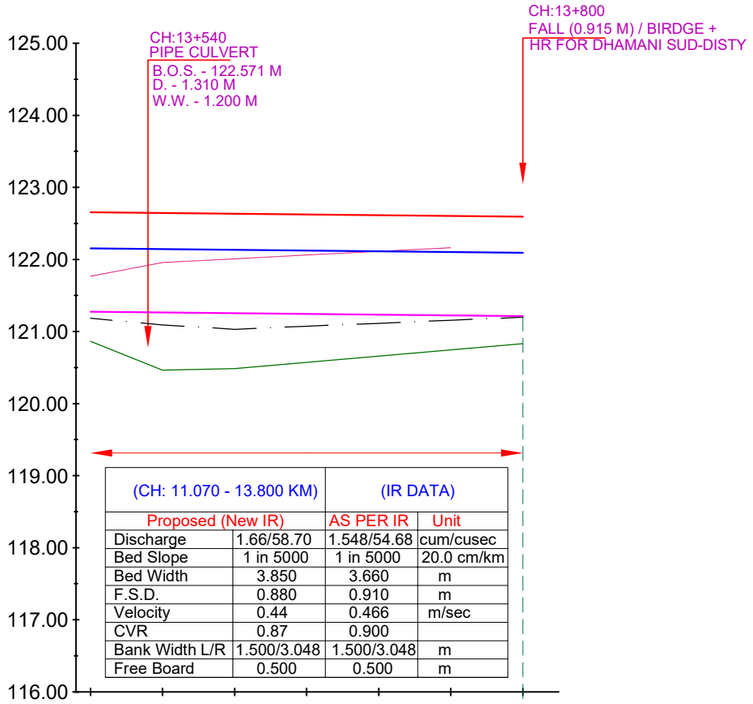
		12+000	12+050	12+100	12+150	12+200	12+250	12+300	12+350	12+400	12+450	12+500	12+550	12+600	12+650	12+700	12+750	12+800	12+850	12+900	12+950	12+990 13+000	13+050	13+100	13+150	13+200	13+250	13+300	13+350	13+400	13+450	13+500
DESIGN DATA	TOP OF BANK LEVEL	128.128	128.118	128.108	128.098	128.088	128.078	128.068	128.058	128.048	128.038	128.028	128.018	128.008	127.998 126.478	126.468	126.458	126.448	126.438	126.428 124.908	124.898	124.888	124.878	124.868	124.858	124.848 123.628	123.618	123.608	123.603 122.689	122.684	122.674	122.664	122.654
	F.S.L.	127.628	127.618	127.608	127.598	127.588	127.578	127.568	127.558	127.548	127.538	127.528	127.518	127.508	127.498 125.978	125.968	125.958	125.948	125.938	125.928 124.408	124.398	124.388	124.378	124.368	124.358	124.348 123.128	123.118	123.108	123.103 122.189	122.184	122.174	122.164	122.154
	Proposed Bed Level	126.748	126.738	126.728	126.718	126.708	126.698	126.688	126.678	126.668	126.658	126.648	126.638	126.628	126.618 125.098	125.088	125.078	125.068	125.058	125.048 123.528	123.518	123.508	123.498	123.488	123.478	123.468 122.248	122.238	122.228	122.223 121.309	121.304	121.294	121.284	121.274
EXISTING DATA	Bed Level	127.224	127.313	127.401	127.489	127.578	127.447	127.455	127.372	127.290	127.208	127.126	127.043	126.961	126.760	126.066	125.754	125.487	125.223	124.958	124.142	124.068	123.681	123.525	123.370	123.216	122.278	122.069	121.848	121.628	121.406	121.185
	TOP OF BANK LEVEL	128.244	128.325	128.407	128.489	128.290	128.548	128.409	128.270	128.130	127.992	127.853	127.714	127.442	126.824	126.551	126.493	126.435	126.377	125.296	125.111	124.650	124.507	124.363	124.220	122.931	122.751	122.581	122.410	122.239	122.069	121.768
	NSL	128.952	129.286	129.620	129.953	130.287	130.607	130.685	130.274	129.862	129.451	129.039	128.628	128.216	127.808	127.389	126.944	126.532	126.120	125.709	125.301	124.892	124.470	124.051	123.633	123.214	122.807	122.464	122.064	121.665	121.264	120.865
	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+600	12+650	12+700	12+750	12+800	12+850	12+900	12+950	12+990 13+000	13+050	13+100	13+150	13+200	13+250	13+300	13+350	13+400	13+450	13+500

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

IMPLEMENTING AGENCY :-
WAPCOS LTD.

PROJECT TITLE :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
DRAWING TITLE :-	L- SECTION OF CHAIN NAWADA SUB-DY. (OFFTAKE FROM RD - 94+494 KM. (L), NORTH KOEL RIGHT MAIN CANAL)
DRAWING NO. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34/ LSEC- 09 of 10

L- SECTION OF CHAIN NAWADA SUB-DISTRIBUTARY
(OFFTAKE FROM RD - 94+494 KM. (LT), NORTH KOEL RIGHT MAIN CANAL)
FROM CH 13+500 TO 13+800



(CH: 11.070 - 13.800 KM)		(IR DATA)	
Proposed (New IR)		AS PER IR	Unit
Discharge	1.66/58.70	1.548/54.68	cum/cusec
Bed Slope	1 in 5000	1 in 5000	20.0 cm/km
Bed Width	3.850	3.660	m
F.S.D.	0.880	0.910	m
Velocity	0.44	0.466	m/sec
CVR	0.87	0.900	
Bank Width L/R	1.500/3.048	1.500/3.048	m
Free Board	0.500	0.500	m

DESIGN DATA	TOP OF BANK LEVEL	122.654	122.644	122.634	122.624	122.614	122.604	122.594
	F.S.L.	122.154	122.144	122.134	122.124	122.114	122.104	122.094
	Proposed Bed Level	121.274	121.264	121.254	121.244	121.234	121.224	121.214
EXISTING DATA	Bed Level	121.185	121.092	121.031	121.073	121.114	121.156	121.198
	TOP OF BANK LEVEL	121.768	121.957	122.008	122.061	122.113	122.164	
	NSL	120.865	120.465	120.487	120.573	120.659	120.745	120.831
	Chainage	13+500	13+550	13+600	13+650	13+700	13+750	13+800

LEGEND

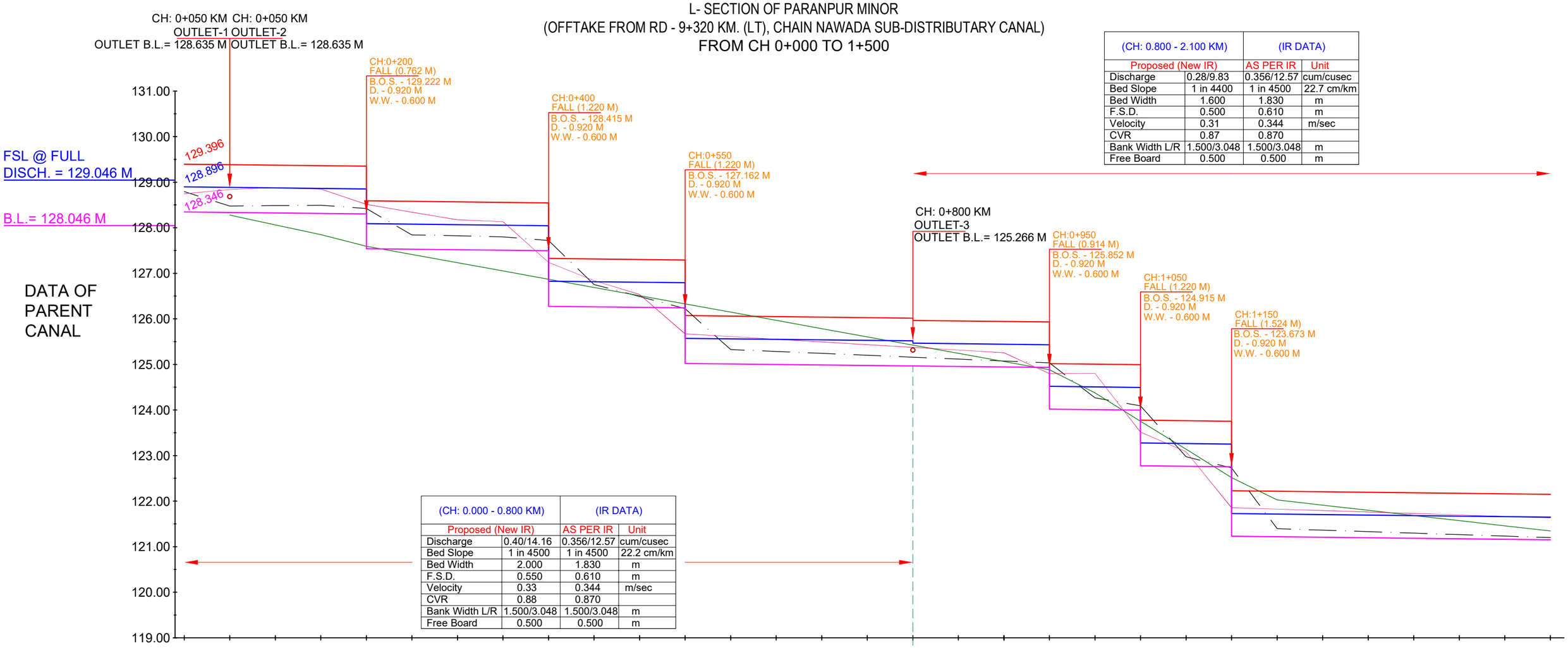
	NSL		EXISTING BED LEVEL
	EXISTING TOP OF BANK		PROPOSED BED LEVEL
	EXISTING STRUCTURE		PROPOSED FSL
	MODIFIED STRUCTURE		PROPOSED TOP OF BANK LEVEL
	NEW STRUCTURE		

IMPLEMENTING AGENCY :-
WAPCOS LTD.

PROJECT TITLE :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
DRAWING TITLE :-	L- SECTION OF CHAIN NAWADA SUB-DY. (OFFTAKE FROM RD - 94+494 KM. (L), NORTH KOEL RIGHT MAIN CANAL)
DRAWING NO. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34/ LSEC- 10 of 10

PARANPUR MINOR

L- SECTION OF PARANPUR MINOR
(OFFTAKE FROM RD - 9+320 KM. (LT), CHAIN NAWADA SUB-DISTRIBUTARY CANAL)
FROM CH 0+000 TO 1+500



(CH: 0.800 - 2.100 KM)		(IR DATA)	
Proposed (New IR)		AS PER IR	Unit
Discharge	0.28/9.83	0.356/12.57	cum/cusec
Bed Slope	1 in 4400	1 in 4500	22.7 cm/km
Bed Width	1.600	1.830	m
F.S.D.	0.500	0.610	m
Velocity	0.31	0.344	m/sec
CVR	0.87	0.870	
Bank Width L/R	1.500/3.048	1.500/3.048	m
Free Board	0.500	0.500	m

(CH: 0.000 - 0.800 KM)		(IR DATA)	
Proposed (New IR)		AS PER IR	Unit
Discharge	0.40/14.16	0.356/12.57	cum/cusec
Bed Slope	1 in 4500	1 in 4500	22.2 cm/km
Bed Width	2.000	1.830	m
F.S.D.	0.550	0.610	m
Velocity	0.33	0.344	m/sec
CVR	0.88	0.870	
Bank Width L/R	1.500/3.048	1.500/3.048	m
Free Board	0.500	0.500	m

		0+000	0+050	0+100	0+150	0+200	0+250	0+300	0+350	0+400	0+450	0+500	0+550	0+600	0+650	0+700	0+750	0+800	0+850	0+900	0+950	1+000	1+050	1+100	1+150	1+200	1+250	1+300	1+350	1+400	1+450	1+500
DESIGN DATA	TOP OF BANK LEVEL	129.396	129.385	129.374	129.363	129.352 / 128.590	128.578	128.567	128.556	128.545 / 127.325	127.314	127.303	127.292 / 126.072	126.061	126.050	126.038	126.027	126.016 / 125.966	125.955	125.943	125.932 / 125.018	125.007	124.995 / 123.775	123.764	123.753 / 122.229	122.217	122.206	122.195	122.183	122.172	122.160	122.149
	F.S.L.	128.896	128.885	128.874	128.863	128.852 / 128.080	128.078	128.067	128.056	128.045 / 126.825	126.814	126.803	126.792 / 125.572	125.561	125.550	125.538	125.527	125.516 / 125.466	125.455	125.443	125.432 / 124.518	124.507	124.495 / 123.275	123.264	123.253 / 121.729	121.717	121.706	121.695	121.683	121.672	121.660	121.649
	Proposed Bed Level	128.346	128.335	128.324	128.313	128.302 / 127.540	127.528	127.517	127.506	127.495 / 126.275	126.264	126.253	126.242 / 125.022	125.011	125.000	124.988	124.977	124.966 / 124.966	124.955	124.943	124.932 / 124.018	124.007	123.995 / 122.775	122.764	122.753 / 121.229	121.217	121.206	121.195	121.183	121.172	121.160	121.149
EXISTING DATA	Bed Level	128.792	128.476	128.485	128.495	128.421	127.843	127.824	127.799	127.721	126.755	126.491	126.223	125.326	125.284	125.242	125.201	125.159	125.117	125.075	125.034	124.268	124.090	122.974	122.730	121.395	121.362	121.330	121.297	121.265	121.232	121.200
	TOP OF BANK LEVEL	128.801	128.840	128.880	128.849	128.515	128.340	128.176	128.134	127.239	126.840	126.536	125.670	125.611	125.552	125.493	125.434	125.375	125.316	125.257	124.799	124.805	123.513	123.085	121.856	121.825	121.793	121.761	121.730	121.698	121.666	121.634
	NSL		128.278	128.063	127.849	127.594	127.413	127.232	127.051	126.870	126.688	126.509	126.329	126.147	125.967	125.786	125.605	125.424	125.243	125.063	124.882	124.376	123.752	123.141	122.515	122.025	121.911	121.798	121.684	121.571	121.457	121.344
	Chainage IN KM	0+000	0+050	0+100	0+150	0+200	0+250	0+300	0+350	0+400	0+450	0+500	0+550	0+600	0+650	0+700	0+750	0+800	0+850	0+900	0+950	1+000	1+050	1+100	1+150	1+200	1+250	1+300	1+350	1+400	1+450	1+500

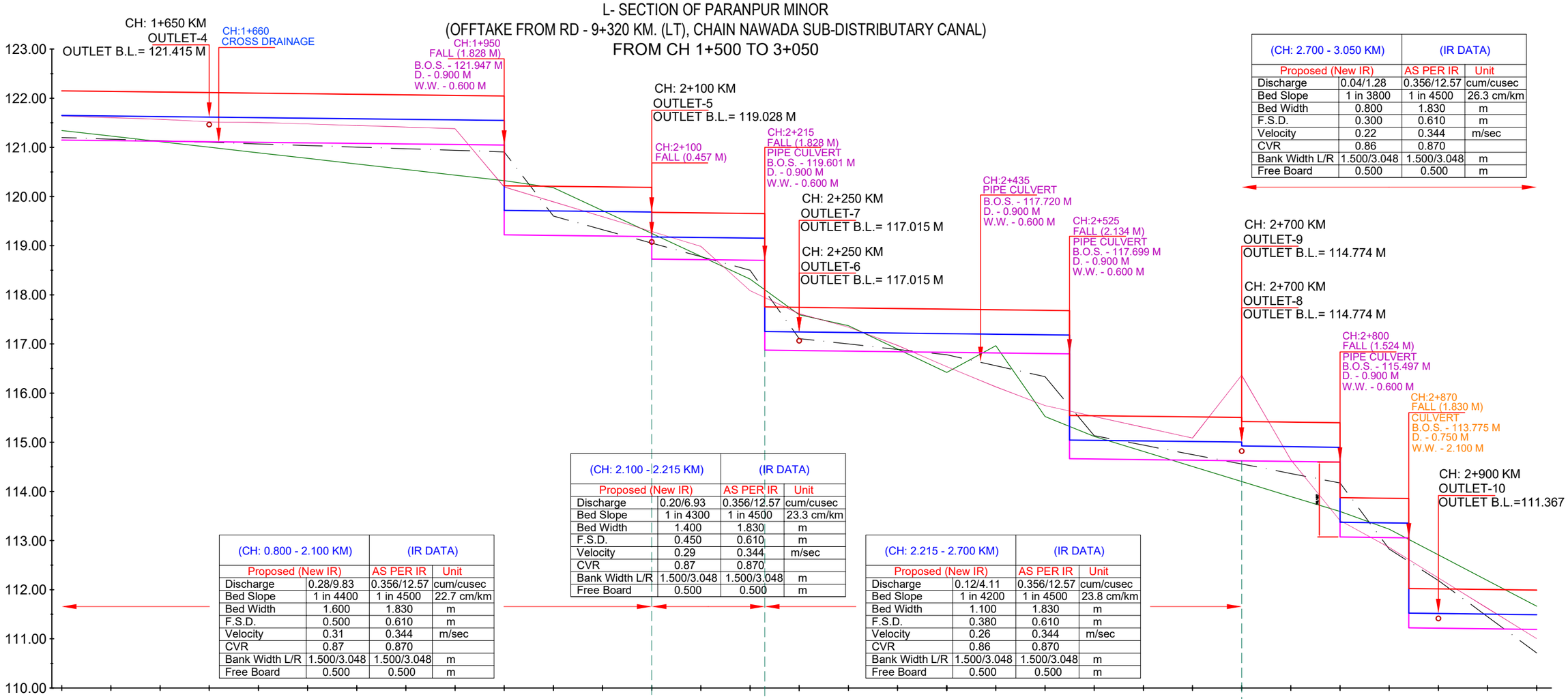
LEGEND

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

IMPLEMENTING AGENCY :-
WAPCOS LTD.

PROJECT TITLE :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
DRAWING TITLE :-	L- SECTION OF PARANPUR MR. (OFFTAKE FROM RD - 9+320 KM. (L), CHAIN NAWADA SUB-DISTRIBUTARY CANAL)
DRAWING NO. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34-01/ LSEC- 01 of 03

L- SECTION OF PARANPUR MINOR
(OFFTAKE FROM RD - 9+320 KM. (LT), CHAIN NAWADA SUB-DISTRIBUTARY CANAL)
FROM CH 1+500 TO 3+050



(CH: 2.700 - 3.050 KM)		(IR DATA)	
Proposed (New IR)		AS PER IR	Unit
Discharge	0.04/1.28	0.356/12.57	cum/cusec
Bed Slope	1 in 3800	1 in 4500	26.3 cm/km
Bed Width	0.800	1.830	m
F.S.D.	0.300	0.610	m
Velocity	0.22	0.344	m/sec
CVR	0.86	0.870	
Bank Width L/R	1.500/3.048	1.500/3.048	m
Free Board	0.500	0.500	m

(CH: 0.800 - 2.100 KM)		(IR DATA)	
Proposed (New IR)		AS PER IR	Unit
Discharge	0.28/9.83	0.356/12.57	cum/cusec
Bed Slope	1 in 4400	1 in 4500	22.7 cm/km
Bed Width	1.600	1.830	m
F.S.D.	0.500	0.610	m
Velocity	0.31	0.344	m/sec
CVR	0.87	0.870	
Bank Width L/R	1.500/3.048	1.500/3.048	m
Free Board	0.500	0.500	m

(CH: 2.100 - 2.215 KM)		(IR DATA)	
Proposed (New IR)		AS PER IR	Unit
Discharge	0.20/6.93	0.356/12.57	cum/cusec
Bed Slope	1 in 4300	1 in 4500	23.3 cm/km
Bed Width	1.400	1.830	m
F.S.D.	0.450	0.610	m
Velocity	0.29	0.344	m/sec
CVR	0.87	0.870	
Bank Width L/R	1.500/3.048	1.500/3.048	m
Free Board	0.500	0.500	m

(CH: 2.215 - 2.700 KM)		(IR DATA)	
Proposed (New IR)		AS PER IR	Unit
Discharge	0.12/4.11	0.356/12.57	cum/cusec
Bed Slope	1 in 4200	1 in 4500	23.8 cm/km
Bed Width	1.100	1.830	m
F.S.D.	0.380	0.610	m
Velocity	0.26	0.344	m/sec
CVR	0.86	0.870	
Bank Width L/R	1.500/3.048	1.500/3.048	m
Free Board	0.500	0.500	m

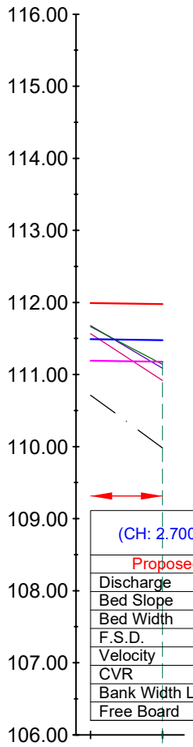
		1+500	1+550	1+600	1+650	1+700	1+750	1+800	1+850	1+900	1+950	2+000	2+050	2+100	2+150	2+200	2+215	2+250	2+300	2+350	2+400	2+450	2+500	2+550	2+600	2+650	2+700	2+750	2+800	2+850	2+900	2+950	3+000
DESIGN DATA	TOP OF BANK LEVEL	122.149	122.138	122.126	122.115	122.104	122.092	122.081	122.070	122.058	122.047	120.207	120.196	120.185	119.678	119.666	119.655	117.745	117.733	117.721	117.709	117.697	117.685	117.679	115.539	115.527	115.515	115.504	115.424	115.410	115.397	113.860	113.855	112.017	111.991
	F.S.L.	121.649	121.638	121.626	121.615	121.604	121.592	121.581	121.570	121.558	121.547	119.707	119.696	119.685	119.178	119.166	119.155	117.245	117.233	117.221	117.209	117.197	117.185	117.179	115.039	115.027	115.015	115.004	114.924	114.910	114.897	113.360	113.355	111.517	111.491
	Proposed Bed Level	121.149	121.138	121.126	121.115	121.104	121.092	121.081	121.070	121.058	121.047	119.207	119.196	119.185	118.728	118.716	118.705	116.865	116.853	116.841	116.829	116.817	116.805	116.799	114.659	114.647	114.635	114.624	114.544	114.610	114.597	113.060	113.055	111.217	111.191
EXISTING DATA	Bed Level	121.200	121.167	121.135	121.103	121.070	121.038	121.005	120.973	120.940	120.908	119.601	119.326	119.051	118.777	118.499	117.109	117.001	116.888	116.781	116.557	116.334	115.134	114.942	114.749	114.557	114.364	114.172	112.828	112.188	111.453	110.714			
	TOP OF BANK LEVEL	121.634	121.603	121.571	121.539	121.508	121.476	121.445	121.413	121.381	120.195	119.892	119.590	119.289	118.987	118.085	117.714	117.343	116.971	116.539	116.128	115.747	115.526	115.306	115.085	116.364	114.644	113.407	112.861	112.241	111.622	111.004			
	NSL	121.344	121.230	121.116	121.003	120.889	120.776	120.662	120.548	120.435	120.321	120.179	119.715	119.250	118.785	118.320	117.849	117.373	116.895	116.419	115.963	115.524	115.120	114.814	114.508	114.202	113.896	113.591	113.233	112.708	112.185	111.663	111.141	110.618	110.096
	Chainage IN KM																																

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

IMPLEMENTING AGENCY :-
WAPCOS LTD.

PROJECT TITLE :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
DRAWING TITLE :-	L- SECTION OF PARANPUR MR. (OFFTAKE FROM RD - 9+320 KM. (L), CHAIN NAWADA SUB-DISTRIBUTARY CANAL)
DRAWING NO. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34-01/ LSEC- 02 of 03

L- SECTION OF PARANPUR MINOR
(OFFTAKE FROM RD - 9+320 KM. (LT), CHAIN NAWADA SUB-DISTRIBUTARY CANAL)
FROM CH 3+000 TO 3+050



(CH: 2.700 - 3.050 KM)		(IR DATA)	
Proposed (New IR)		AS PER IR	Unit
Discharge	0.04/1.28	0.356/12.57	cum/cusec
Bed Slope	1 in 3800	1 in 4500	26.3 cm/km
Bed Width	0.800	1.830	m
F.S.D.	0.300	0.610	m
Velocity	0.22	0.344	m/sec
CVR	0.86	0.870	
Bank Width L/R	1.500/3.048	1.500/3.048	m
Free Board	0.500	0.500	m

		3+000	3+050
DESIGN DATA	TOP OF BANK LEVEL	111.991	111.977
	F.S.L.	111.491	111.477
	Proposed Bed Level	111.191	111.177
EXISTING DATA	Bed Level	110.714	109.981
	TOP OF BANK LEVEL		
	NSL	111.663	111.140
	Chainage IN KM	3+000	3+050

LEGEND

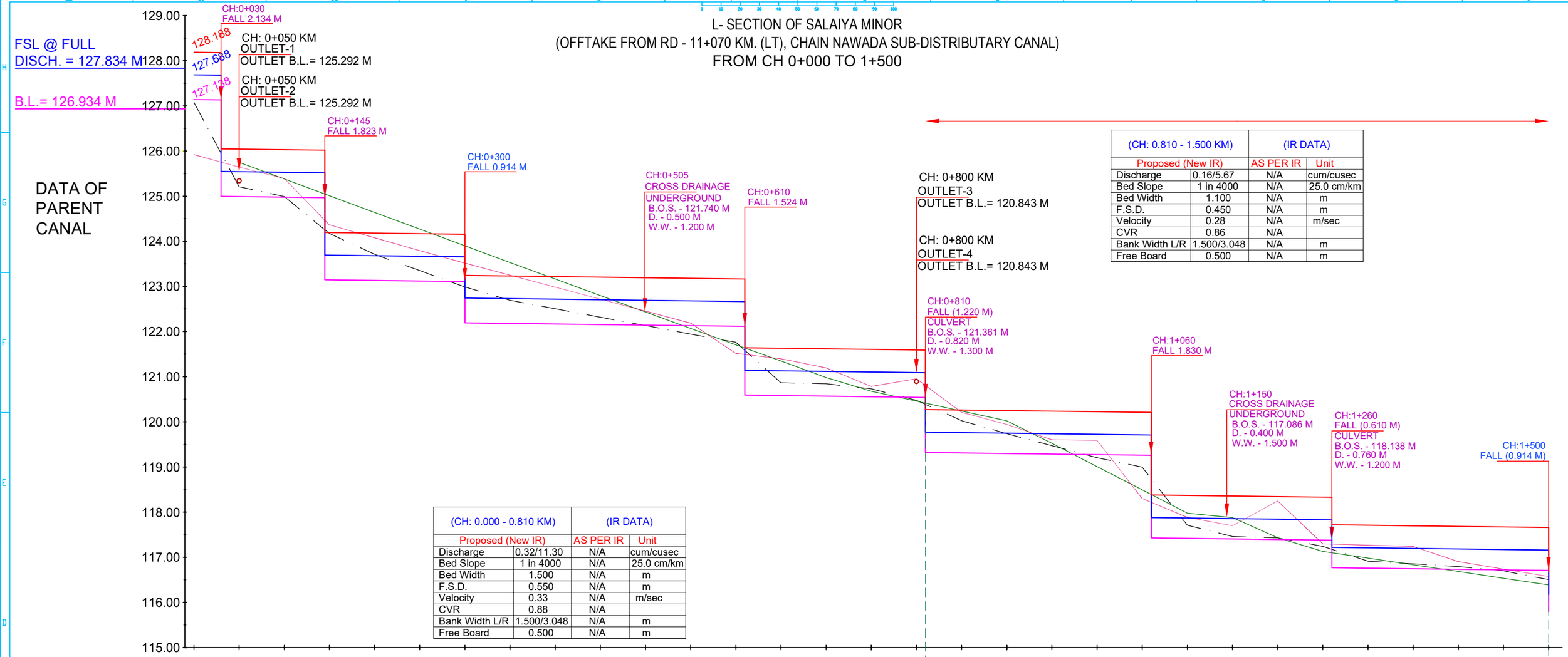
	NSL		EXISTING BED LEVEL
	EXISTING TOP OF BANK		PROPOSED BED LEVEL
	EXISTING STRUCTURE		PROPOSED FSL
	MODIFIED STRUCTURE		PROPOSED TOP OF BANK LEVEL
	NEW STRUCTURE		

IMPLEMENTING AGENCY :-
WAPCOS LTD.

PROJECT TITLE :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
DRAWING TITLE :-	L- SECTION OF PARANPUR MR. (OFFTAKE FROM RD - 9+320 KM. (L), CHAIN NAWADA SUB-DISTRIBUTARY CANAL)
DRAWING NO. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34-01/ LSEC- 03 of 03

SALAIYA *MINOR*

L- SECTION OF SALAIYA MINOR
(OFFTAKE FROM RD - 11+070 KM. (LT), CHAIN NAWADA SUB-DISTRIBUTARY CANAL)
FROM CH 0+000 TO 1+500

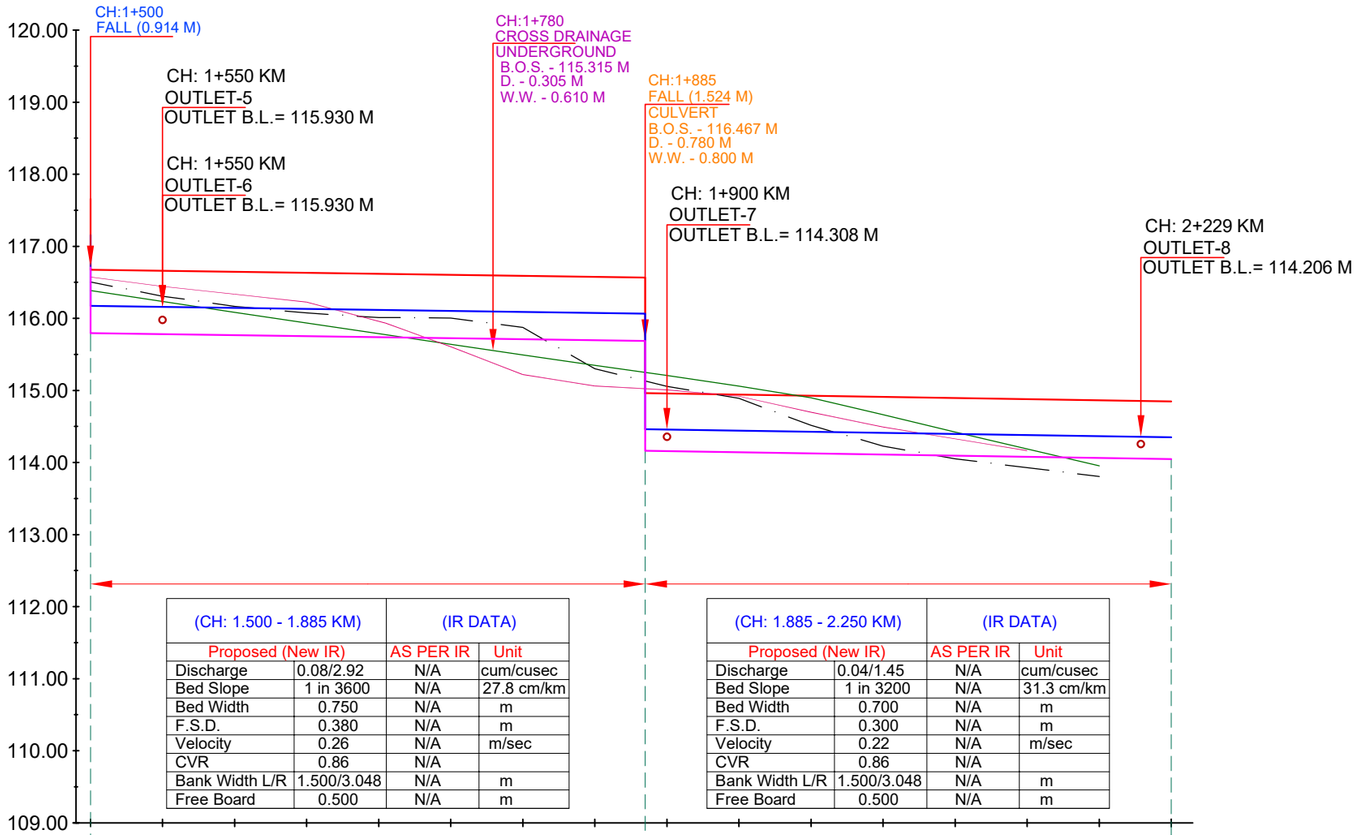


(CH: 0.000 - 0.810 KM)		(IR DATA)	
Proposed (New IR)		AS PER IR	Unit
Discharge	0.32/11.30	N/A	cum/cusec
Bed Slope	1 in 4000	N/A	25.0 cm/km
Bed Width	1.500	N/A	m
F.S.D.	0.550	N/A	m
Velocity	0.33	N/A	m/sec
CVR	0.88	N/A	
Bank Width L/R	1.500/3.048	N/A	m
Free Board	0.500	N/A	m

(CH: 0.810 - 1.500 KM)		(IR DATA)	
Proposed (New IR)		AS PER IR	Unit
Discharge	0.16/5.67	N/A	cum/cusec
Bed Slope	1 in 4000	N/A	25.0 cm/km
Bed Width	1.100	N/A	m
F.S.D.	0.450	N/A	m
Velocity	0.28	N/A	m/sec
CVR	0.86	N/A	
Bank Width L/R	1.500/3.048	N/A	m
Free Board	0.500	N/A	m

| | | |

L- SECTION OF SALAIYA MINOR
(OFFTAKE FROM RD - 11+070 KM. (LT), CHAIN NAWADA SUB-DISTRIBUTARY CANAL)
FROM CH 1+500 TO 2+250



(CH: 1.500 - 1.885 KM)		(IR DATA)	
Proposed (New IR)		AS PER IR	Unit
Discharge	0.08/2.92	N/A	cum/cusec
Bed Slope	1 in 3600	N/A	27.8 cm/km
Bed Width	0.750	N/A	m
F.S.D.	0.380	N/A	m
Velocity	0.26	N/A	m/sec
CVR	0.86	N/A	
Bank Width L/R	1.500/3.048	N/A	m
Free Board	0.500	N/A	m

(CH: 1.885 - 2.250 KM)		(IR DATA)	
Proposed (New IR)		AS PER IR	Unit
Discharge	0.04/1.45	N/A	cum/cusec
Bed Slope	1 in 3200	N/A	31.3 cm/km
Bed Width	0.700	N/A	m
F.S.D.	0.300	N/A	m
Velocity	0.22	N/A	m/sec
CVR	0.86	N/A	
Bank Width L/R	1.500/3.048	N/A	m
Free Board	0.500	N/A	m

DESIGN DATA	TOP OF BANK LEVEL	117.658 116.674	116.660	116.646	116.632	116.618	116.605	116.591	116.577	116.567	114.963	114.958	114.943	114.927	114.911	114.896	114.880	114.865	114.849
	F.S.L.	117.158 116.174	116.160	116.146	116.132	116.118	116.105	116.091	116.077	116.067	114.463	114.458	114.443	114.427	114.411	114.396	114.380	114.365	114.349
	Proposed Bed Level	116.708 115.794	115.780	115.766	115.752	115.738	115.725	115.711	115.697	115.687	114.163	114.158	114.143	114.127	114.111	114.096	114.080	114.065	114.049
EXISTING DATA	Bed Level	116.504	116.308	116.167	116.075	116.012	116.005	115.875	115.303			115.056	114.891	114.515	114.228	114.052	113.929	113.805	
	TOP OF BANK LEVEL	116.574	116.444	116.336	116.227	115.923	115.606	115.222	115.061			115.007	114.920	114.699	114.493	114.329	114.165		
	NSL	116.385	116.234	116.085	115.935	115.787	115.641	115.493	115.347			115.208	115.060	114.897	114.665	114.424	114.188	113.953	
	Chainage IN KM	1+500	1+550	1+600	1+650	1+700	1+750	1+800	1+850	1+885		1+900	1+950	2+000	2+050	2+100	2+150	2+200	2+250

LEGEND

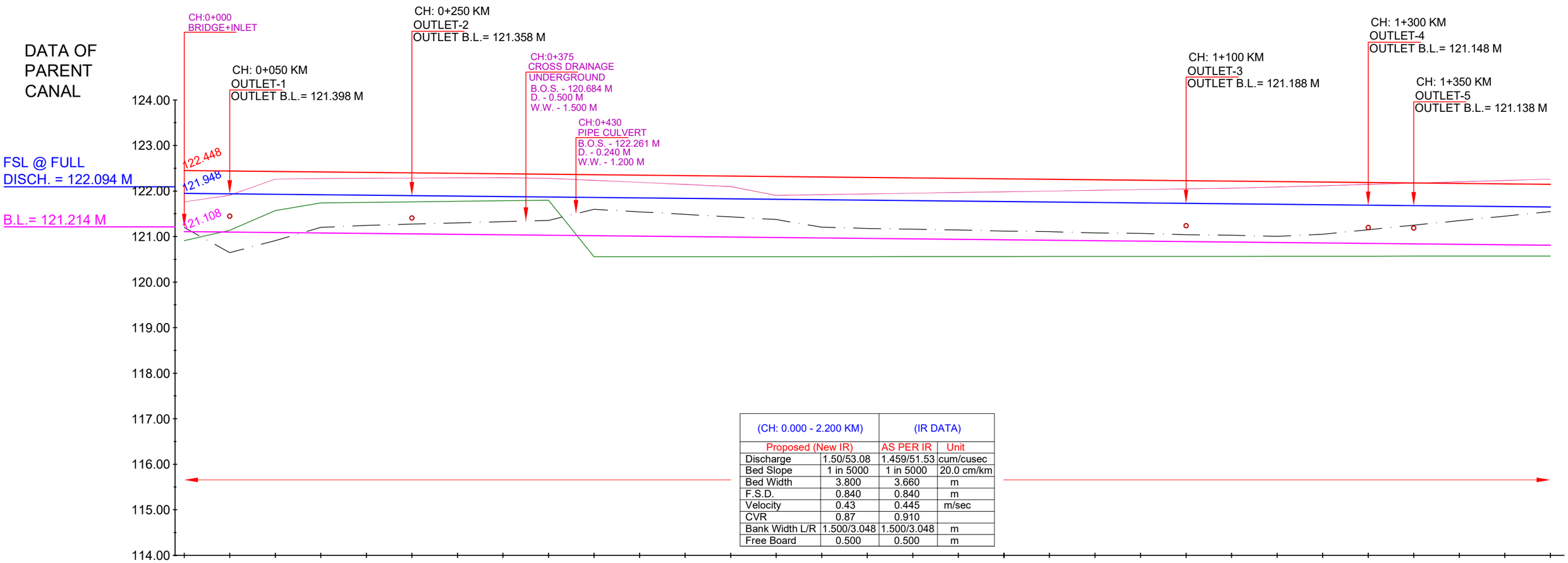
	NSL		EXISTING BED LEVEL
	EXISTING TOP OF BANK		PROPOSED BED LEVEL
	EXISTING STRUCTURE		PROPOSED FSL
	MODIFIED STRUCTURE		PROPOSED TOP OF BANK LEVEL
	NEW STRUCTURE		

IMPLEMENTING AGENCY :-
WAPCOS LTD.

PROJECT TITLE :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
DRAWING TITLE :-	L- SECTION OF SALAIYA MR. (OFFTAKE FROM RD - 11+070 KM. (L), CHAIN NAWADA SUB-DISTRIBUTARY CANAL)
DRAWING NO. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34-02/ LSEC- 02 of 02

DHAMANI SUB DY.

L- SECTION OF DHAMANI SUB-DISTRIBUTARY
(OFFTAKE FROM RD - 13+800 KM. (LT), CHAIN NAWADA SUB-DISTRIBUTARY CANAL)
FROM CH 0+000 TO 1+500



(CH: 0.000 - 2.200 KM)		(IR DATA)	
Proposed (New IR)		AS PER IR	Unit
Discharge	1.50/53.08	1.459/51.53	cum/cusec
Bed Slope	1 in 5000	1 in 5000	20.0 cm/km
Bed Width	3.800	3.660	m
F.S.D.	0.840	0.840	m
Velocity	0.43	0.445	m/sec
CVR	0.87	0.910	
Bank Width L/R	1.500/3.048	1.500/3.048	m
Free Board	0.500	0.500	m

		0+000	0+050	0+100	0+150	0+200	0+250	0+300	0+350	0+400	0+450	0+500	0+550	0+600	0+650	0+700	0+750	0+800	0+850	0+900	0+950	1+000	1+050	1+100	1+150	1+200	1+250	1+300	1+350	1+400	1+450	1+500
DESIGN DATA	TOP OF BANK LEVEL	122.448	122.438	122.428	122.418	122.408	122.398	122.388	122.378	122.368	122.358	122.348	122.338	122.328	122.318	122.308	122.298	122.288	122.278	122.268	122.258	122.248	122.238	122.228	122.218	122.208	122.198	122.188	122.178	122.168	122.158	122.148
	F.S.L.	121.948	121.938	121.928	121.918	121.908	121.898	121.888	121.878	121.868	121.858	121.848	121.838	121.828	121.818	121.808	121.798	121.788	121.778	121.768	121.758	121.748	121.738	121.728	121.718	121.708	121.698	121.688	121.678	121.668	121.658	121.648
	Proposed Bed Level	121.108	121.098	121.088	121.078	121.068	121.058	121.048	121.038	121.028	121.018	121.008	120.998	120.988	120.978	120.968	120.958	120.948	120.938	120.928	120.918	120.908	120.898	120.888	120.878	120.868	120.858	120.848	120.838	120.828	120.818	120.808
EXISTING DATA	Bed Level	121.198	120.647	120.911	121.201	121.245	121.273	121.300	121.327	121.355	121.597	121.542	121.487	121.432	121.374	121.205	121.178	121.163	121.143	121.121	121.107	121.079	121.070	121.041	121.028	121.005	121.050	121.150	121.250	121.349	121.449	121.549
	TOP OF BANK LEVEL	121.761	121.907	122.262	122.274	122.279	122.284	122.289	122.293	122.278	122.234	122.190	122.146	122.098	121.905	121.921	121.936	121.952	121.968	121.984	121.999	122.015	122.031	122.047	122.063	122.086	122.115	122.145	122.174	122.203	122.232	122.262
	NSL	120.909	121.138	121.570	121.738	121.750	121.762	121.774	121.786	121.798	120.557	120.557	120.557	120.557	120.558	120.558	120.559	120.560	120.561	120.562	120.563	120.563	120.564	120.565	120.566	120.567	120.568	120.569	120.570	120.570	120.571	120.572
	Chainage IN KM																															

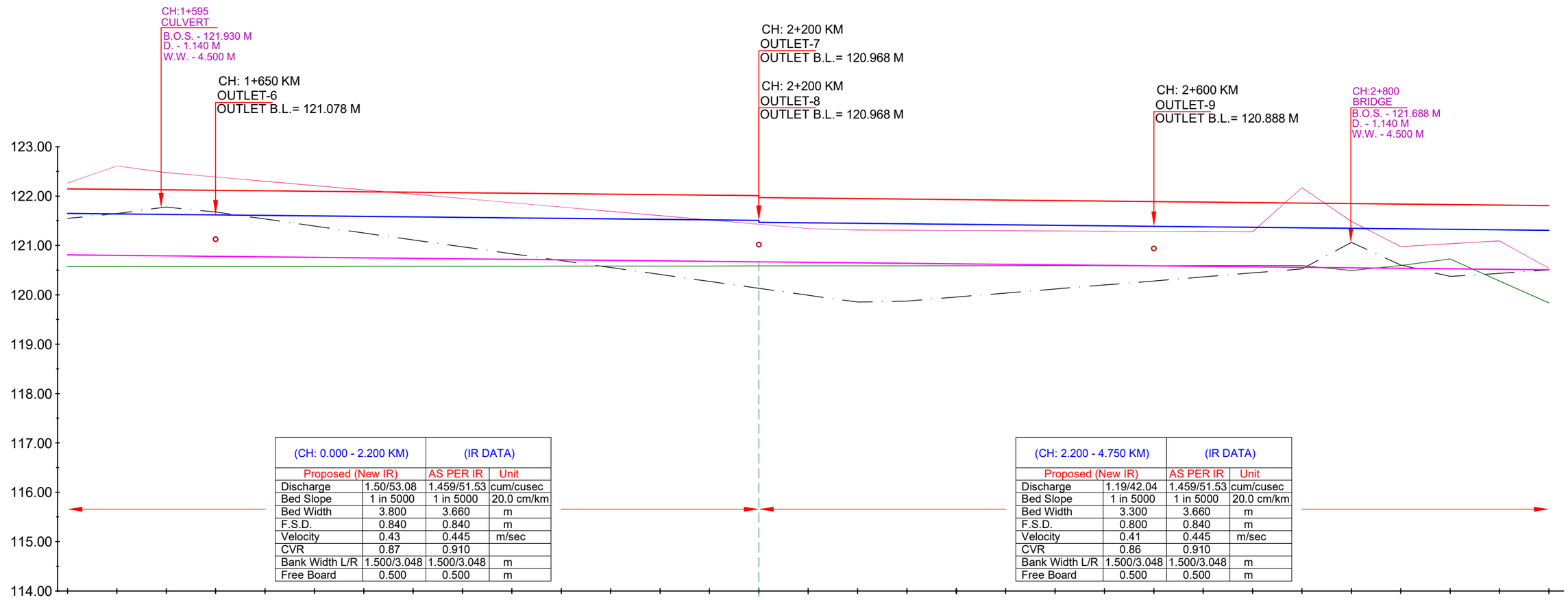
LEGEND

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

IMPLEMENTING AGENCY :-
WAPCOS LTD.

PROJECT TITLE :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
DRAWING TITLE :-	L- SECTION OF DHAMANI SUB-DY. (OFFTAKE FROM RD - 13+800 KM. (L), CHAIN NAWADA SUB-DISTRIBUTARY CANAL)
DRAWING NO. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34-03/ LSEC- 01 of 04

L- SECTION OF DHAMANI SUB-DISTRIBUTARY
(OFFTAKE FROM RD - 13+800 KM. (LT), CHAIN NAWADA SUB-DISTRIBUTARY CANAL)
FROM CH 1+500 TO 3+000

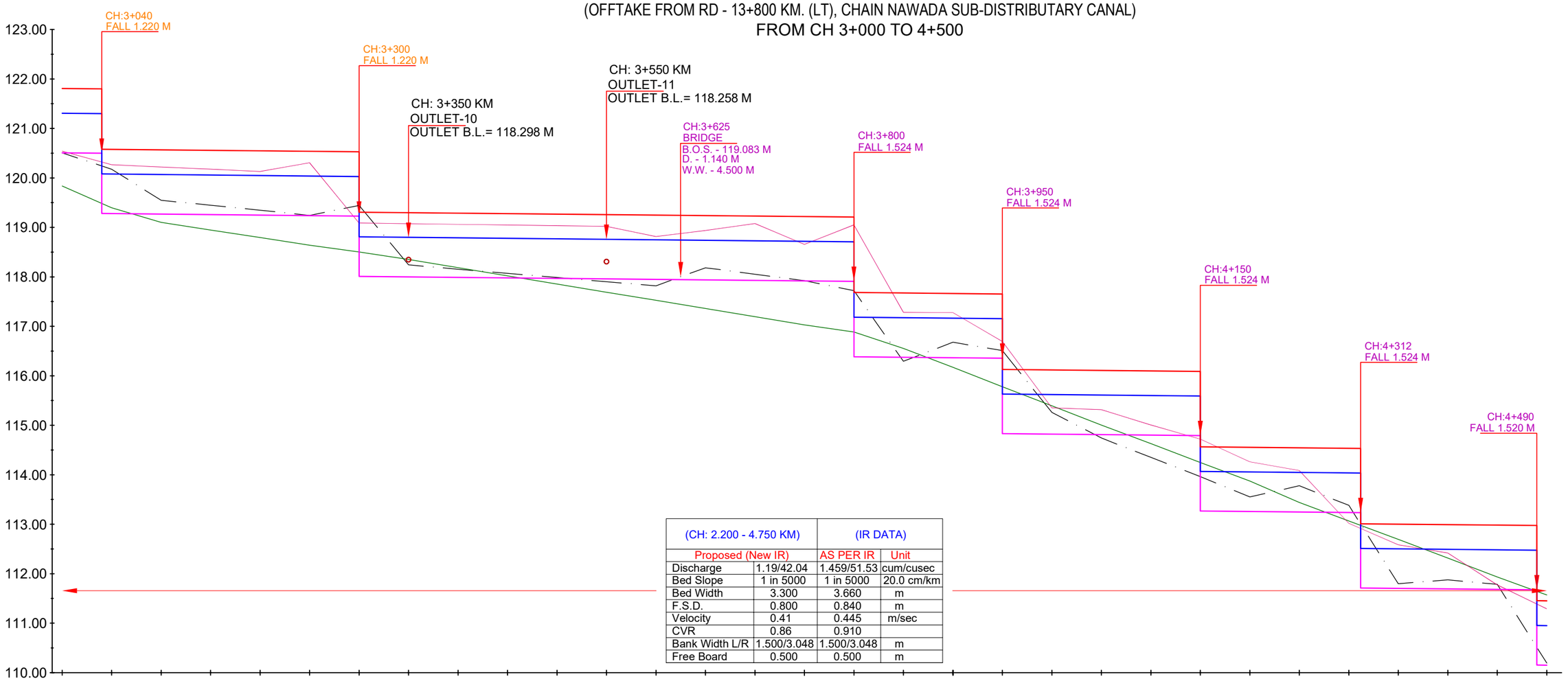


(CH: 0.000 - 2.200 KM)		(IR DATA)	
Proposed (New IR)		AS PER IR	Unit
Discharge	1.50/53.08	1.459/51.53	cum/cusec
Bed Slope	1 in 5000	1 in 5000	20.0 cm/km
Bed Width	3.800	3.660	m
F.S.D.	0.840	0.840	m
Velocity	0.43	0.445	m/sec
CVR	0.87	0.910	
Bank Width L/R	1.500/3.048	1.500/3.048	m
Free Board	0.500	0.500	m

(CH: 2.200 - 4.750 KM)		(IR DATA)	
Proposed (New IR)		AS PER IR	Unit
Discharge	1.19/42.04	1.459/51.53	cum/cusec
Bed Slope	1 in 5000	1 in 5000	20.0 cm/km
Bed Width	3.300	3.660	m
F.S.D.	0.800	0.840	m
Velocity	0.41	0.445	m/sec
CVR	0.86	0.910	
Bank Width L/R	1.500/3.048	1.500/3.048	m
Free Board	0.500	0.500	m

| | | |

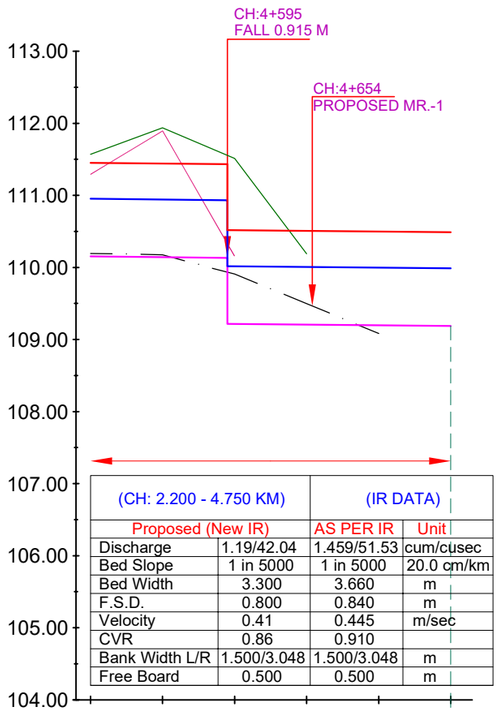
L- SECTION OF DHAMANI SUB-DISTRIBUTARY
(OFFTAKE FROM RD - 13+800 KM. (LT), CHAIN NAWADA SUB-DISTRIBUTARY CANAL)
FROM CH 3+000 TO 4+500



(CH: 2.200 - 4.750 KM)		(IR DATA)	
Proposed (New IR)		AS PER IR	Unit
Discharge	1.19/42.04	1.459/51.53	cum/cusec
Bed Slope	1 in 5000	1 in 5000	20.0 cm/km
Bed Width	3.300	3.660	m
F.S.D.	0.800	0.840	m
Velocity	0.41	0.445	m/sec
CVR	0.86	0.910	
Bank Width L/R	1.500/3.048	1.500/3.048	m
Free Board	0.500	0.500	m

| | | |

L- SECTION OF DHAMANI SUB-DISTRIBUTARY
(OFFTAKE FROM RD - 13+800 KM. (LT), CHAIN NAWADA SUB-DISTRIBUTARY CANAL)
FROM CH 4+500 TO 4+750



(CH: 2.200 - 4.750 KM)	(IR DATA)		
Proposed (New IR)		AS PER IR	Unit
Discharge	1.19/42.04	1.459/51.53	cum/cusec
Bed Slope	1 in 5000	1 in 5000	20.0 cm/km
Bed Width	3.300	3.660	m
F.S.D.	0.800	0.840	m
Velocity	0.41	0.445	m/sec
CVR	0.86	0.910	
Bank Width L/R	1.500/3.048	1.500/3.048	m
Free Board	0.500	0.500	m

		4+500	4+550	4+600	4+650	4+700	4+750
DESIGN DATA	TOP OF BANK LEVEL	111.452	111.442	111.433 110.518 110.517	110.507	110.497	110.487
	F.S.L.	110.952	110.942	110.933 110.018 110.017	110.007	109.997	109.987
	Proposed Bed Level	110.152	110.142	110.133 109.218 109.217	109.207	109.197	109.187
EXISTING DATA	Bed Level	110.195	110.176	109.907	109.499	109.082	
	TOP OF BANK LEVEL	111.291	111.893	110.158			
	NSL	111.571	111.939	111.512	110.190		
	Chainage IN KM						

LEGEND

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

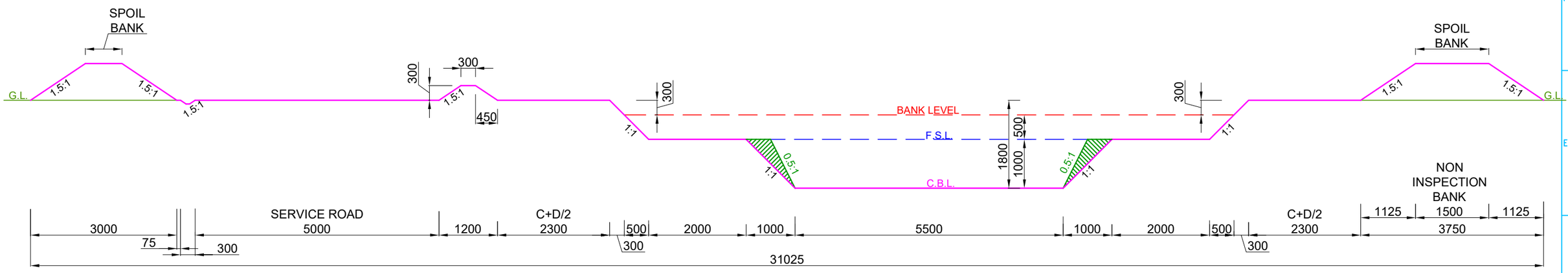
IMPLEMENTING AGENCY :-
WAPCOS LTD.

PROJECT TITLE :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
DRAWING TITLE :-	L- SECTION OF DHAMANI SUB-DY. (OFFTAKE FROM RD - 13+800 KM. (L), CHAIN NAWADA SUB-DISTRIBUTARY CANAL)
DRAWING NO. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34-03/ LSEC- 04 of 04

TYPICAL X-SECTION

TYPICAL X - SECTION OF CHAIN NAWADA SUB-DISTRIBUTARY
(OFFTAKE FROM RD - 94+494 KM. (LT), NORTH KOEL RIGHT MAIN CANAL)

DESIGN SECTION FOR FULL CUTTING



DESIGN SECTION FROM CH: 0.000 KM TO CH: 4.150 KM

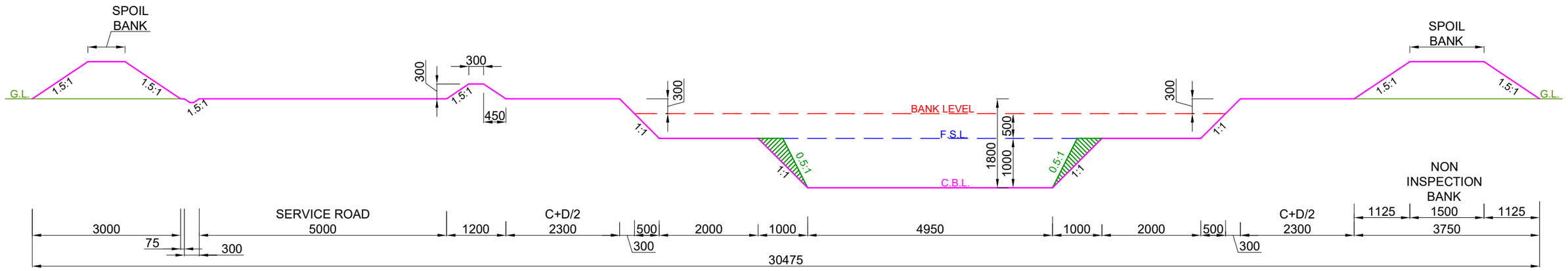
NOTE:-

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		Prepared by :-		
	CUT AREA	WAPCOS LTD.	Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
	FILL AREA		Drawing Title :-	X SECTION OF CHAIN NAWADA SUB-DY. (OFFTAKE FROM RD - 94+494 KM. (L), NORTH KOEL RIGHT MAIN CANAL)
			Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34/ XSEC /TYP-(FC) 1 of 4

TYPICAL X - SECTION OF CHAIN NAWADA SUB-DISTRIBUTARY
(OFFTAKE FROM RD - 94+494 KM. (LT), NORTH KOEL RIGHT MAIN CANAL)

DESIGN SECTION FOR FULL CUTTING



DESIGN SECTION FROM CH: 4.150 KM TO CH: 9.325 KM

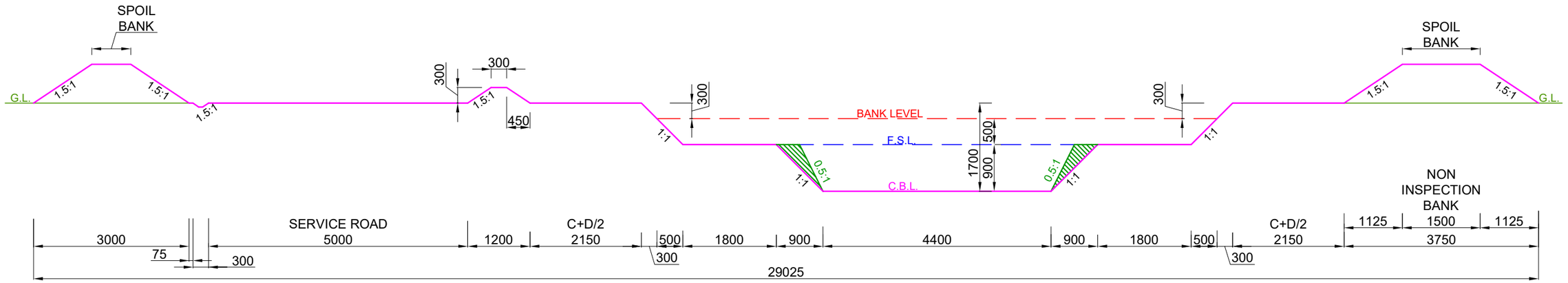
NOTE:-

1. THE BANK WIDTH HAS BEEN ADOPTED AS PER IS 7112 : 2002 (TABLE-1).
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3. THIS IS A TYPICAL DRAWING , INSPECTION & NON-INSPECTION BANK SHALL BE TAKEN AS PER SITE CONDITIONS.

LEGEND		Prepared by :- WAPCOS LTD.		
	CUT AREA		Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
	FILL AREA		Drawing Title :-	X SECTION OF CHAIN NAWADA SUB-DY. (OFFTAKE FROM RD - 94+494 KM. (L), NORTH KOEL RIGHT MAIN CANAL)
			Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34/ XSEC /TYP-(FC) 2 of 4

TYPICAL X - SECTION OF CHAIN NAWADA SUB-DISTRIBUTARY
(OFFTAKE FROM RD - 94+494 KM. (LT), NORTH KOEL RIGHT MAIN CANAL)

DESIGN SECTION FOR FULL CUTTING



DESIGN SECTION FROM CH: 9.325 KM TO CH: 11.070 KM

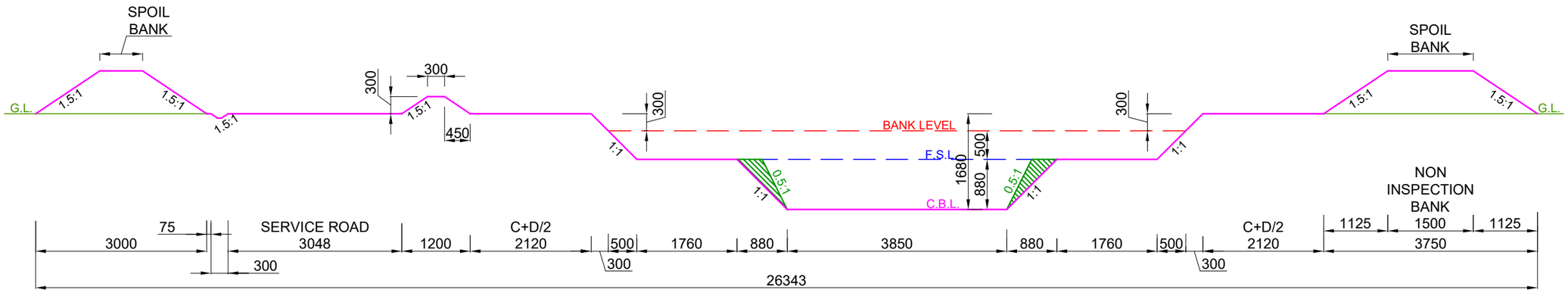
NOTE:-

1. THE BANK WIDTH HAS BEEN ADOPTED AS PER IS 7112 : 2002 (TABLE-1).
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3. THIS IS A TYPICAL DRAWING , INSPECTION & NON-INSPECTION BANK SHALL BE TAKEN AS PER SITE CONDITIONS.

LEGEND		Prepared by :- WAPCOS LTD.		
	CUT AREA		Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
	FILL AREA		Drawing Title :-	X SECTION OF CHAIN NAWADA SUB-DY. (OFFTAKE FROM RD - 94+494 KM. (L), NORTH KOEL RIGHT MAIN CANAL)
			Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34/ XSEC /TYP-(FC) 3 of 4

TYPICAL X - SECTION OF CHAIN NAWADA SUB-DISTRIBUTARY
(OFFTAKE FROM RD - 94+494 KM. (LT), NORTH KOEL RIGHT MAIN CANAL)

DESIGN SECTION FOR FULL CUTTING



DESIGN SECTION FROM CH: 11.070 KM TO CH: 13.800 KM

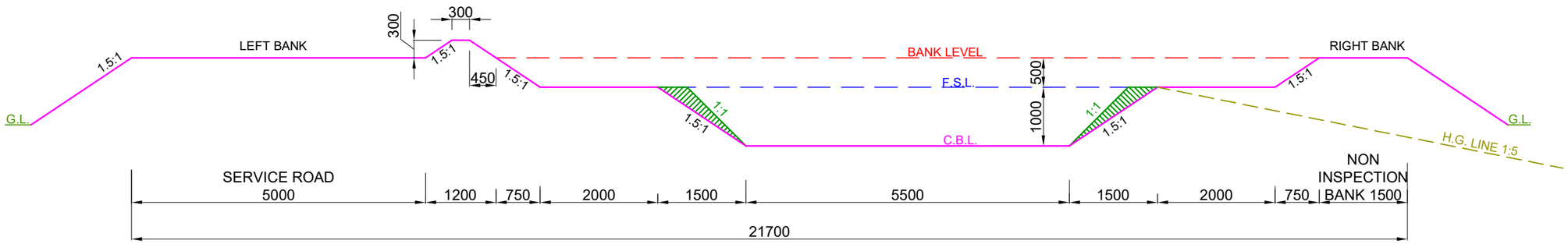
NOTE:-

1. THE BANK WIDTH HAS BEEN ADOPTED AS PER IS 7112 : 2002 (TABLE-1).
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3. THIS IS A TYPICAL DRAWING , INSPECTION & NON-INSPECTION BANK SHALL BE TAKEN AS PER SITE CONDITIONS.

LEGEND		Prepared by :-		
	CUT AREA	WAPCOS LTD.	Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
	FILL AREA		Drawing Title :-	X SECTION OF CHAIN NAWADA SUB-DY. (OFFTAKE FROM RD - 94+494 KM. (L), NORTH KOEL RIGHT MAIN CANAL)
			Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34/ XSEC /TYP-(FC) 4 of 4

TYPICAL X - SECTION OF CHAIN NAWADA SUB-DISTRIBUTARY
(OFFTAKE FROM RD - 94+494 KM. (LT), NORTH KOEL RIGHT MAIN CANAL)

DESIGN SECTION FOR FULL CUTTING



DESIGN SECTION FROM CH: 0.000 KM TO CH: 4.150 KM

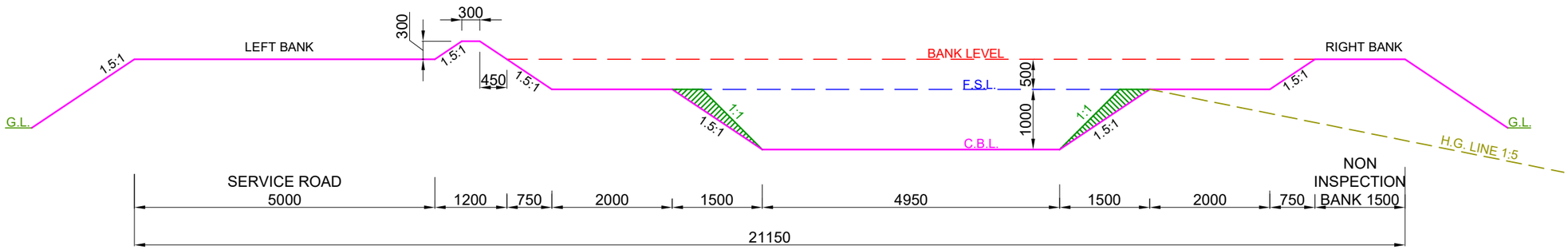
NOTE:-

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		Prepared by :-		
	CUT AREA	WAPCOS LTD.	Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
	FILL AREA		Drawing Title :-	X SECTION OF CHAIN NAWADA SUB-DY. (OFFTAKE FROM RD - 94+494 KM. (L), NORTH KOEL RIGHT MAIN CANAL)
			Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34/ XSEC /TYP-(FF) 1 of 4

TYPICAL X - SECTION OF CHAIN NAWADA SUB-DISTRIBUTARY
(OFFTAKE FROM RD - 94+494 KM. (LT), NORTH KOEL RIGHT MAIN CANAL)

DESIGN SECTION FOR FULL CUTTING



DESIGN SECTION FROM CH: 4.150 KM TO CH: 9.325 KM

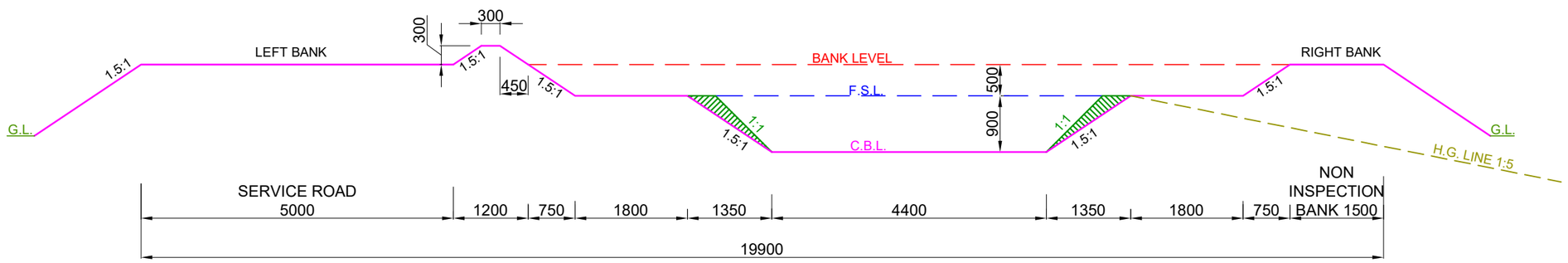
NOTE:-

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.		
	CUT AREA		Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
	FILL AREA		Drawing Title :-	X SECTION OF CHAIN NAWADA SUB-DY. (OFFTAKE FROM RD - 94+494 KM. (L), NORTH KOEL RIGHT MAIN CANAL)
			Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34/ XSEC /TYP-(FF) 2 of 4

TYPICAL X - SECTION OF CHAIN NAWADA SUB-DISTRIBUTARY
(OFFTAKE FROM RD - 94+494 KM. (LT), NORTH KOEL RIGHT MAIN CANAL)

DESIGN SECTION FOR FULL CUTTING



DESIGN SECTION FROM CH: 9.325 KM TO CH: 11.070 KM

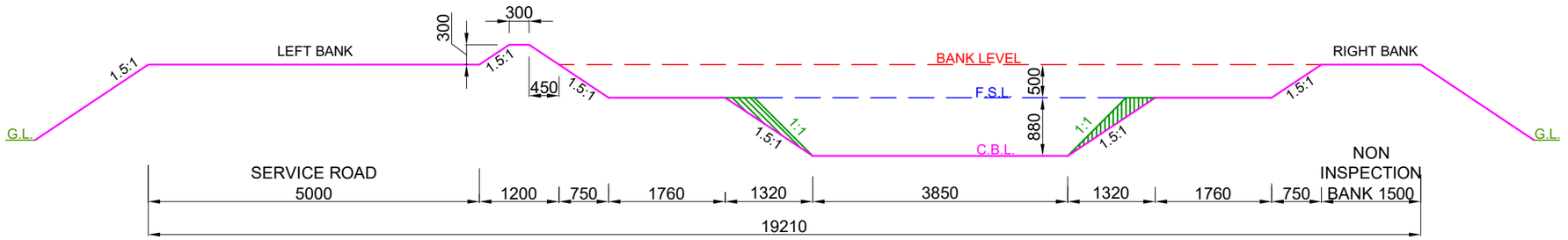
NOTE:-

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.
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LEGEND		Prepared by :- WAPCOS LTD.		
	CUT AREA		Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
	FILL AREA		Drawing Title :-	X SECTION OF CHAIN NAWADA SUB-DY. (OFFTAKE FROM RD - 94+494 KM. (L), NORTH KOEL RIGHT MAIN CANAL)
			Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34/ XSEC /TYP-(FF) 3 of 4

TYPICAL X - SECTION OF CHAIN NAWADA SUB-DISTRIBUTARY
(OFFTAKE FROM RD - 94+494 KM. (LT), NORTH KOEL RIGHT MAIN CANAL)

DESIGN SECTION FOR FULL CUTTING



DESIGN SECTION FROM CH: 11.070 KM TO CH: 13.800 KM

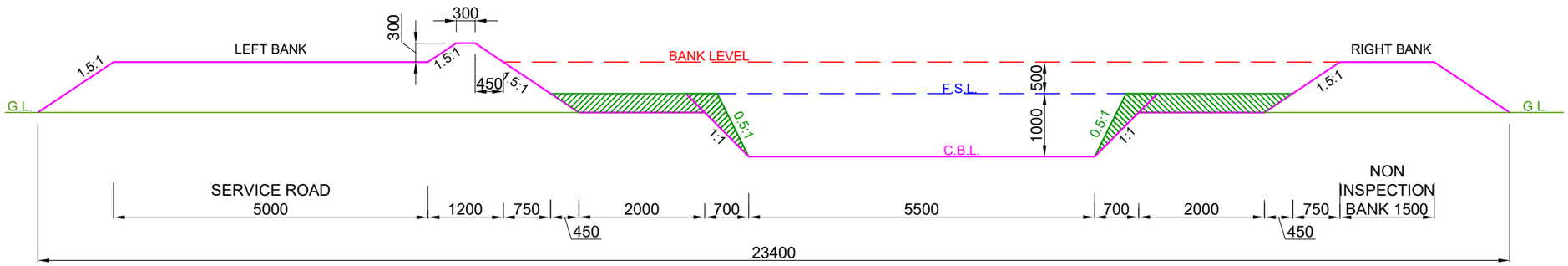
NOTE:-

1. THE BANK WIDTH HAS BEEN ADOPTED AS PER IS 7112 : 2002 (TABLE-1).
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LEGEND		Prepared by :- WAPCOS LTD.		
	CUT AREA		Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
	FILL AREA		Drawing Title :-	X SECTION OF CHAIN NAWADA SUB-DY. (OFFTAKE FROM RD - 94+494 KM. (L), NORTH KOEL RIGHT MAIN CANAL)
			Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34/ XSEC /TYP-(FF) 4 of 4

TYPICAL X - SECTION OF CHAIN NAWADA SUB-DISTRIBUTARY
(OFFTAKE FROM RD - 94+494 KM. (LT), NORTH KOEL RIGHT MAIN CANAL)

DESIGN SECTION FOR FULL CUTTING



DESIGN SECTION FROM CH: 0.000 KM TO CH: 4.150 KM

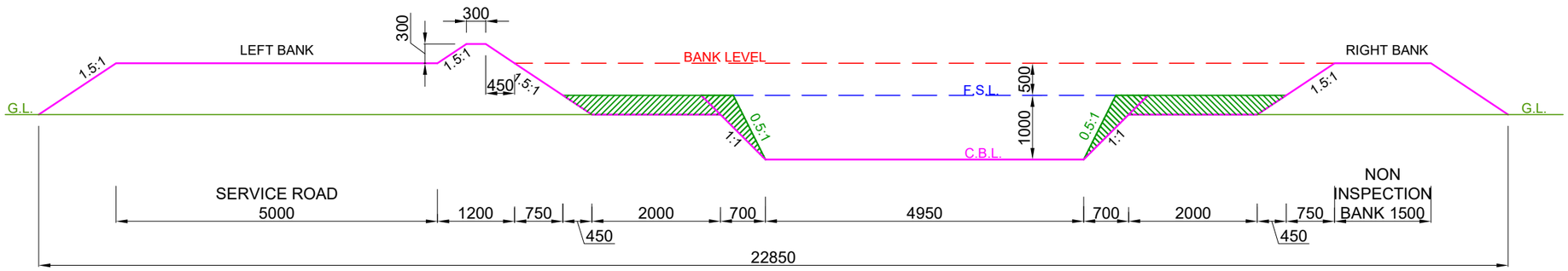
NOTE:-

1. THE BANK WIDTH HAS BEEN ADOPTED AS PER IS 7112 : 2002 (TABLE-1).
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LEGEND		Prepared by :- WAPCOS LTD.		
	CUT AREA		Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
	FILL AREA		Drawing Title :-	X SECTION OF CHAIN NAWADA SUB-DY. (OFFTAKE FROM RD - 94+494 KM. (L), NORTH KOEL RIGHT MAIN CANAL)
			Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34/ XSEC /TYP-(PCF) 1 of 4

TYPICAL X - SECTION OF CHAIN NAWADA SUB-DISTRIBUTARY
(OFFTAKE FROM RD - 94+494 KM. (LT), NORTH KOEL RIGHT MAIN CANAL)

DESIGN SECTION FOR FULL CUTTING



DESIGN SECTION FROM CH: 4.150 KM TO CH: 9.325 KM

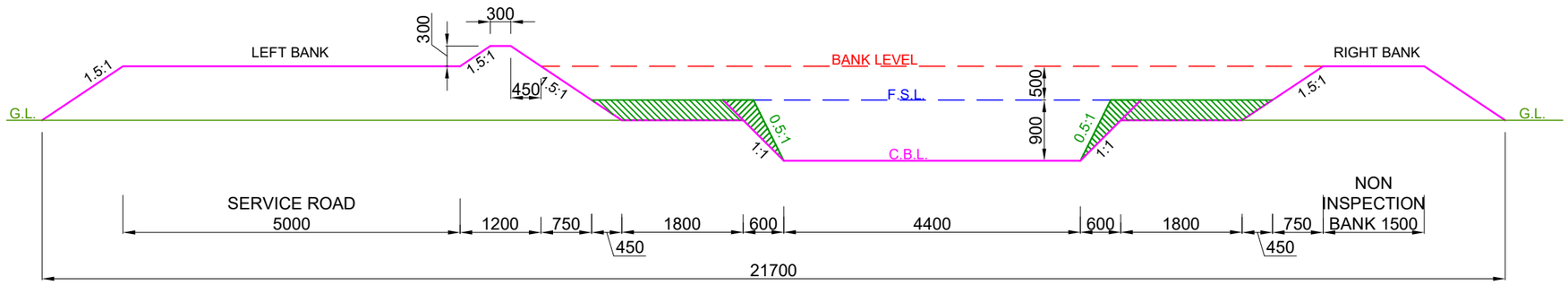
NOTE:-

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.		
	CUT AREA		Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
	FILL AREA		Drawing Title :-	X SECTION OF CHAIN NAWADA SUB-DY. (OFFTAKE FROM RD - 94+494 KM. (L), NORTH KOEL RIGHT MAIN CANAL)
			Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34/ XSEC /TYP-(PCF) 2 of 4

TYPICAL X - SECTION OF CHAIN NAWADA SUB-DISTRIBUTARY
(OFFTAKE FROM RD - 94+494 KM. (LT), NORTH KOEL RIGHT MAIN CANAL)

DESIGN SECTION FOR FULL CUTTING



DESIGN SECTION FROM CH: 9.325 KM TO CH: 11.070 KM

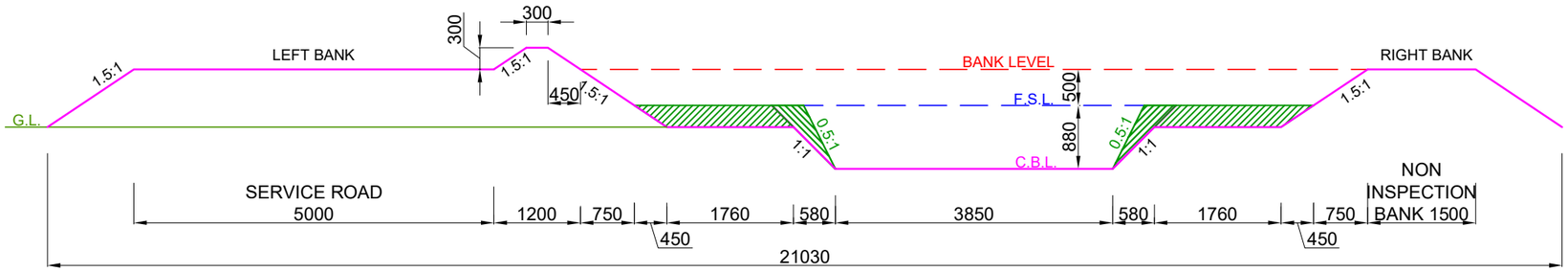
NOTE:-

1. THE BANK WIDTH HAS BEEN ADOPTED AS PER IS 7112 : 2002 (TABLE-1).
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3. THIS IS A TYPICAL DRAWING , INSPECTION & NON-INSPECTION BANK SHALL BE TAKEN AS PER SITE CONDITIONS.

LEGEND		Prepared by :-		
	CUT AREA	WAPCOS LTD.	Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
	FILL AREA		Drawing Title :-	X SECTION OF CHAIN NAWADA SUB-DY. (OFFTAKE FROM RD - 94+494 KM. (L), NORTH KOEL RIGHT MAIN CANAL)
			Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34/ XSEC /TYP-(PCF) 3 of 4

TYPICAL X - SECTION OF CHAIN NAWADA SUB-DISTRIBUTARY
(OFFTAKE FROM RD - 94+494 KM. (LT), NORTH KOEL RIGHT MAIN CANAL)

DESIGN SECTION FOR FULL CUTTING



DESIGN SECTION FROM CH: 11.070 KM TO CH: 13.800 KM

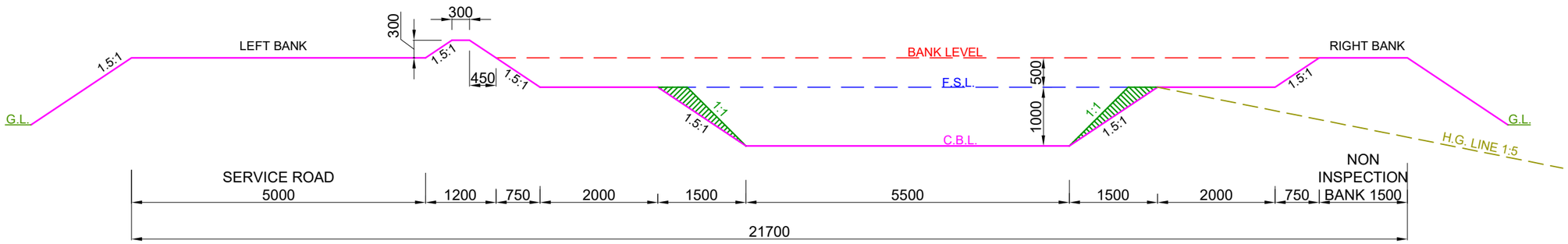
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LEGEND		Prepared by :-		
	CUT AREA	WAPCOS LTD.	Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
	FILL AREA		Drawing Title :-	X SECTION OF CHAIN NAWADA SUB-DY. (OFFTAKE FROM RD - 94+494 KM. (L), NORTH KOEL RIGHT MAIN CANAL)
			Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34/ XSEC /TYP-(PCF) 4 of 4

TYPICAL X - SECTION OF CHAIN NAWADA SUB-DISTRIBUTARY
(OFFTAKE FROM RD - 94+494 KM. (LT), NORTH KOEL RIGHT MAIN CANAL)

DESIGN SECTION FOR FULL CUTTING



DESIGN SECTION FROM CH: 0.000 KM TO CH: 4.150 KM

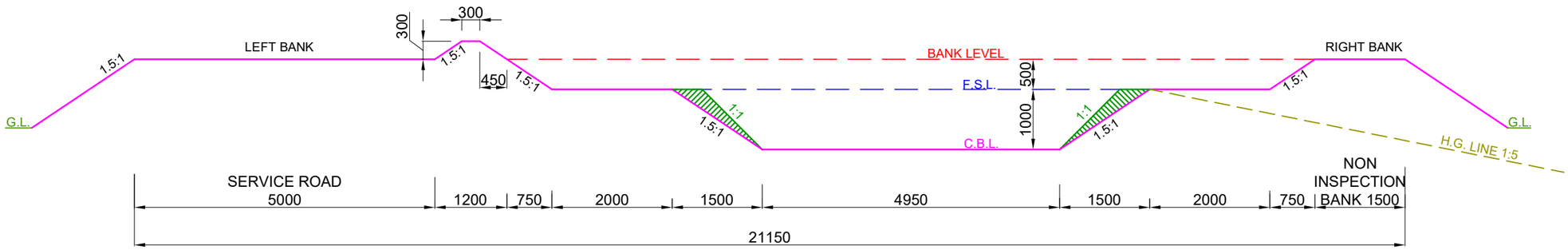
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LEGEND		Prepared by :-		
	CUT AREA	WAPCOS LTD.	Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
	FILL AREA		Drawing Title :-	X SECTION OF CHAIN NAWADA SUB-DY. (OFFTAKE FROM RD - 94+494 KM. (L), NORTH KOEL RIGHT MAIN CANAL)
			Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34/ XSEC /TYP-(FF) 1 of 4

TYPICAL X - SECTION OF CHAIN NAWADA SUB-DISTRIBUTARY
(OFFTAKE FROM RD - 94+494 KM. (LT), NORTH KOEL RIGHT MAIN CANAL)

DESIGN SECTION FOR FULL CUTTING



DESIGN SECTION FROM CH: 4.150 KM TO CH: 9.325 KM

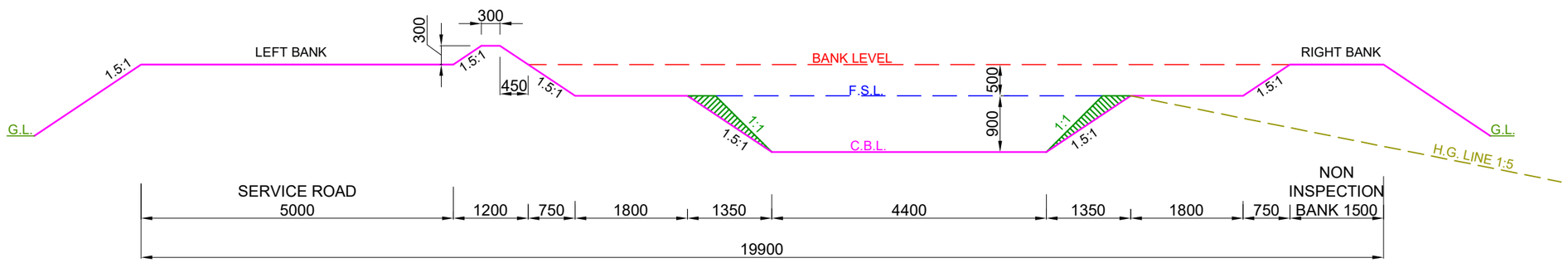
NOTE:-

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3. THIS IS A TYPICAL DRAWING , INSPECTION & NON-INSPECTION BANK SHALL BE TAKEN AS PER SITE CONDITIONS.

LEGEND		Prepared by :-		
	CUT AREA	WAPCOS LTD.	Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
	FILL AREA		Drawing Title :-	X SECTION OF CHAIN NAWADA SUB-DY. (OFFTAKE FROM RD - 94+494 KM. (L), NORTH KOEL RIGHT MAIN CANAL)
			Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34/ XSEC /TYP-(FF) 2 of 4

TYPICAL X - SECTION OF CHAIN NAWADA SUB-DISTRIBUTARY
(OFFTAKE FROM RD - 94+494 KM. (LT), NORTH KOEL RIGHT MAIN CANAL)

DESIGN SECTION FOR FULL CUTTING



DESIGN SECTION FROM CH: 9.325 KM TO CH: 11.070 KM

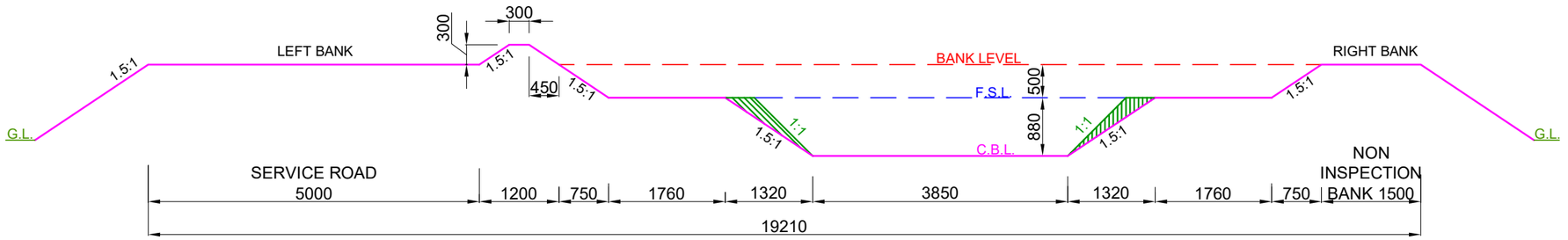
NOTE:-

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.		
	CUT AREA		Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
	FILL AREA		Drawing Title :-	X SECTION OF CHAIN NAWADA SUB-DY. (OFFTAKE FROM RD - 94+494 KM. (L), NORTH KOEL RIGHT MAIN CANAL)
			Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34/ XSEC /TYP-(FF) 3 of 4

TYPICAL X - SECTION OF CHAIN NAWADA SUB-DISTRIBUTARY
(OFFTAKE FROM RD - 94+494 KM. (LT), NORTH KOEL RIGHT MAIN CANAL)

DESIGN SECTION FOR FULL CUTTING



DESIGN SECTION FROM CH: 11.070 KM TO CH: 13.800 KM

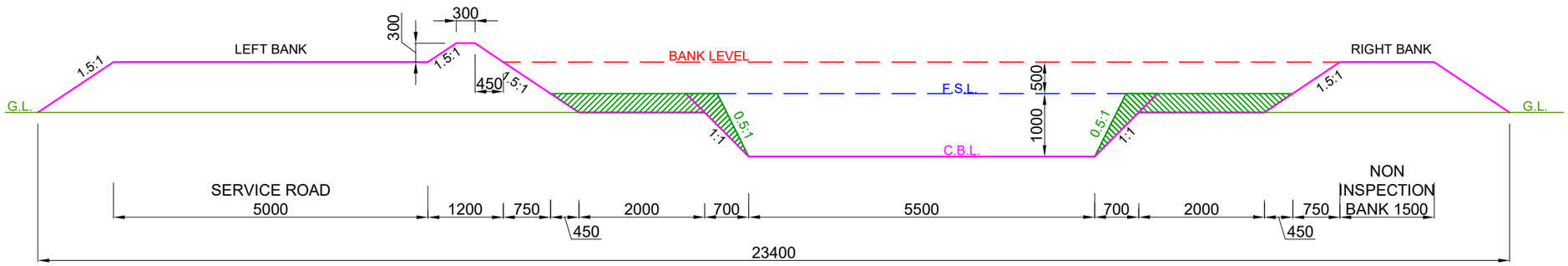
NOTE:-

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.		
	CUT AREA		Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
	FILL AREA		Drawing Title :-	X SECTION OF CHAIN NAWADA SUB-DY. (OFFTAKE FROM RD - 94+494 KM. (L), NORTH KOEL RIGHT MAIN CANAL)
			Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34/ XSEC /TYP-(FF) 4 of 4

TYPICAL X - SECTION OF CHAIN NAWADA SUB-DISTRIBUTARY
(OFFTAKE FROM RD - 94+494 KM. (LT), NORTH KOEL RIGHT MAIN CANAL)

DESIGN SECTION FOR FULL CUTTING



DESIGN SECTION FROM CH: 0.000 KM TO CH: 4.150 KM

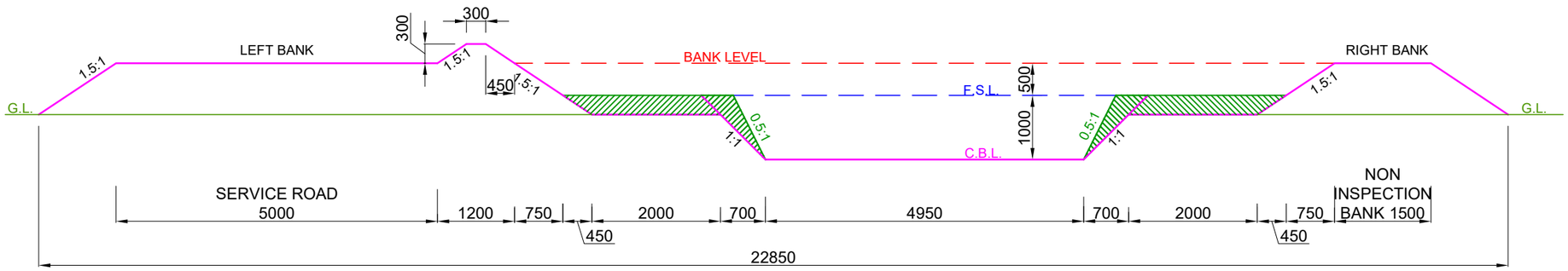
NOTE:-

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		Prepared by :-		
	CUT AREA	WAPCOS LTD.	Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
	FILL AREA		Drawing Title :-	X SECTION OF CHAIN NAWADA SUB-DY. (OFFTAKE FROM RD - 94+494 KM. (L), NORTH KOEL RIGHT MAIN CANAL)
			Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34/ XSEC /TYP-(PCF) 1 of 4

TYPICAL X - SECTION OF CHAIN NAWADA SUB-DISTRIBUTARY
(OFFTAKE FROM RD - 94+494 KM. (LT), NORTH KOEL RIGHT MAIN CANAL)

DESIGN SECTION FOR FULL CUTTING



DESIGN SECTION FROM CH: 4.150 KM TO CH: 9.325 KM

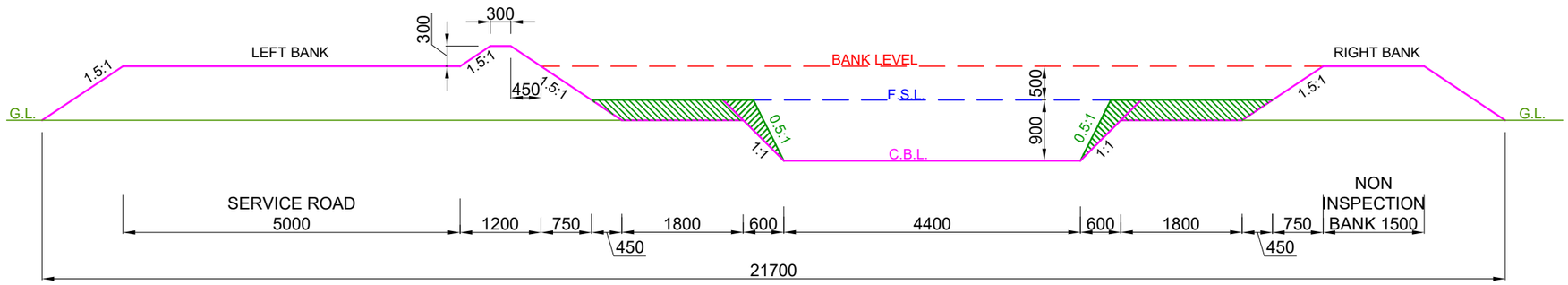
NOTE:-

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.		
	CUT AREA		Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
	FILL AREA		Drawing Title :-	X SECTION OF CHAIN NAWADA SUB-DY. (OFFTAKE FROM RD - 94+494 KM. (L), NORTH KOEL RIGHT MAIN CANAL)
			Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34/ XSEC /TYP-(PCF) 2 of 4

TYPICAL X - SECTION OF CHAIN NAWADA SUB-DISTRIBUTARY
(OFFTAKE FROM RD - 94+494 KM. (LT), NORTH KOEL RIGHT MAIN CANAL)

DESIGN SECTION FOR FULL CUTTING



DESIGN SECTION FROM CH: 9.325 KM TO CH: 11.070 KM

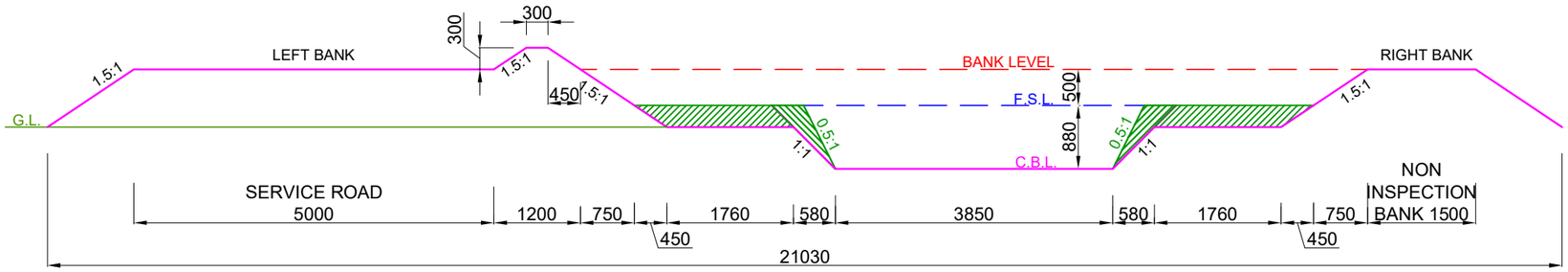
NOTE:-

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.		
	CUT AREA		Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
	FILL AREA		Drawing Title :-	X SECTION OF CHAIN NAWADA SUB-DY. (OFFTAKE FROM RD - 94+494 KM. (L), NORTH KOEL RIGHT MAIN CANAL)
			Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34/ XSEC /TYP-(PCF) 3 of 4

TYPICAL X - SECTION OF CHAIN NAWADA SUB-DISTRIBUTARY
(OFFTAKE FROM RD - 94+494 KM. (LT), NORTH KOEL RIGHT MAIN CANAL)

DESIGN SECTION FOR FULL CUTTING



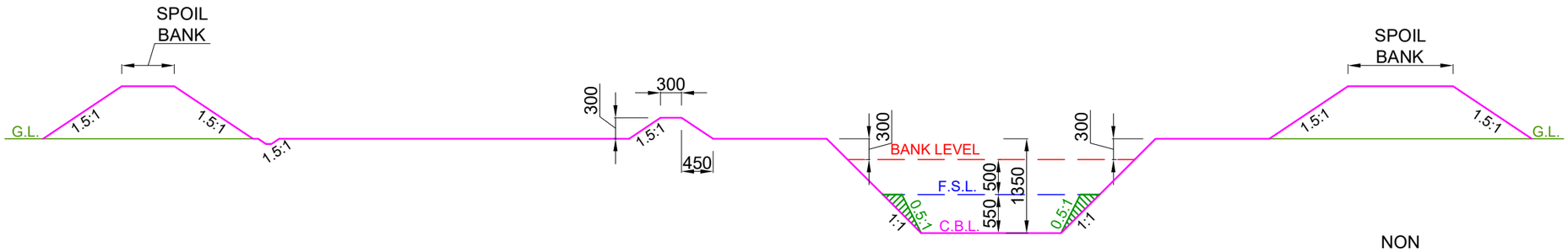
DESIGN SECTION FROM CH: 11.070 KM TO CH: 13.800 KM

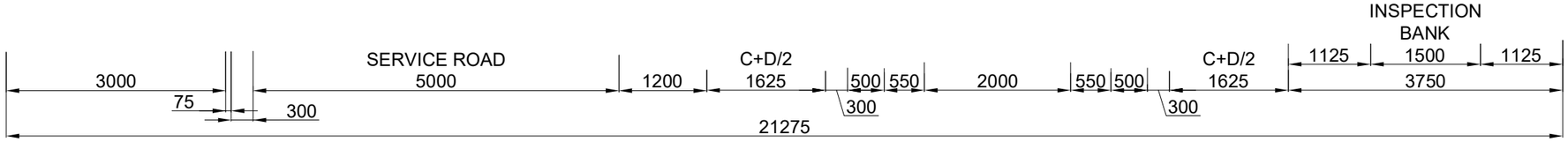
NOTE:-

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 :-		
	CUT AREA	WAPCOS LTD.	Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
	FILL AREA		Drawing Title :-	X SECTION OF CHAIN NAWADA SUB-DY. (OFFTAKE FROM RD - 94+494 KM. (L), NORTH KOEL RIGHT MAIN CANAL)
			Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34/ XSEC /TYP-(PCF) 4 of 4

TYPICAL X - SECTION OF PARANPUR MINOR
(OFFTAKE FROM RD - 9+325 KM. (LT), CHAIN NAWADA SUB-DISTRIBUTARY CANAL)
DESIGN SECTION FOR FULL CUTTING





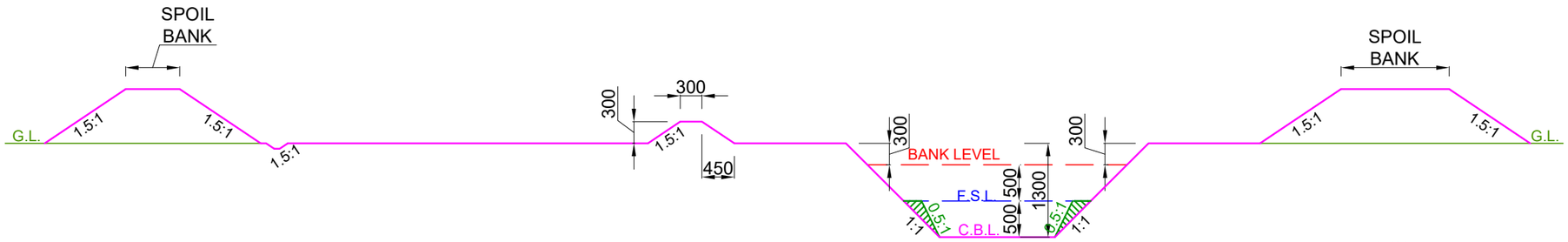
DESIGN SECTION FROM CH: 0.000 KM TO CH: 0.800 KM

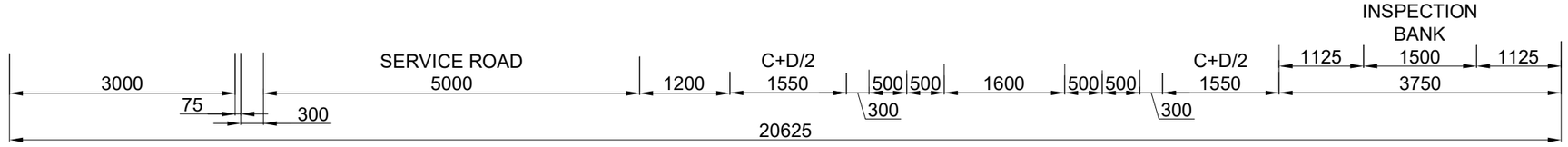
NOTE:-

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		Prepared by :-		
	CUT AREA	WAPCOS LTD.	Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
	FILL AREA		Drawing Title :-	X - SECTION OF PARANPUR MR. (OFFTAKE FROM RD - 9+325 KM. (L), CHAIN NAWADA SUB-DISTRIBUTARY CANAL)
			Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34-01/ XSEC /TYP-(FC) 1 of 5

TYPICAL X - SECTION OF PARANPUR MINOR
(OFFTAKE FROM RD - 9+325 KM. (LT), CHAIN NAWADA SUB-DISTRIBUTARY CANAL)
DESIGN SECTION FOR FULL CUTTING





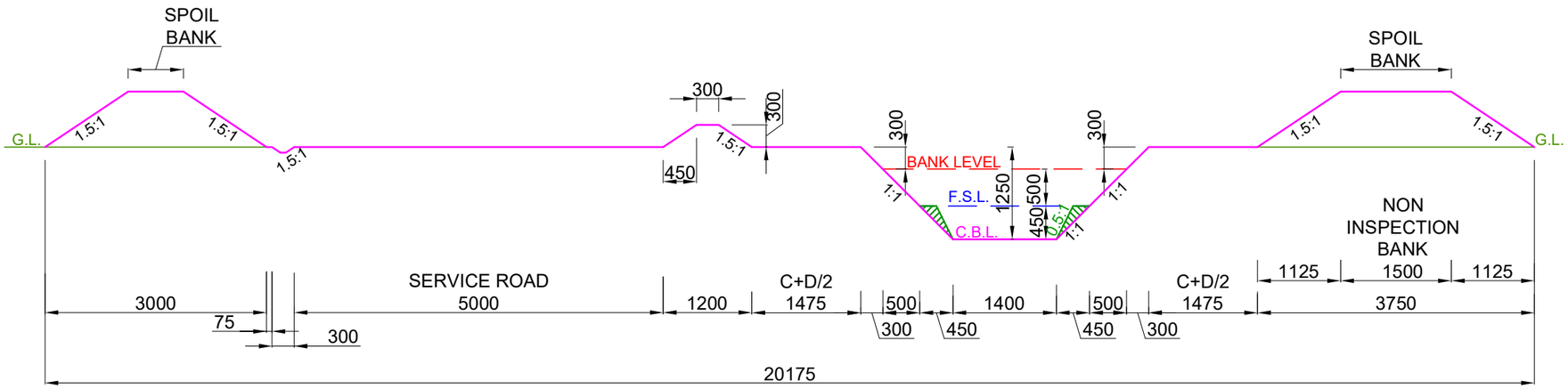
DESIGN SECTION FROM CH: 0.800 KM TO CH: 2.100 KM

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 PARANPUR MR. (OFFTAKE FROM RD - 9+325 KM. (L), CHAIN NAWADA SUB-DISTRIBUTARY CANAL)
	FILL AREA		Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34-01/ XSEC /TYP-(FC) 2 of 5

TYPICAL X - SECTION OF PARANPUR MINOR
(OFFTAKE FROM RD - 9+325 KM. (LT), CHAIN NAWADA SUB-DISTRIBUTARY CANAL)
DESIGN SECTION FOR FULL CUTTING



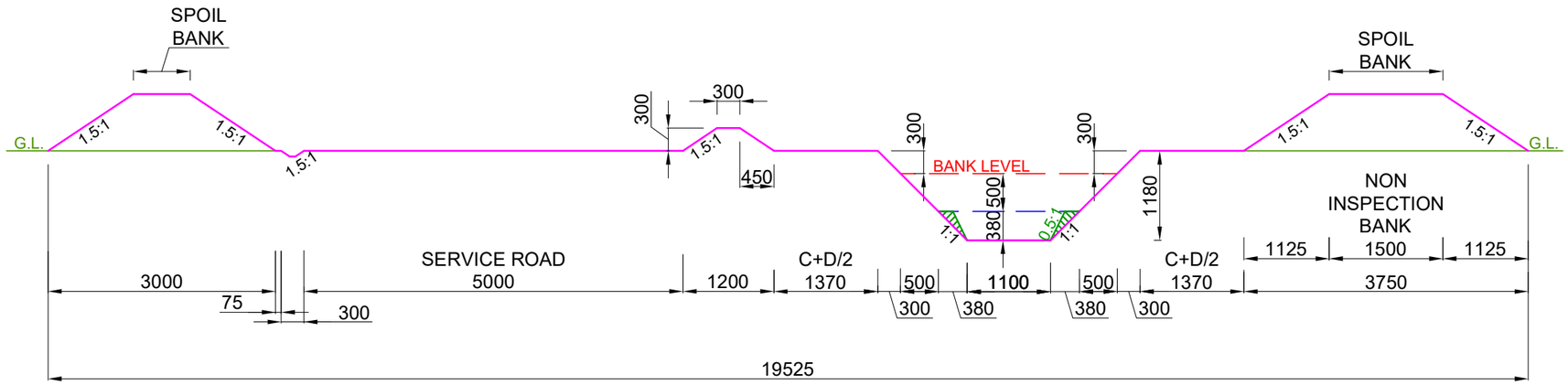
DESIGN SECTION FROM CH: 2.100 KM TO CH: 2.215 KM

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.		
	CUT AREA		Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
	FILL AREA		Drawing Title :-	X - SECTION OF PARANPUR MR. (OFFTAKE FROM RD - 9+325 KM. (L), CHAIN NAWADA SUB-DISTRIBUTARY CANAL)
			Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34-01/ XSEC /TYP-(FC) 3 of 5

TYPICAL X - SECTION OF PARANPUR MINOR
(OFFTAKE FROM RD - 9+325 KM. (LT), CHAIN NAWADA SUB-DISTRIBUTARY CANAL)
DESIGN SECTION FOR FULL CUTTING



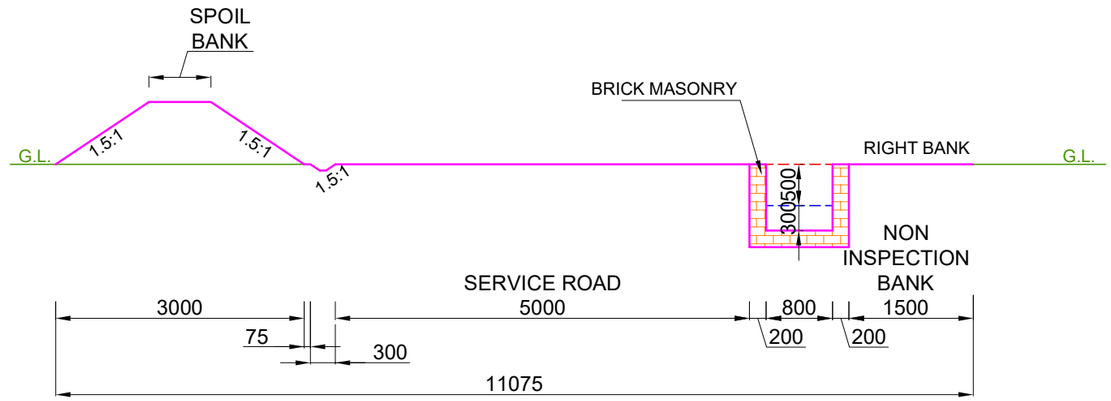
DESIGN SECTION FROM CH: 2.215 KM TO CH: 2.700 KM

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 :-		
	CUT AREA	WAPCOS LTD.	Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
	FILL AREA		Drawing Title :-	X - SECTION OF PARANPUR MR. (OFFTAKE FROM RD - 9+325 KM. (L), CHAIN NAWADA SUB-DISTRIBUTARY CANAL)
			Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34-01/ XSEC /TYP-(FC) 4 of 5

TYPICAL X - SECTION OF PARANPUR MINOR
(OFFTAKE FROM RD - 9+325 KM. (LT), CHAIN NAWADA SUB-DISTRIBUTARY CANAL)
DESIGN SECTION FOR FULL CUTTING



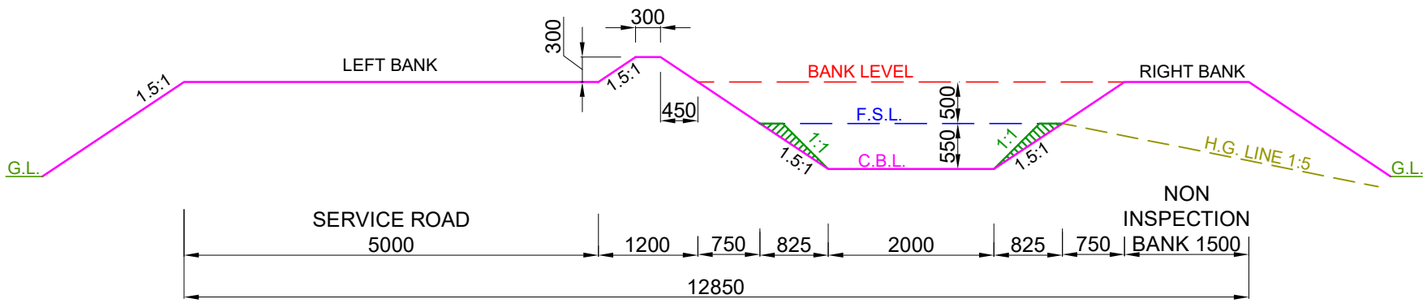
DESIGN SECTION FROM CH: 2.700 KM TO CH: 3.050 KM

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.		
	CUT AREA		Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
	FILL AREA		Drawing Title :-	X - SECTION OF PARANPUR MR. (OFFTAKE FROM RD - 9+325 KM. (L), CHAIN NAWADA SUB-DISTRIBUTARY CANAL)
			Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34-01/ XSEC /TYP-(FC) 5 of 5

TYPICAL X - SECTION OF PARANPUR MINOR
(OFFTAKE FROM RD - 9+325 KM. (LT), CHAIN NAWADA SUB-DISTRIBUTARY CANAL)
DESIGN SECTION FOR FULL FILLING



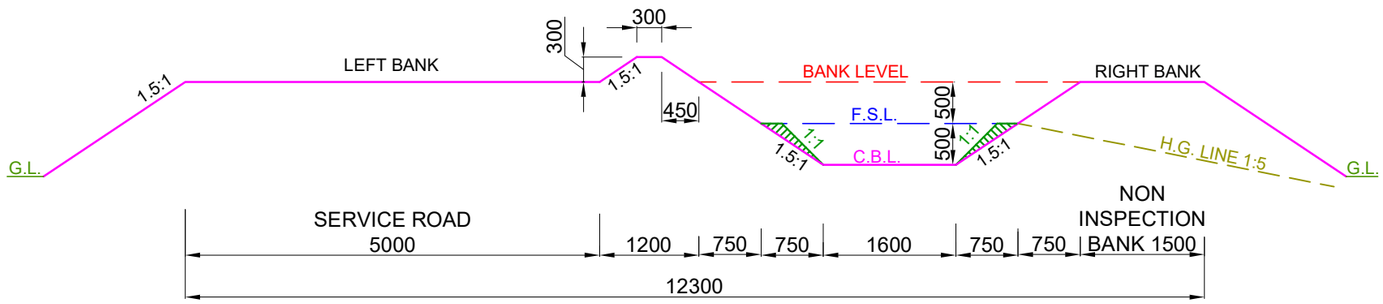
DESIGN SECTION FROM CH: 0.000 KM TO CH: 0.800 KM

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		Prepared by :- WAPCOS LTD.		
	CUT AREA		Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
	FILL AREA		Drawing Title :-	X - SECTION OF PARANPUR MR. (OFFTAKE FROM RD - 9+325 KM. (L), CHAIN NAWADA SUB-DISTRIBUTARY CANAL)
			Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34-01/ XSEC /TYP-(FF) 1 of 5

TYPICAL X - SECTION OF PARANPUR MINOR
(OFFTAKE FROM RD - 9+325 KM. (LT), CHAIN NAWADA SUB-DISTRIBUTARY CANAL)
DESIGN SECTION FOR FULL FILLING



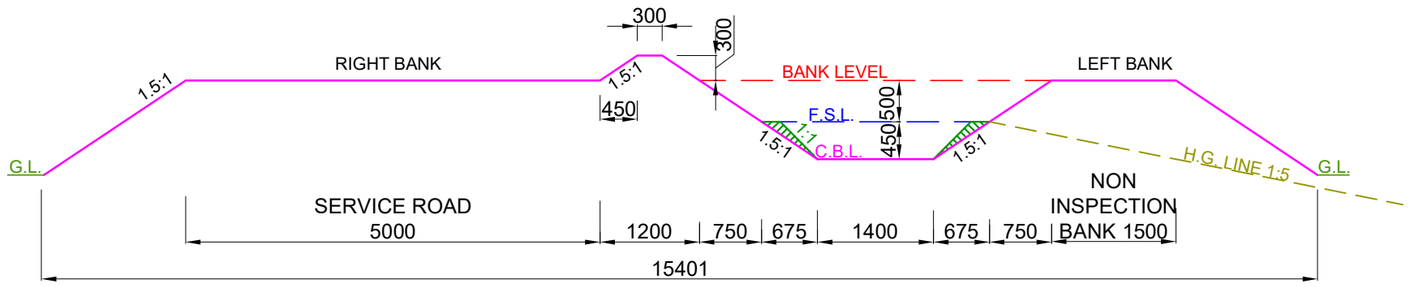
DESIGN SECTION FROM CH: 0.800 KM TO CH: 2.100 KM

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.		
	CUT AREA		Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
	FILL AREA		Drawing Title :-	X - SECTION OF PARANPUR MR. (OFFTAKE FROM RD - 9+325 KM. (L), CHAIN NAWADA SUB-DISTRIBUTARY CANAL)
			Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34-01/ XSEC /TYP-(FF) 2 of 5

TYPICAL X - SECTION OF PARANPUR MINOR
(OFFTAKE FROM RD - 9+325 KM. (LT), CHAIN NAWADA SUB-DISTRIBUTARY CANAL)
DESIGN SECTION FOR FULL FILLING



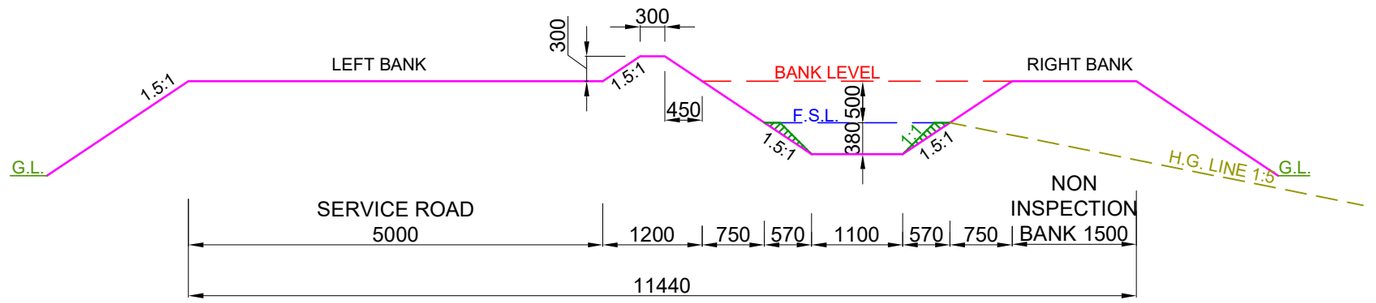
DESIGN SECTION FROM CH: 2.100 KM TO CH: 2.215 KM

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.		
	CUT AREA		Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
	FILL AREA		Drawing Title :-	X - SECTION OF PARANPUR MR. (OFFTAKE FROM RD - 9+325 KM. (L), CHAIN NAWADA SUB-DISTRIBUTARY CANAL)
			Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34-01/ XSEC /TYP-(FF) 3 of 5

TYPICAL X - SECTION OF PARANPUR MINOR
(OFFTAKE FROM RD - 9+325 KM. (LT), CHAIN NAWADA SUB-DISTRIBUTARY CANAL)
DESIGN SECTION FOR FULL FILLING



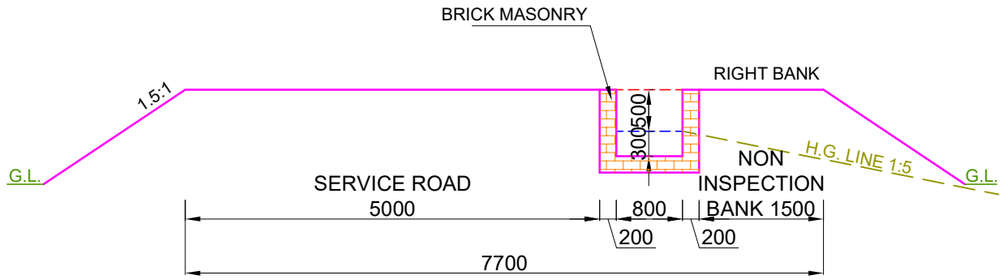
DESIGN SECTION FROM CH: 2.215 KM TO CH: 2.700 KM

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.		
	CUT AREA		Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
	FILL AREA		Drawing Title :-	X - SECTION OF PARANPUR MR. (OFFTAKE FROM RD - 9+325 KM. (L), CHAIN NAWADA SUB-DISTRIBUTARY CANAL)
			Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34-01/ XSEC /TYP-(FF) 4 of 5

TYPICAL X - SECTION OF PARANPUR MINOR
(OFFTAKE FROM RD - 9+325 KM. (LT), CHAIN NAWADA SUB-DISTRIBUTARY CANAL)
DESIGN SECTION FOR FULL FILLING



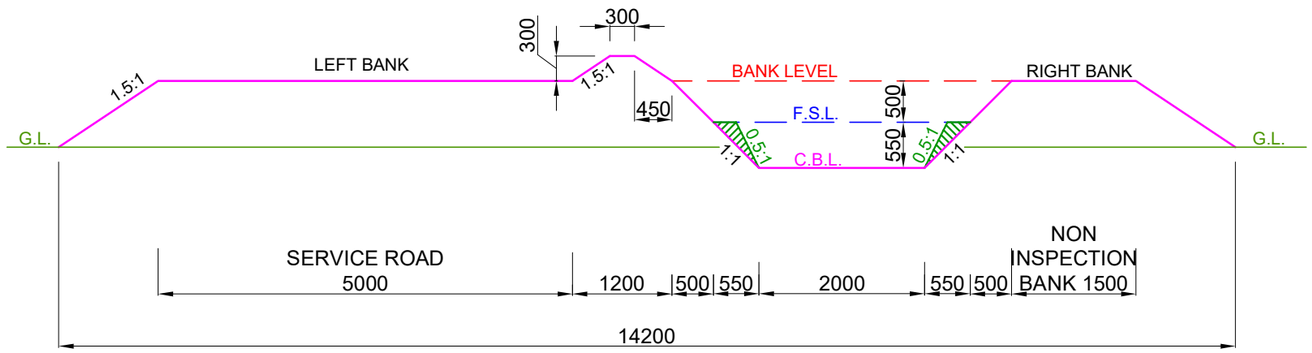
DESIGN SECTION FROM CH: 2.700 KM TO CH: 3.050 KM

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 PARANPUR MR. (OFFTAKE FROM RD - 9+325 KM. (L), CHAIN NAWADA SUB-DISTRIBUTARY CANAL)
	FILL AREA		Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34-01/ XSEC /TYP-(FF) 5 of 5

TYPICAL X - SECTION OF PARANPUR MINOR
(OFFTAKE FROM RD - 9+325 KM. (LT), CHAIN NAWADA SUB-DISTRIBUTARY CANAL)
DESIGN SECTION FOR PARTLY CUTTING/ PARTLY FILLING



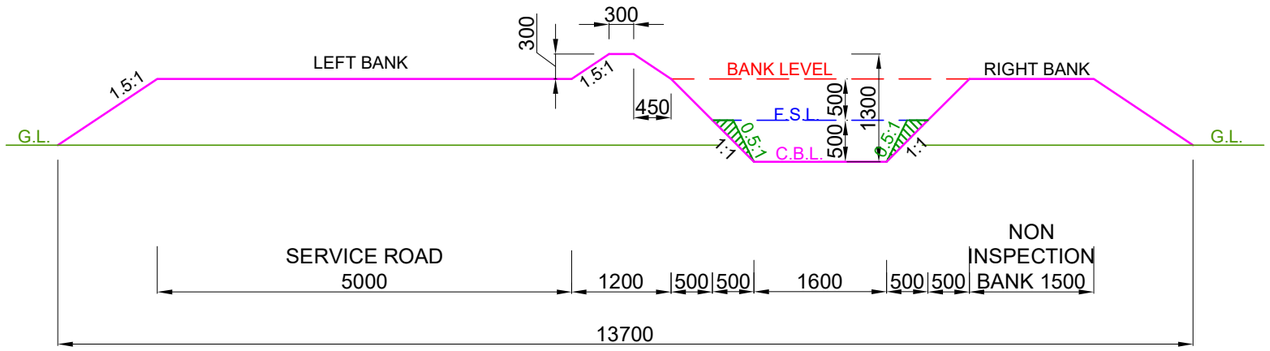
DESIGN SECTION FROM CH: 0.000 KM TO CH: 0.800 KM

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		Prepared by :- WAPCOS LTD.		
	CUT AREA		Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
	FILL AREA		Drawing Title :-	X - SECTION OF PARANPUR MR. (OFFTAKE FROM RD - 9+325 KM. (L), CHAIN NAWADA SUB-DISTRIBUTARY CANAL)
			Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34-01/ XSEC /TYP-(PCF) 1 of 5

TYPICAL X - SECTION OF PARANPUR MINOR
(OFFTAKE FROM RD - 9+325 KM. (LT), CHAIN NAWADA SUB-DISTRIBUTARY CANAL)
DESIGN SECTION FOR PARTLY CUTTING/ PARTLY FILLING



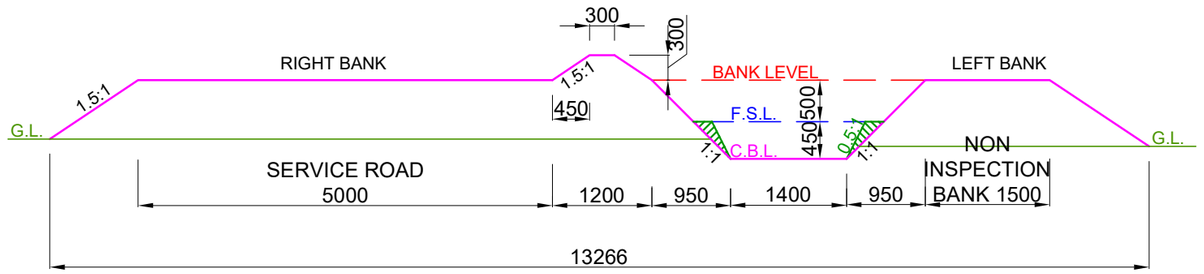
DESIGN SECTION FROM CH: 0.800 KM TO CH: 2.100 KM

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.		
	CUT AREA		Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
	FILL AREA		Drawing Title :-	X - SECTION OF PARANPUR MR. (OFFTAKE FROM RD - 9+325 KM. (L), CHAIN NAWADA SUB-DISTRIBUTARY CANAL)
			Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34-01/ XSEC /TYP-(PCF) 2 of 5

TYPICAL X - SECTION OF PARANPUR MINOR
(OFFTAKE FROM RD - 9+325 KM. (LT), CHAIN NAWADA SUB-DISTRIBUTARY CANAL)
DESIGN SECTION FOR PARTLY CUTTING/ PARTLY FILLING



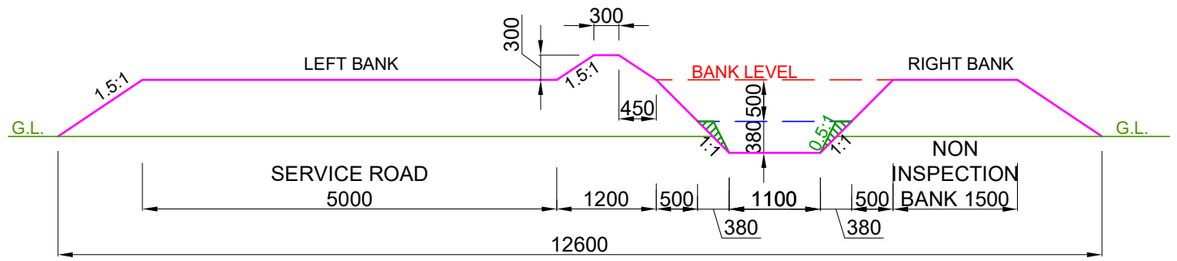
DESIGN SECTION FROM CH: 2.100 KM TO CH: 2.215 KM

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 :-		
	CUT AREA	WAPCOS LTD.	Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
	FILL AREA		Drawing Title :-	X - SECTION OF PARANPUR MR. (OFFTAKE FROM RD - 9+325 KM. (L), CHAIN NAWADA SUB-DISTRIBUTARY CANAL)
			Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34-01/ XSEC /TYP-(PCF) 3 of 5

TYPICAL X - SECTION OF PARANPUR MINOR
(OFFTAKE FROM RD - 9+325 KM. (LT), CHAIN NAWADA SUB-DISTRIBUTARY CANAL)
DESIGN SECTION FOR PARTLY CUTTING/ PARTLY FILLING



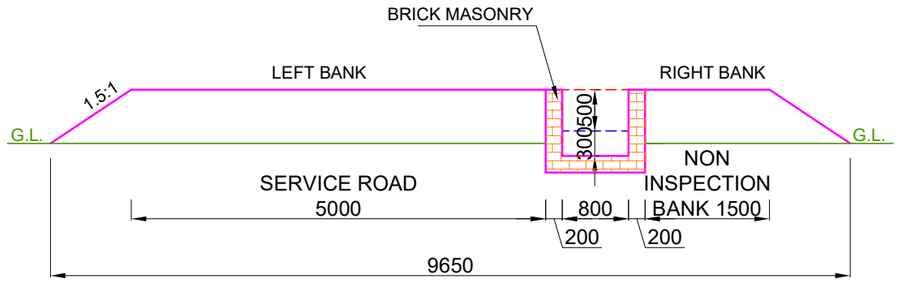
DESIGN SECTION FROM CH: 2.215 KM TO CH: 2.700 KM

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.		
	CUT AREA		Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
	FILL AREA		Drawing Title :-	X - SECTION OF PARANPUR MR. (OFFTAKE FROM RD - 9+325 KM. (L), CHAIN NAWADA SUB-DISTRIBUTARY CANAL)
			Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34-01/ XSEC /TYP-(PCF) 4 of 5

TYPICAL X - SECTION OF PARANPUR MINOR
(OFFTAKE FROM RD - 9+325 KM. (LT), CHAIN NAWADA SUB-DISTRIBUTARY CANAL)
DESIGN SECTION FOR PARTLY CUTTING/ PARTLY FILLING



DESIGN SECTION FROM CH: 2.700 KM TO CH: 3.050 KM

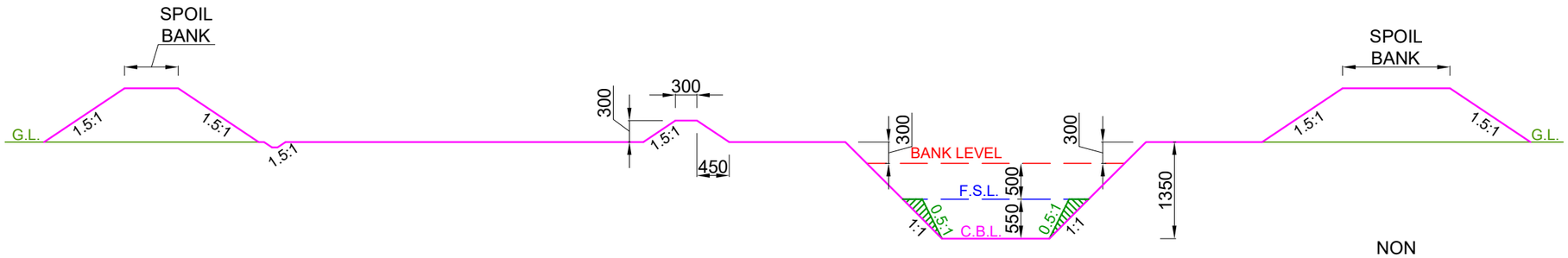
NOTE:-

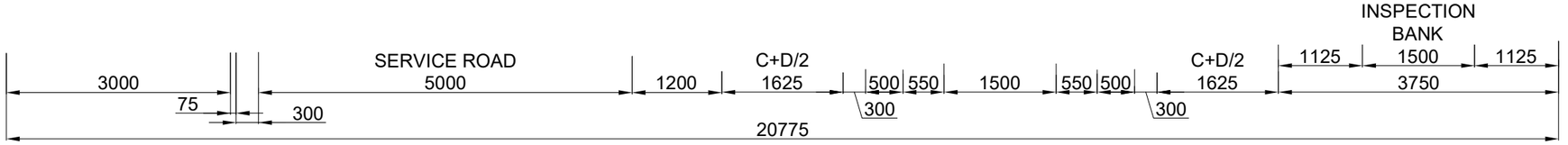
1. THE BANK WIDTH HAS BEEN ADOPTED AS PER IS 7112 : 2002 (TABLE-1).
2. THE OFFTAKING CHAINAGE AND LENGTH OF THE CANAL HAS BEEN TAKEN AS PER ACTUAL SURVEY.
3. THIS IS A TYPICAL DRAWING , INSPECTION & NON-INSPECTION BANK SHALL BE TAKEN AS PER SITE CONDITIONS.

LEGEND		Prepared by :-		
	CUT AREA	WAPCOS LTD.	Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
	FILL AREA		Drawing Title :-	X - SECTION OF PARANPUR MR. (OFFTAKE FROM RD - 9+325 KM. (L), CHAIN NAWADA SUB-DISTRIBUTARY CANAL)
			Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34-01/ XSEC /TYP-(PCF) 5 of 5

TYPICAL X - SECTION OF SALAIYA MINOR
(OFFTAKE FROM RD - 11+070 KM. (LT), CHAIN NAWADA SUB-DISTRIBUTARY CANAL)

DESIGN SECTION FOR FULL CUTTING





DESIGN SECTION FROM CH: 0.000 KM TO CH: 0.810 KM

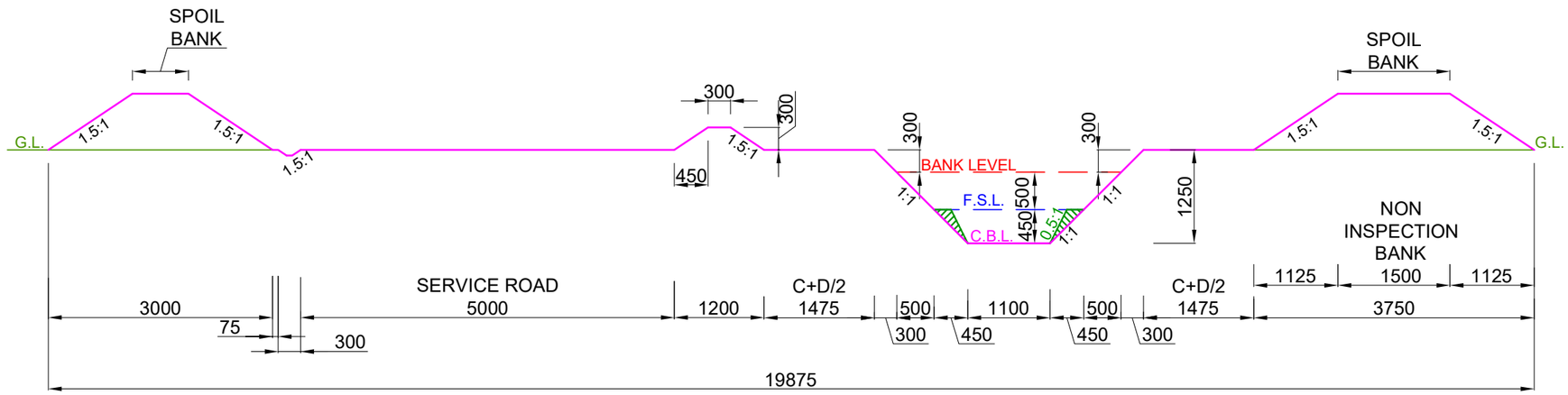
NOTE:-

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 SALAIYA MR. (OFFTAKE FROM RD - 11+070 KM. (L), CHAIN NAWADA SUB-DISTRIBUTARY CANAL)
	FILL AREA		Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34-02/ XSEC /TYP-(FC) 1 of 4

TYPICAL X - SECTION OF SALAIYA MINOR
(OFFTAKE FROM RD - 11+070 KM. (LT), CHAIN NAWADA SUB-DISTRIBUTARY CANAL)

DESIGN SECTION FOR FULL CUTTING



DESIGN SECTION FROM CH: 0.810 KM TO CH: 1.500 KM

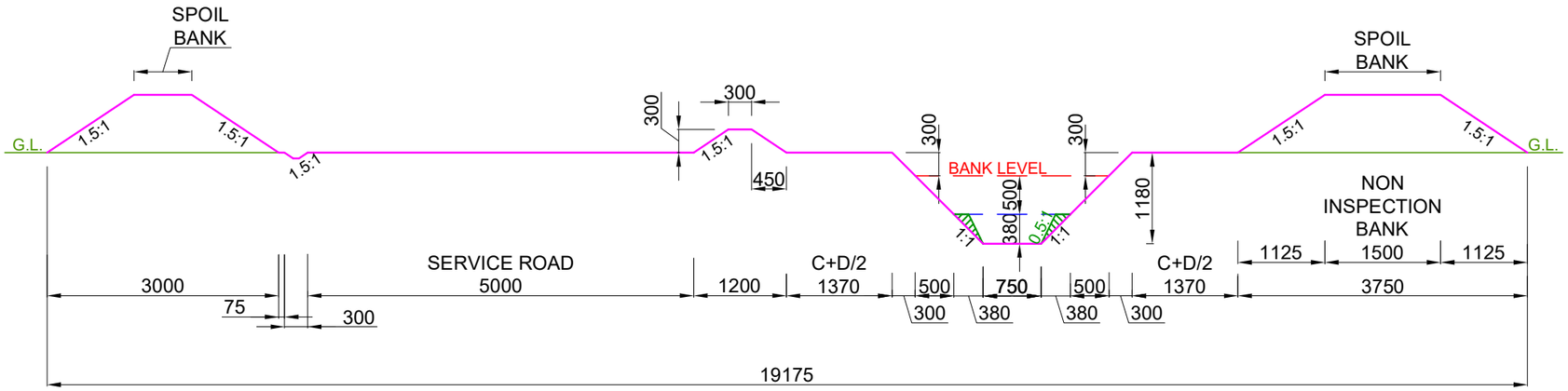
NOTE:-

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.		
	CUT AREA		Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
	FILL AREA		Drawing Title :-	X - SECTION OF SALAIYA MR. (OFFTAKE FROM RD - 11+070 KM. (L), CHAIN NAWADA SUB-DISTRIBUTARY CANAL)
			Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34-02/ XSEC /TYP-(FC) 2 of 4

TYPICAL X - SECTION OF SALAIYA MINOR
(OFFTAKE FROM RD - 11+070 KM. (LT), CHAIN NAWADA SUB-DISTRIBUTARY CANAL)

DESIGN SECTION FOR FULL CUTTING



DESIGN SECTION FROM CH: 1.500 KM TO CH: 1.885 KM

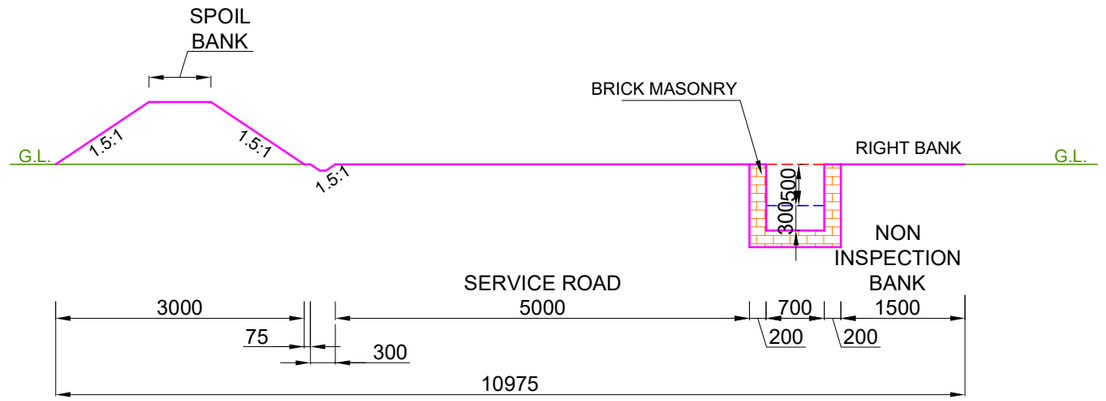
NOTE:-

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 SALAIYA MR. (OFFTAKE FROM RD - 11+070 KM. (L), CHAIN NAWADA SUB-DISTRIBUTARY CANAL)
	FILL AREA		Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34-02/ XSEC /TYP-(FC) 3 of 4

TYPICAL X - SECTION OF SALAIYA MINOR
(OFFTAKE FROM RD - 11+070 KM. (LT), CHAIN NAWADA SUB-DISTRIBUTARY CANAL)

DESIGN SECTION FOR FULL CUTTING



DESIGN SECTION FROM CH: 1.885 KM TO CH: 2.250 KM

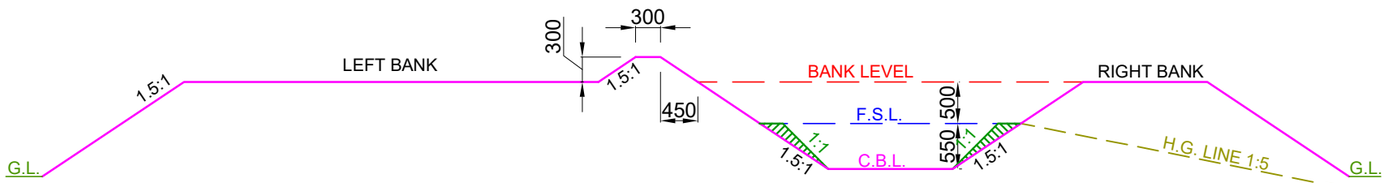
NOTE:-

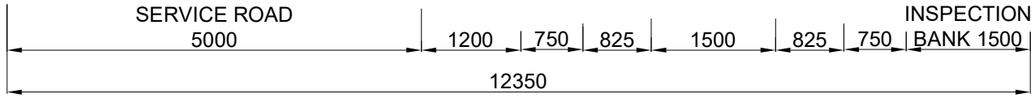
1. THE BANK WIDTH HAS BEEN ADOPTED AS PER IS 7112 : 2002 (TABLE-1).
2. THE OFFTAKING CHAINAGE AND LENGTH OF THE CANAL HAS BEEN TAKEN AS PER ACTUAL SURVEY.
3. THIS IS A TYPICAL DRAWING , INSPECTION & NON-INSPECTION BANK SHALL BE TAKEN AS PER SITE CONDITIONS.

LEGEND		Prepared by :- WAPCOS LTD.		
	CUT AREA		Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
	FILL AREA		Drawing Title :-	X - SECTION OF SALAIYA MR. (OFFTAKE FROM RD - 11+070 KM. (L), CHAIN NAWADA SUB-DISTRIBUTARY CANAL)
			Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34-02/ XSEC /TYP-(FC) 4 of 4

TYPICAL X - SECTION OF SALAIYA MINOR
(OFFTAKE FROM RD - 11+070 KM. (LT), CHAIN NAWADA SUB-DISTRIBUTARY CANAL)

DESIGN SECTION FOR FULL FILLING





DESIGN SECTION FROM CH: 0.000 KM TO CH: 0.810 KM

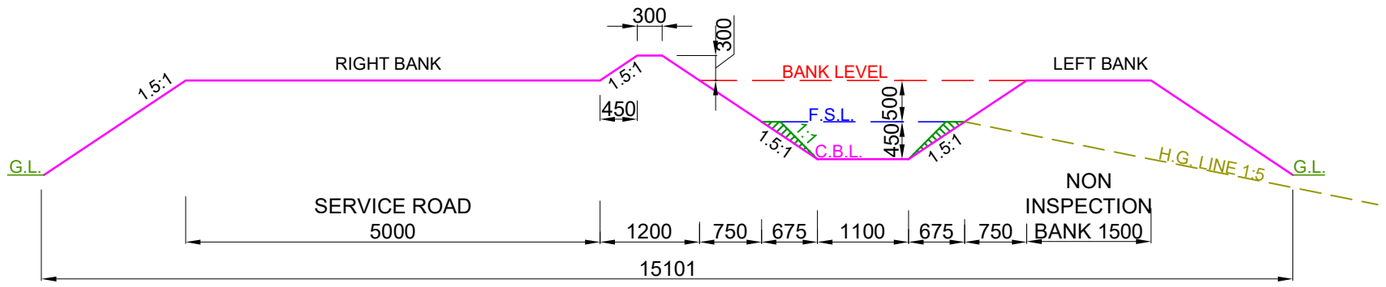
NOTE:-

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.		
	CUT AREA		Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
	FILL AREA		Drawing Title :-	X - SECTION OF SALAIYA MR. (OFFTAKE FROM RD - 11+070 KM. (L), CHAIN NAWADA SUB-DISTRIBUTARY CANAL)
			Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34-02/ XSEC /TYP-(FF) 1 of 4

TYPICAL X - SECTION OF SALAIYA MINOR
(OFFTAKE FROM RD - 11+070 KM. (LT), CHAIN NAWADA SUB-DISTRIBUTARY CANAL)

DESIGN SECTION FOR FULL FILLING



DESIGN SECTION FROM CH: 0.810 KM TO CH: 1.500 KM

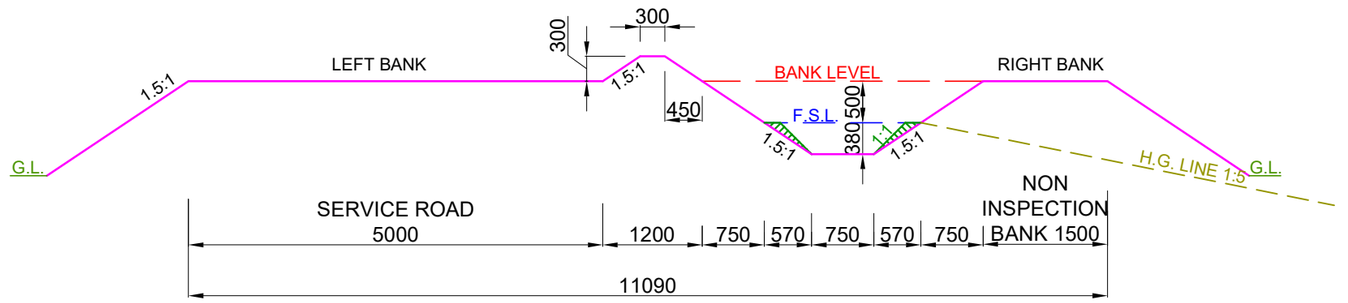
NOTE:-

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.		
	CUT AREA		Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
	FILL AREA		Drawing Title :-	X - SECTION OF SALAIYA MR. (OFFTAKE FROM RD - 11+070 KM. (L), CHAIN NAWADA SUB-DISTRIBUTARY CANAL)
			Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34-02/ XSEC /TYP-(FF) 2 of 4

TYPICAL X - SECTION OF SALAIYA MINOR
(OFFTAKE FROM RD - 11+070 KM. (LT), CHAIN NAWADA SUB-DISTRIBUTARY CANAL)

DESIGN SECTION FOR FULL FILLING



DESIGN SECTION FROM CH: 1.500 KM TO CH: 1.885 KM

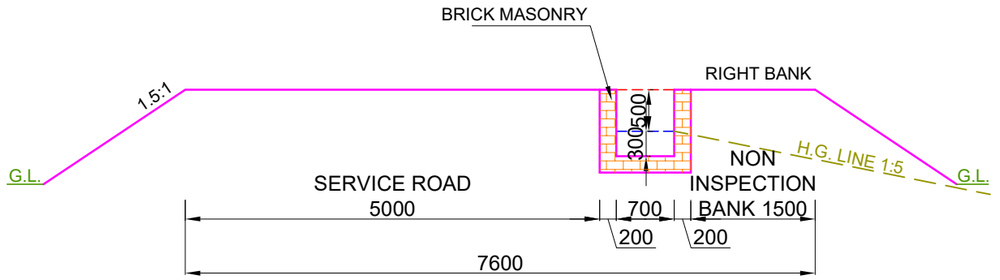
NOTE:-

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 :-		
	CUT AREA	WAPCOS LTD.	Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
	FILL AREA		Drawing Title :-	X - SECTION OF SALAIYA MR. (OFFTAKE FROM RD - 11+070 KM. (L), CHAIN NAWADA SUB-DISTRIBUTARY CANAL)
			Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34-02/ XSEC /TYP-(FF) 3 of 4

TYPICAL X - SECTION OF SALAIYA MINOR
(OFFTAKE FROM RD - 11+070 KM. (LT), CHAIN NAWADA SUB-DISTRIBUTARY CANAL)

DESIGN SECTION FOR FULL FILLING



DESIGN SECTION FROM CH: 1.885 KM TO CH: 2.250 KM

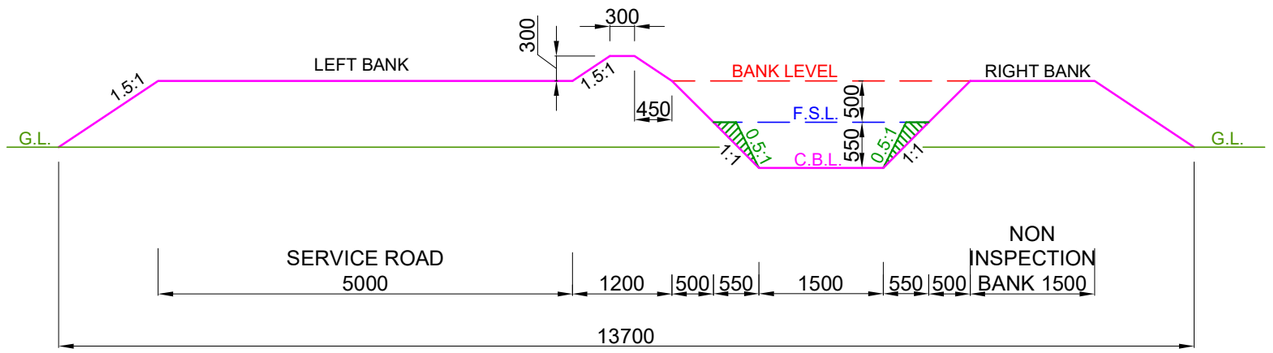
NOTE:-

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 SALAIYA MR. (OFFTAKE FROM RD - 11+070 KM. (L), CHAIN NAWADA SUB-DISTRIBUTARY CANAL)
	FILL AREA		Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34-02/ XSEC /TYP-(FF) 4 of 4

TYPICAL X - SECTION OF SALAIYA MINOR
(OFFTAKE FROM RD - 11+070 KM. (LT), CHAIN NAWADA SUB-DISTRIBUTARY CANAL)

DESIGN SECTION FOR PARTLY CUTTING/ PARTLY FILLING



DESIGN SECTION FROM CH: 0.000 KM TO CH: 0.810 KM

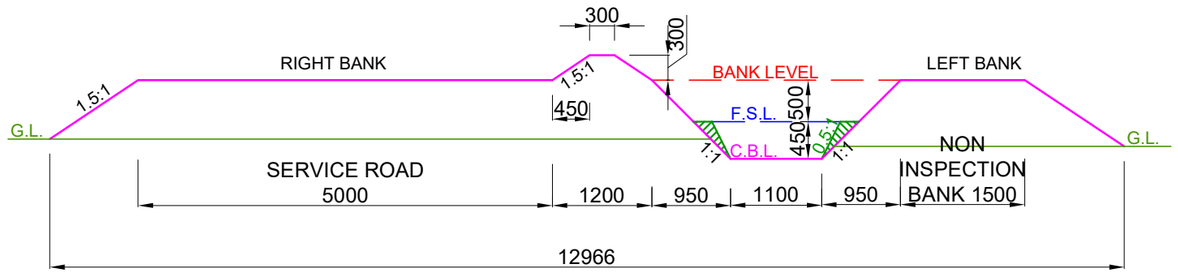
NOTE:-

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.		
	CUT AREA		Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
	FILL AREA		Drawing Title :-	X - SECTION OF SALAIYA MR. (OFFTAKE FROM RD - 11+070 KM. (L), CHAIN NAWADA SUB-DISTRIBUTARY CANAL)
			Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34-02/ XSEC /TYP-(PCF) 1 of 4

TYPICAL X - SECTION OF SALAIYA MINOR
(OFFTAKE FROM RD - 11+070 KM. (LT), CHAIN NAWADA SUB-DISTRIBUTARY CANAL)

DESIGN SECTION FOR PARTLY CUTTING/ PARTLY FILLING



DESIGN SECTION FROM CH: 0.810 KM TO CH: 1.500 KM

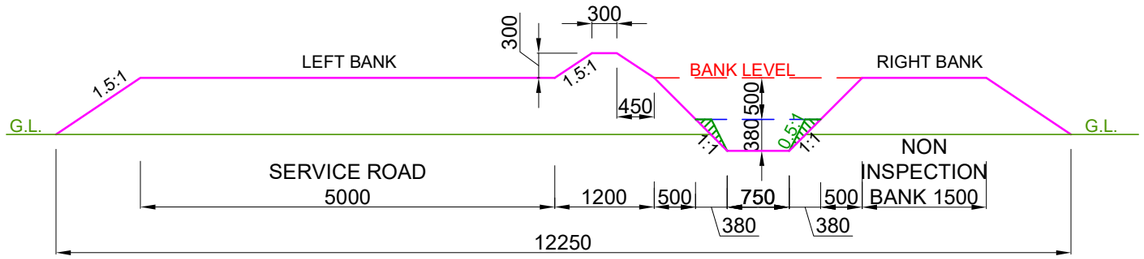
NOTE:-

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.		
	CUT AREA		Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
	FILL AREA		Drawing Title :-	X - SECTION OF SALAIYA MR. (OFFTAKE FROM RD - 11+070 KM. (L), CHAIN NAWADA SUB-DISTRIBUTARY CANAL)
			Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34-02/ XSEC /TYP-(PCF) 2 of 4

TYPICAL X - SECTION OF SALAIYA MINOR
(OFFTAKE FROM RD - 11+070 KM. (LT), CHAIN NAWADA SUB-DISTRIBUTARY CANAL)

DESIGN SECTION FOR PARTLY CUTTING/ PARTLY FILLING



DESIGN SECTION FROM CH: 1.500 KM TO CH: 1.885 KM

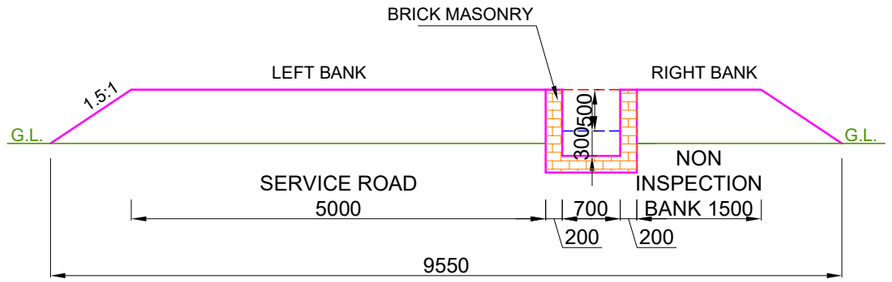
NOTE:-

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.		
	CUT AREA		Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
	FILL AREA		Drawing Title :-	X - SECTION OF SALAIYA MR. (OFFTAKE FROM RD - 11+070 KM. (L), CHAIN NAWADA SUB-DISTRIBUTARY CANAL)
			Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34-02/ XSEC /TYP-(PCF) 3 of 4

TYPICAL X - SECTION OF SALAIYA MINOR
(OFFTAKE FROM RD - 11+070 KM. (LT), CHAIN NAWADA SUB-DISTRIBUTARY CANAL)

DESIGN SECTION FOR PARTLY CUTTING/ PARTLY FILLING



DESIGN SECTION FROM CH: 1.885 KM TO CH: 2.250 KM

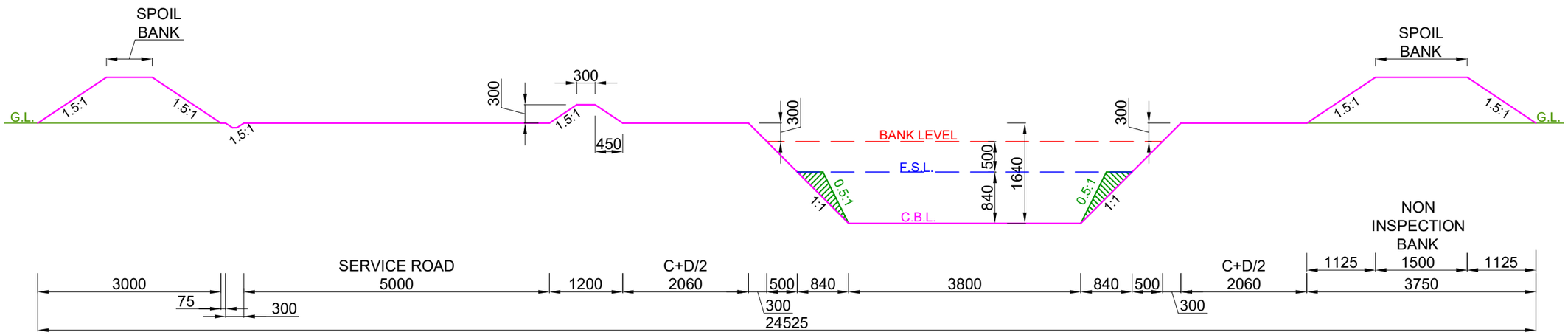
NOTE:-

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.		
	CUT AREA		Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
	FILL AREA		Drawing Title :-	X - SECTION OF SALAIYA MR. (OFFTAKE FROM RD - 11+070 KM. (L), CHAIN NAWADA SUB-DISTRIBUTARY CANAL)
			Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34-02/ XSEC /TYP-(PCF) 4 of 4

TYPICAL X - SECTION OF DHAMANI SUB-DISTRIBUTARY
(OFFTAKE FROM RD - 13+800 KM. (LT), CHAIN NAWADA SUB-DISTRIBUTARY CANAL)

DESIGN SECTION FOR FULL CUTTING



DESIGN SECTION FROM CH: 0.000 KM TO CH: 2.200 KM

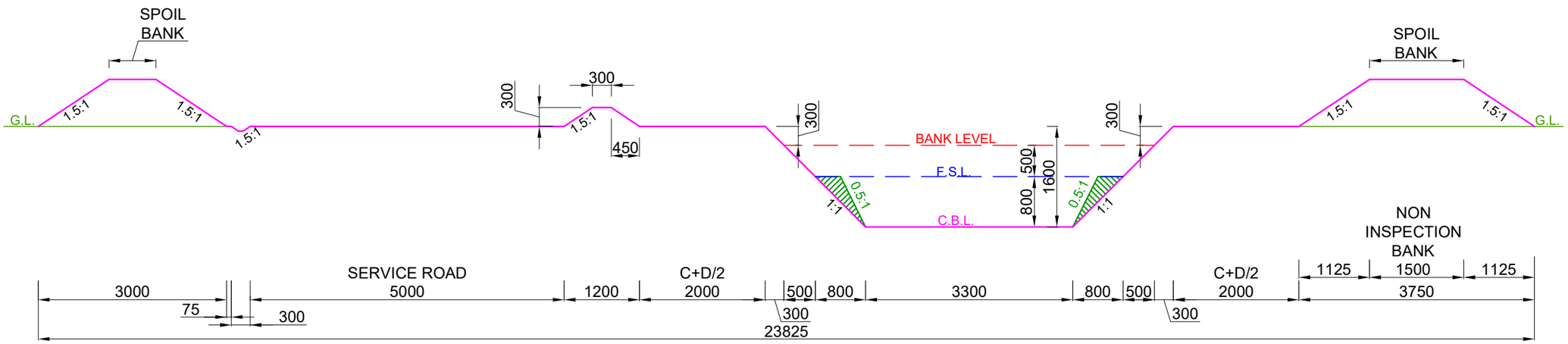
NOTE:-

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 DHAMANI SUB-DY. (OFFTAKE FROM RD - 13+800 KM. (L), CHAIN NAWADA SUB-DISTRIBUTARY CANAL)
	FILL AREA		Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34-03/ XSEC /TYP-(FC) 1 of 2

TYPICAL X - SECTION OF DHAMANI SUB-DISTRIBUTARY
(OFFTAKE FROM RD - 13+800 KM. (LT), CHAIN NAWADA SUB-DISTRIBUTARY CANAL)

DESIGN SECTION FOR FULL CUTTING



DESIGN SECTION FROM CH: 2.200 KM TO CH: 4.750 KM

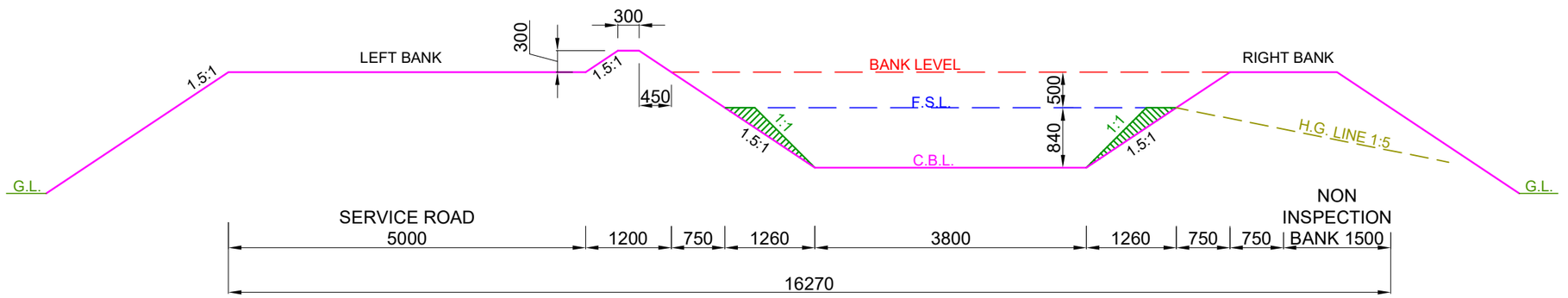
NOTE:-

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 DHAMANI SUB-DY. (OFFTAKE FROM RD - 13+800 KM. (L), CHAIN NAWADA SUB-DISTRIBUTARY CANAL)
	FILL AREA		Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34-03/ XSEC /TYP-(FC) 2 of 2

TYPICAL X - SECTION OF DHAMANI SUB-DISTRIBUTARY
(OFFTAKE FROM RD - 13+800 KM. (LT), CHAIN NAWADA SUB-DISTRIBUTARY CANAL)

DESIGN SECTION FOR FULL CUTTING



DESIGN SECTION FROM CH: 0.000 KM TO CH: 2.200 KM

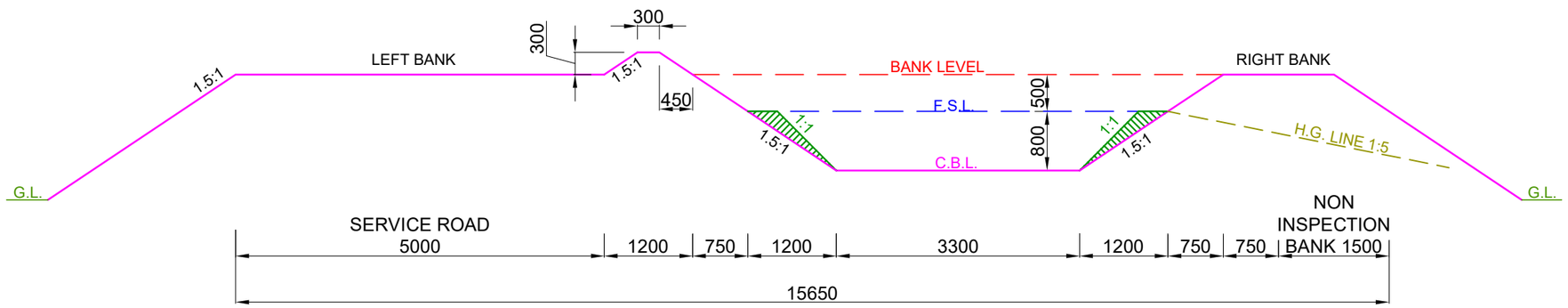
NOTE:-

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 :-		
	CUT AREA	WAPCOS LTD.	Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
	FILL AREA		Drawing Title :-	X - SECTION OF DHAMANI SUB-DY. (OFFTAKE FROM RD - 13+800 KM. (L), CHAIN NAWADA SUB-DISTRIBUTARY CANAL)
			Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34-03/ XSEC /TYP-(FF) 1 of 2

TYPICAL X - SECTION OF DHAMANI SUB-DISTRIBUTARY
(OFFTAKE FROM RD - 13+800 KM. (LT), CHAIN NAWADA SUB-DISTRIBUTARY CANAL)

DESIGN SECTION FOR FULL CUTTING



DESIGN SECTION FROM CH: 2.200 KM TO CH: 4.750 KM

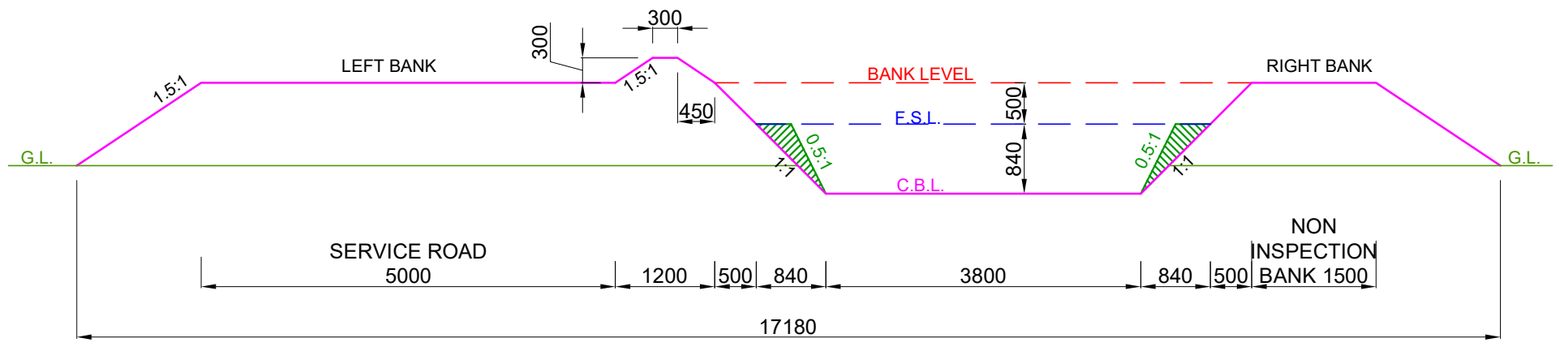
NOTE:-

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 DHAMANI SUB-DY. (OFFTAKE FROM RD - 13+800 KM. (L), CHAIN NAWADA SUB-DISTRIBUTARY CANAL)
	FILL AREA		Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34-03/ XSEC /TYP-(FF) 2 of 2

TYPICAL X - SECTION OF DHAMANI SUB-DISTRIBUTARY
(OFFTAKE FROM RD - 13+800 KM. (LT), CHAIN NAWADA SUB-DISTRIBUTARY CANAL)

DESIGN SECTION FOR FULL CUTTING



DESIGN SECTION FROM CH: 0.000 KM TO CH: 2.200 KM

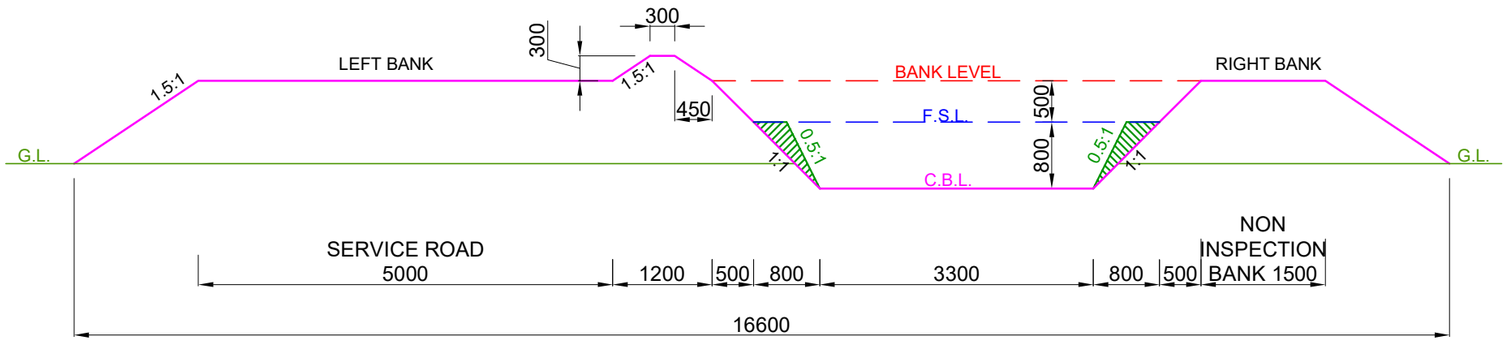
NOTE:-

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.		
	CUT AREA		Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
	FILL AREA		Drawing Title :-	X - SECTION OF DHAMANI SUB-DY. (OFFTAKE FROM RD - 13+800 KM. (L), CHAIN NAWADA SUB-DISTRIBUTARY CANAL)
			Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34-03/ XSEC /TYP-(PCF) 1 of 2

TYPICAL X - SECTION OF DHAMANI SUB-DISTRIBUTARY
(OFFTAKE FROM RD - 13+800 KM. (LT), CHAIN NAWADA SUB-DISTRIBUTARY CANAL)

DESIGN SECTION FOR FULL CUTTING



DESIGN SECTION FROM CH: 2.200 KM TO CH: 4.750 KM

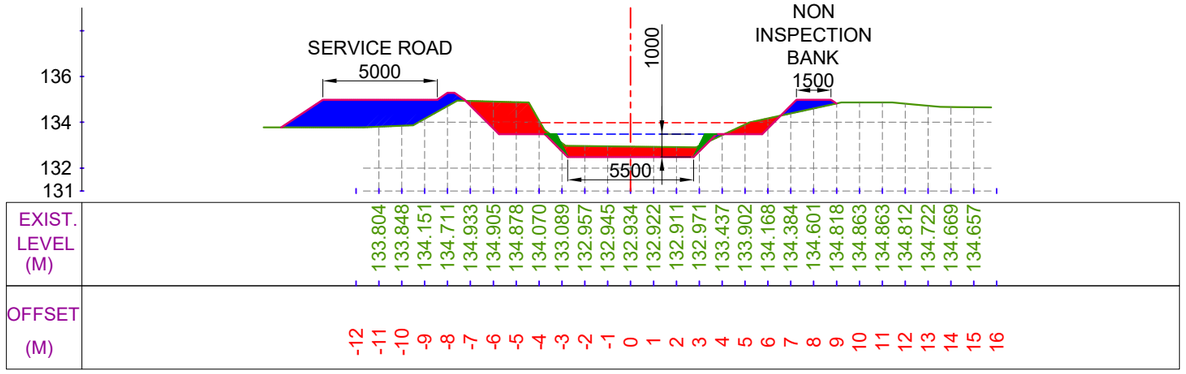
NOTE:-

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.		
	CUT AREA		Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
	FILL AREA		Drawing Title :-	X - SECTION OF DHAMANI SUB-DY. (OFFTAKE FROM RD - 13+800 KM. (L), CHAIN NAWADA SUB-DISTRIBUTARY CANAL)
			Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34-03/ XSEC /TYP-(PCF) 2 of 2

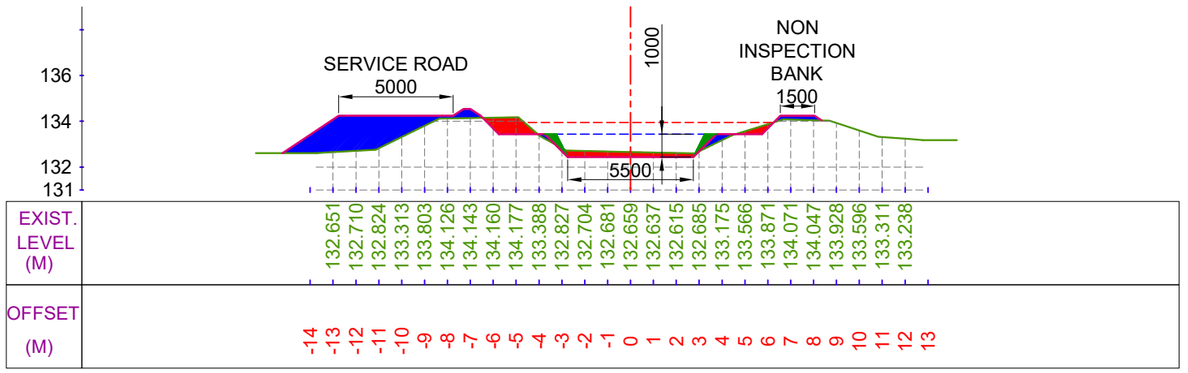
CROSS-SECTION

X SECTION OF CHAIN NAWADA SUB-DY.



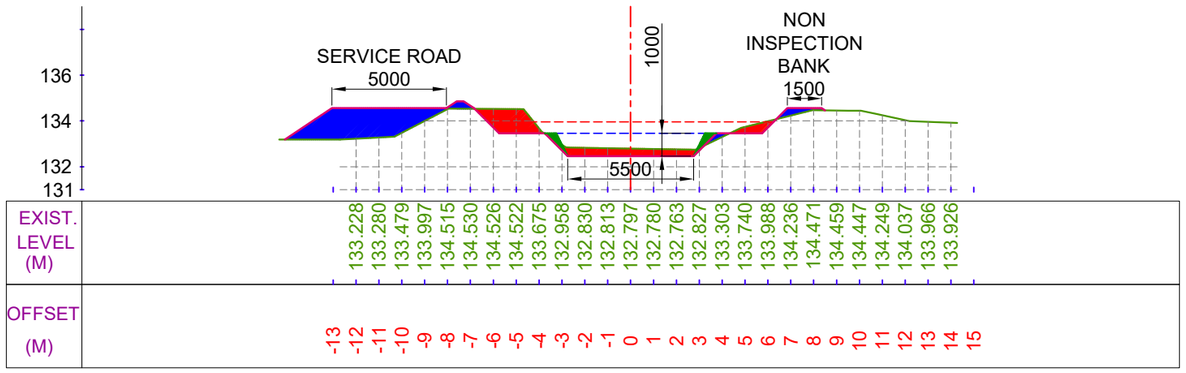
CUTTING AREA (SQ.M) = 6.863
FILLING AREA (SQ.M) = 7.936

CH. (KM):- 0+100
DESIGNED BED LEVEL = 132.482 M



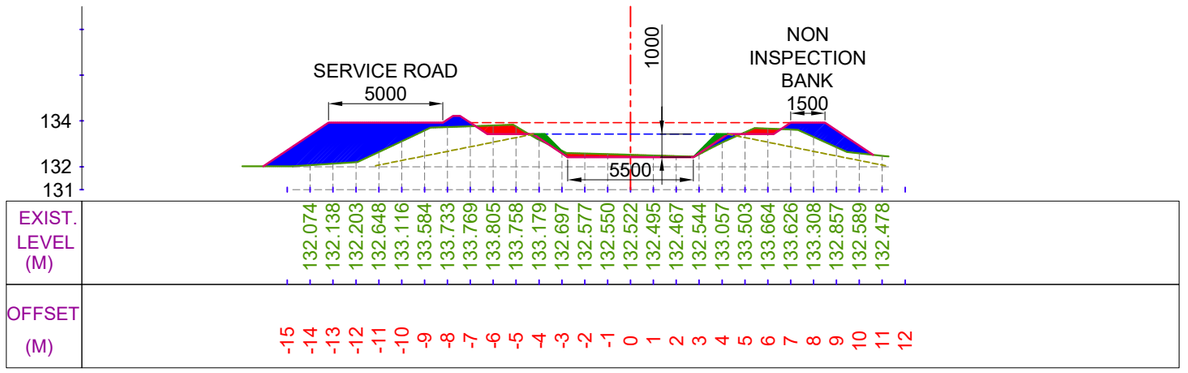
CUTTING AREA (SQ.M) = 2.700
FILLING AREA (SQ.M) = 7.813

CH. (KM):- 0+300
DESIGNED BED LEVEL = 132.442 M



CUTTING AREA (SQ.M) = 4.586
FILLING AREA (SQ.M) = 7.304

CH. (KM):- 0+200
DESIGNED BED LEVEL = 132.462 M



CUTTING AREA (SQ.M) = 1.585
FILLING AREA (SQ.M) = 10.690

CH. (KM):- 0+400
DESIGNED BED LEVEL = 132.422 M

LEGEND

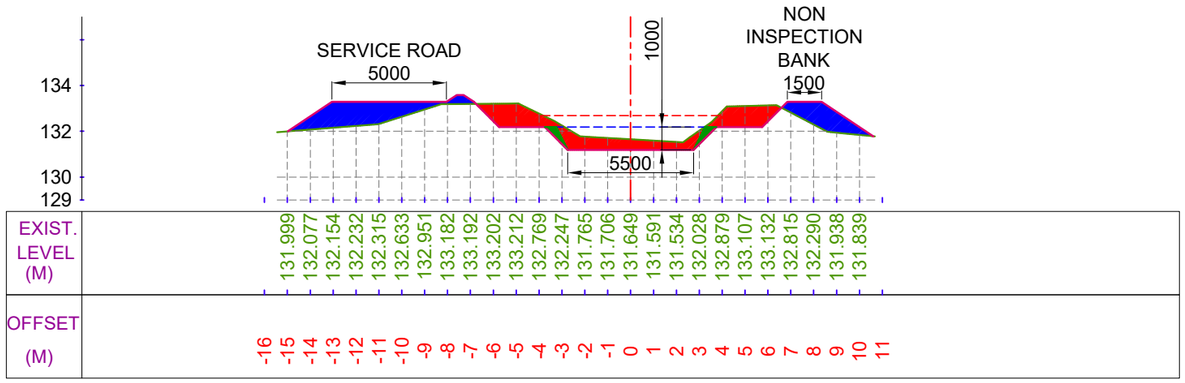
CUT AREA		EXISTING BED LINE	
		F.S.L.	
FILL AREA		DESIGNED BED LINE	
		H.G. LINE	

Prepared by :-

WAPCOS LTD.

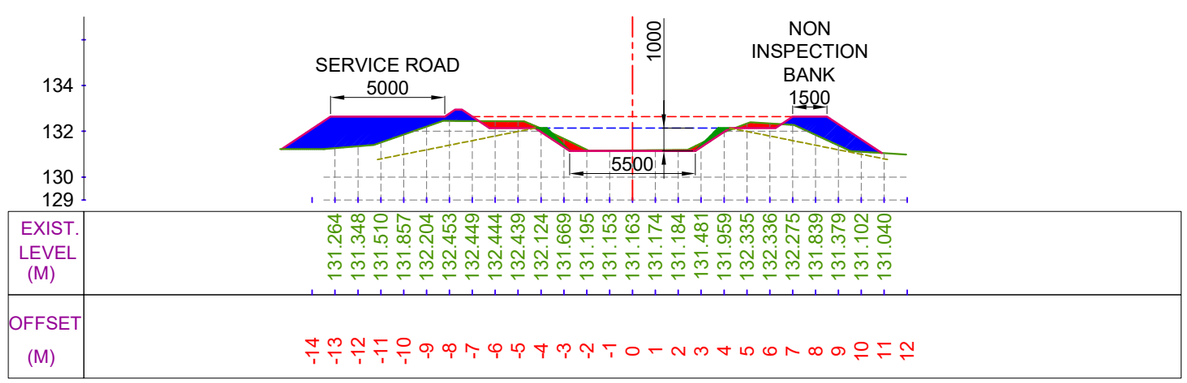
Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
Drawing Title :-	X SEC OF CHAIN NAWADA SUB-DY. (OFFTAKE FROM RD - 94+494 KM. (L), NORTH KOEL RIGHT MAIN CANAL)
Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34/ XSEC- 1 of 35

X SECTION OF CHAIN NAWADA SUB-DY.



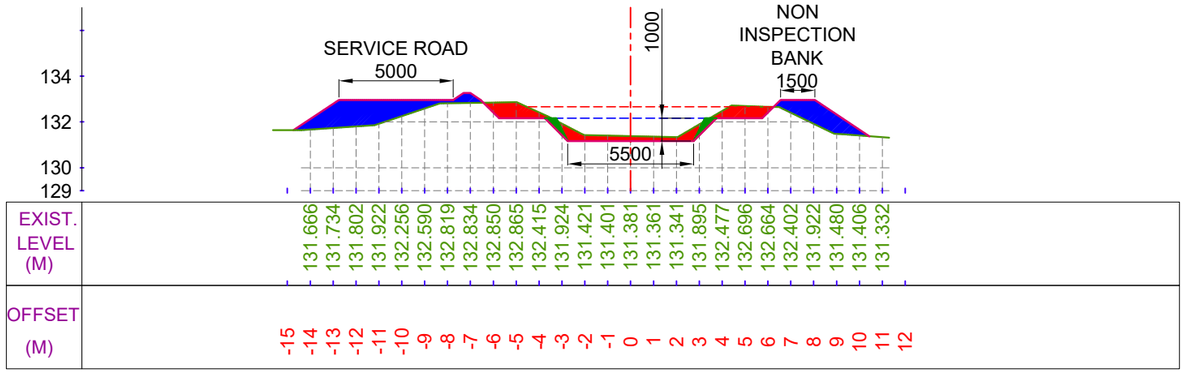
CUTTING AREA (SQ.M) = 7.886
FILLING AREA (SQ.M) = 7.715

CH. (KM):- 0+500
DESIGNED BED LEVEL = 131.182 M



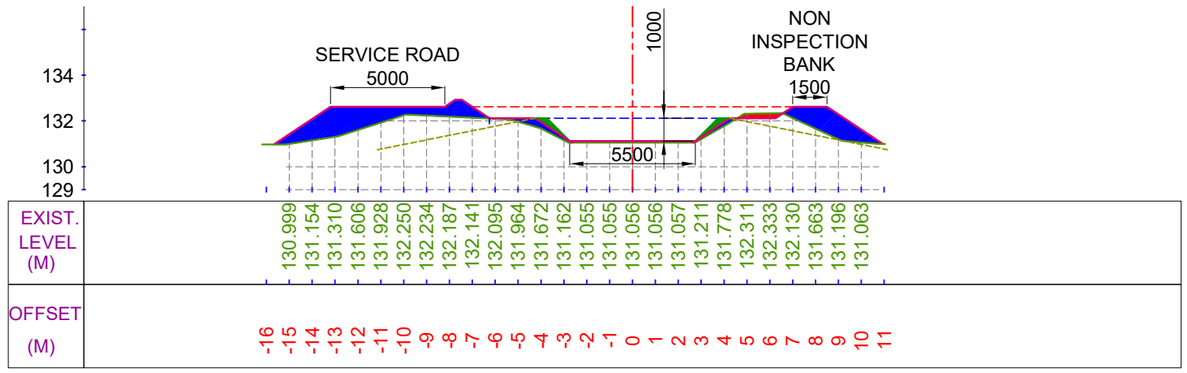
CUTTING AREA (SQ.M) = 1.491
FILLING AREA (SQ.M) = 9.319

CH. (KM):- 0+700
DESIGNED BED LEVEL = 131.142 M



CUTTING AREA (SQ.M) = 4.151
FILLING AREA (SQ.M) = 7.923

CH. (KM):- 0+600
DESIGNED BED LEVEL = 131.162 M



CUTTING AREA (SQ.M) = 0.341
FILLING AREA (SQ.M) = 10.083

CH. (KM):- 0+800
DESIGNED BED LEVEL = 131.122 M

LEGEND

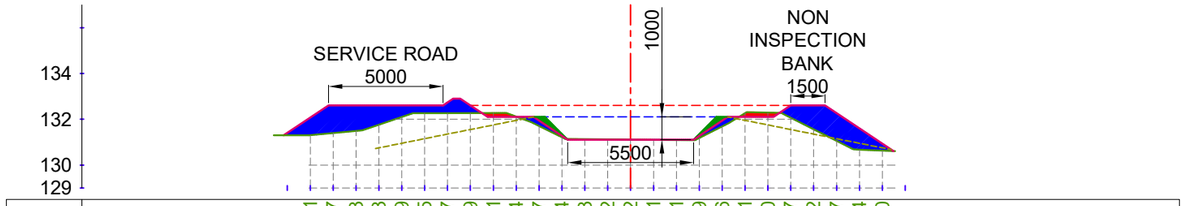
CUT AREA		EXISTING BED LINE	
		F.S.L.	
FILL AREA		DESIGNED BED LINE	
		H.G. LINE	

Prepared by :-

WAPCOS LTD.

Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
Drawing Title :-	X SEC OF CHAIN NAWADA SUB-DY. (OFFTAKE FROM RD - 94+494 KM. (L), NORTH KOEL RIGHT MAIN CANAL)
Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34/ XSEC- 2 of 35

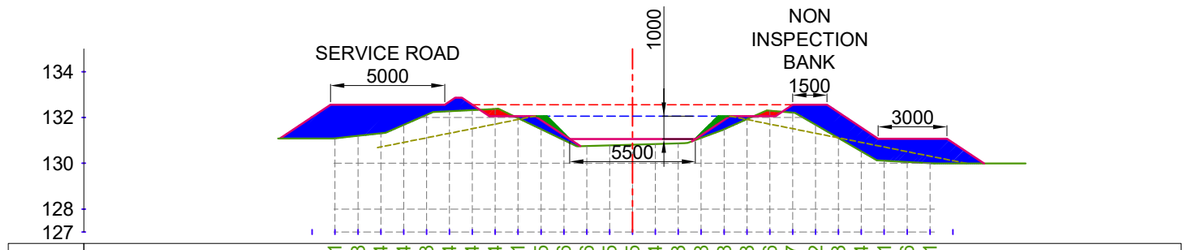
X SECTION OF CHAIN NAWADA SUB-DY.



EXIST. LEVEL (M)	131.301	131.397	131.493	131.763	132.099	132.265	132.267	132.269	132.271	132.114	131.707	131.214	131.133	131.122	131.112	131.101	131.091	131.179	131.686	132.271	132.290	132.067	131.562	131.057	130.674	130.630
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

CUTTING AREA (SQ.M) = 0.564
FILLING AREA (SQ.M) = 10.244

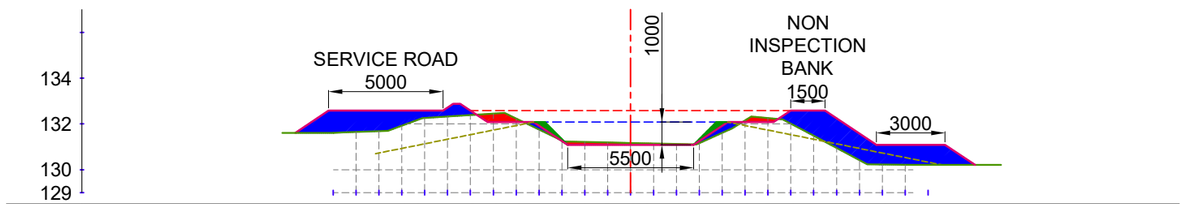
CH. (KM):- 0+900
DESIGNED BED LEVEL = 131.102 M



EXIST. LEVEL (M)	131.091	131.198	131.304	131.674	132.113	132.274	132.324	132.374	131.971	131.495	131.016	130.756	130.785	130.815	130.844	130.873	131.108	131.478	131.923	132.296	132.217	131.682	131.103	130.524	130.111	130.056	130.001
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

CUTTING AREA (SQ.M) = 0.477
FILLING AREA (SQ.M) = 16.197

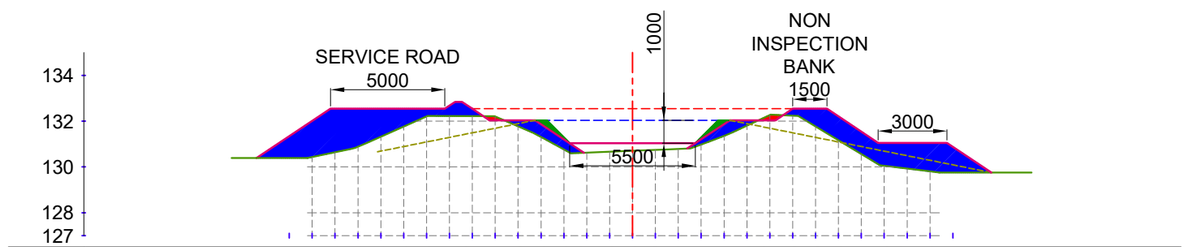
CH. (KM):- 1+100
DESIGNED BED LEVEL = 131.062 M



EXIST. LEVEL (M)	131.651	131.689	131.924	132.257	132.321	132.385	132.448	132.233	131.751	131.270	131.210	131.189	131.168	131.147	131.126	131.156	131.609	132.156	132.259	132.013	131.481	130.950	130.418	130.228	130.216
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

CUTTING AREA (SQ.M) = 1.262
FILLING AREA (SQ.M) = 12.879

CH. (KM):- 1+000
DESIGNED BED LEVEL = 131.082 M



EXIST. LEVEL (M)	130.431	130.644	130.884	131.324	131.763	132.203	132.221	132.217	132.202	131.775	131.308	130.766	130.627	130.668	130.708	130.749	130.790	130.981	131.351	131.805	132.267	132.245	131.775	131.168	130.562	130.048	129.927	129.806
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

CUTTING AREA (SQ.M) = 0.248
FILLING AREA (SQ.M) = 19.709

CH. (KM):- 1+200
DESIGNED BED LEVEL = 131.042 M

LEGEND

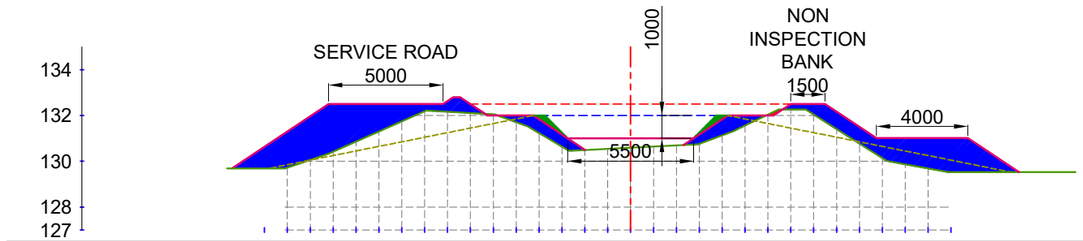
	CUT AREA		EXISTING BED LINE
			F.S.L.
	FILL AREA		DESIGNED BED LINE
			H.G. LINE

Prepared by :-

WAPCOS LTD.

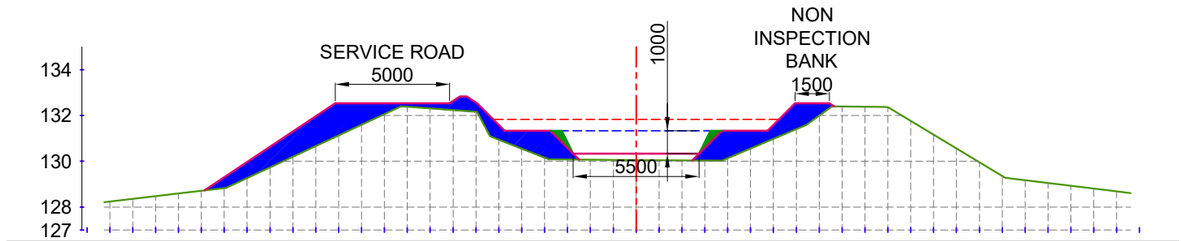
Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
Drawing Title :-	X SEC OF CHAIN NAWADA SUB-DY. (OFFTAKE FROM RD - 94+494 KM. (L), NORTH KOEL RIGHT MAIN CANAL)
Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34/ XSEC- 3 of 35

X SECTION OF CHAIN NAWADA SUB-DY.



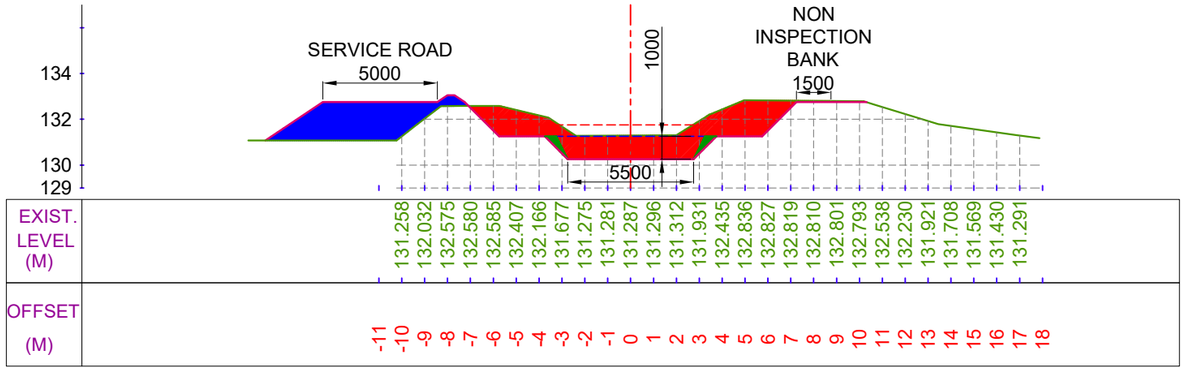
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X SECTION OF CHAIN NAWADA SUB-DY.



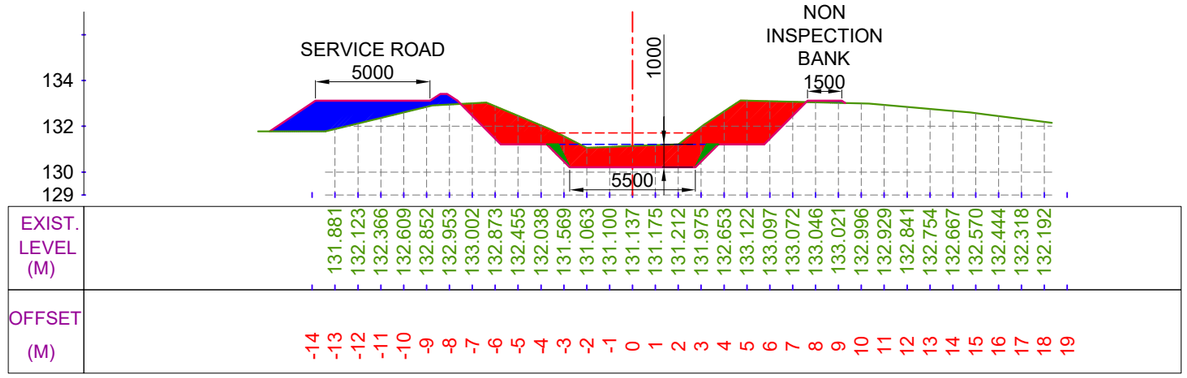
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X SECTION OF CHAIN NAWADA SUB-DY.



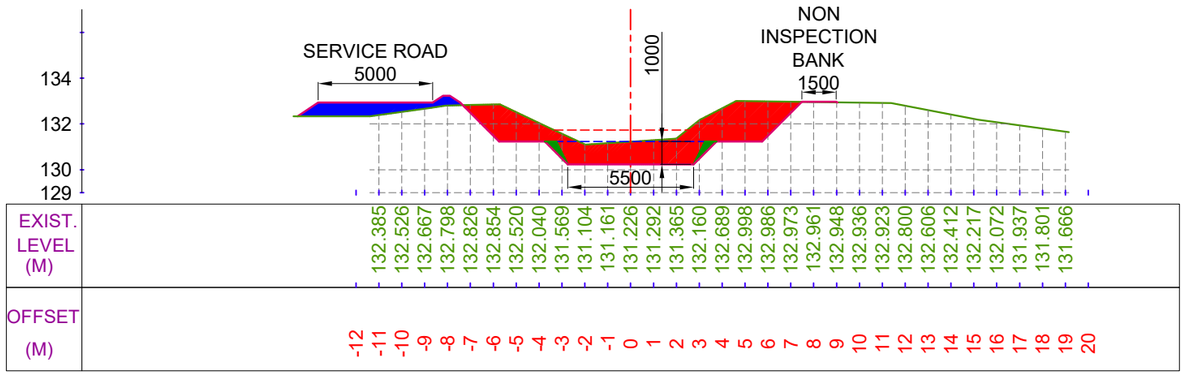
CUTTING AREA (SQ.M) = 15.153
FILLING AREA (SQ.M) = 9.698

CH. (KM):- 2+100
DESIGNED BED LEVEL = 130.252 M



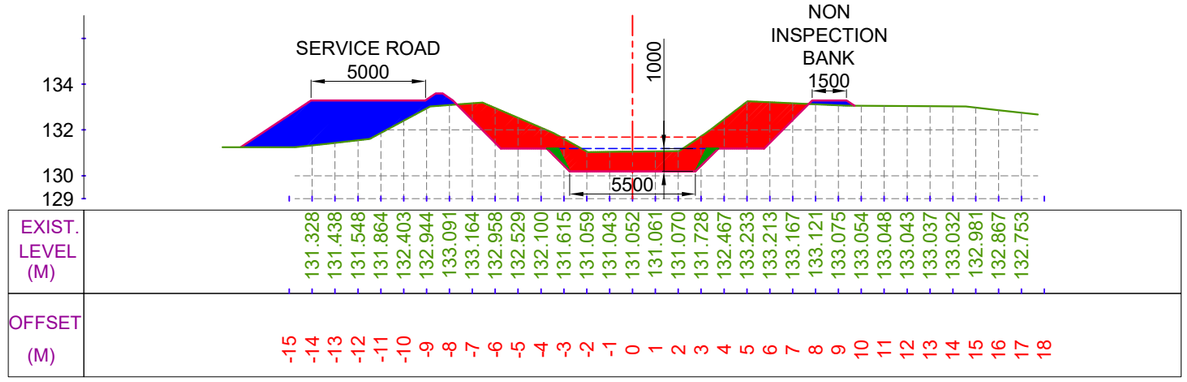
CUTTING AREA (SQ.M) = 16.430
FILLING AREA (SQ.M) = 6.028

CH. (KM):- 2+300
DESIGNED BED LEVEL = 130.212 M



CUTTING AREA (SQ.M) = 16.341
FILLING AREA (SQ.M) = 3.178

CH. (KM):- 2+200
DESIGNED BED LEVEL = 130.232 M



CUTTING AREA (SQ.M) = 16.597
FILLING AREA (SQ.M) = 11.207

CH. (KM):- 2+400
DESIGNED BED LEVEL = 130.192 M

LEGEND

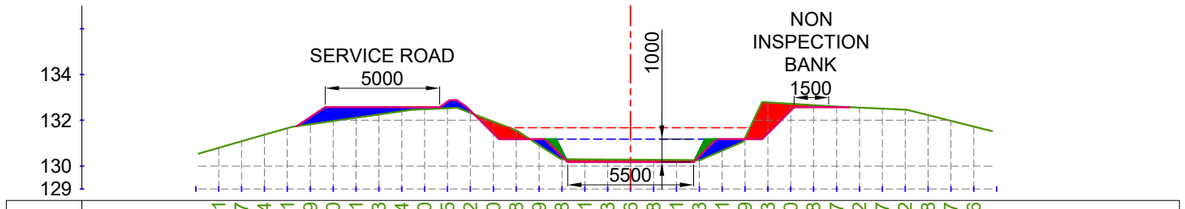
CUT AREA		EXISTING BED LINE	
		F.S.L.	
FILL AREA		DESIGNED BED LINE	
		H.G. LINE	

Prepared by :-

WAPCOS LTD.

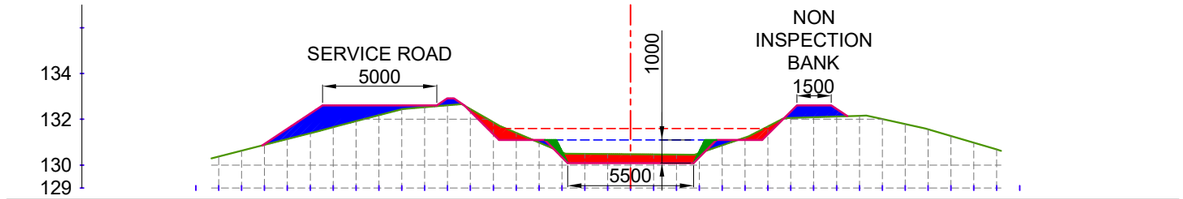
Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
Drawing Title :-	X SEC OF CHAIN NAWADA SUB-DY. (OFFTAKE FROM RD - 94+494 KM. (L), NORTH KOEL RIGHT MAIN CANAL)
Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34/ XSEC- 6 of 35

X SECTION OF CHAIN NAWADA SUB-DY.



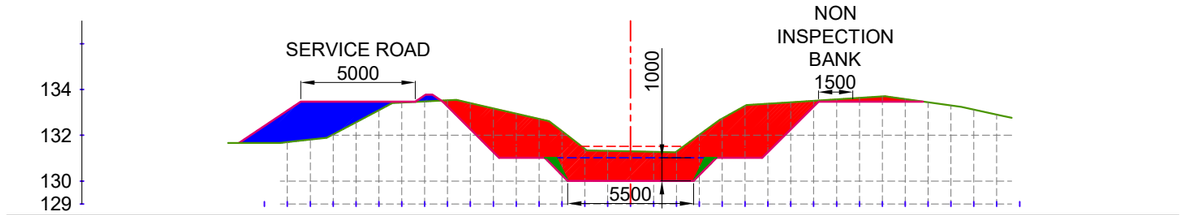
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X SECTION OF CHAIN NAWADA SUB-DY.



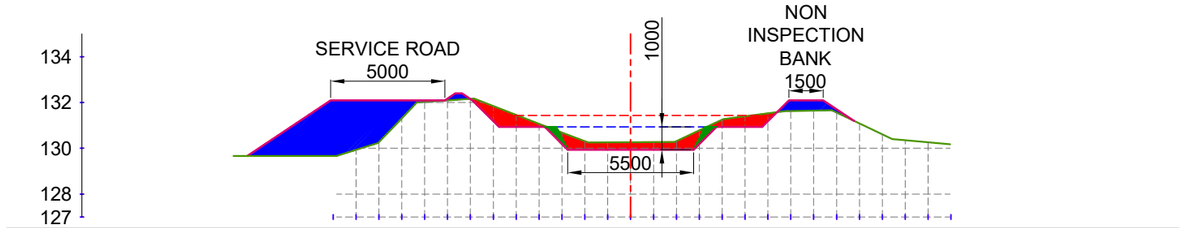
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X SECTION OF CHAIN NAWADA SUB-DY.



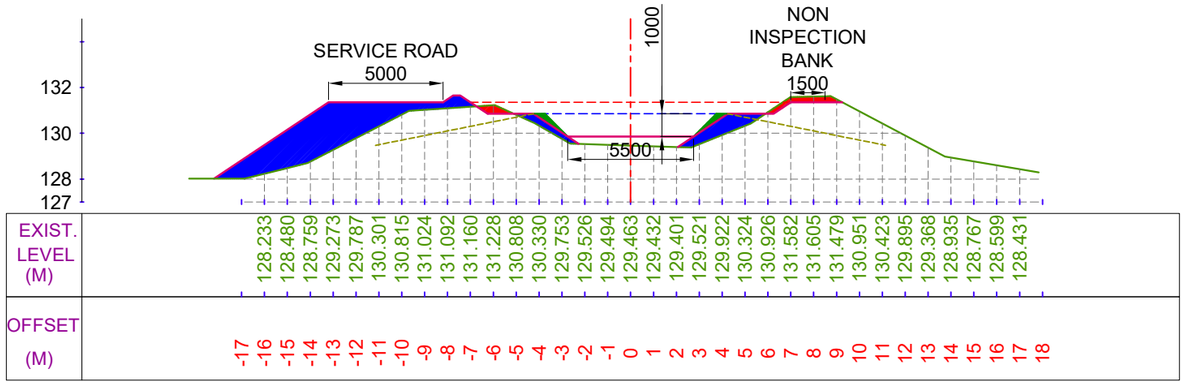
| | | |

X SECTION OF CHAIN NAWADA SUB-DY.



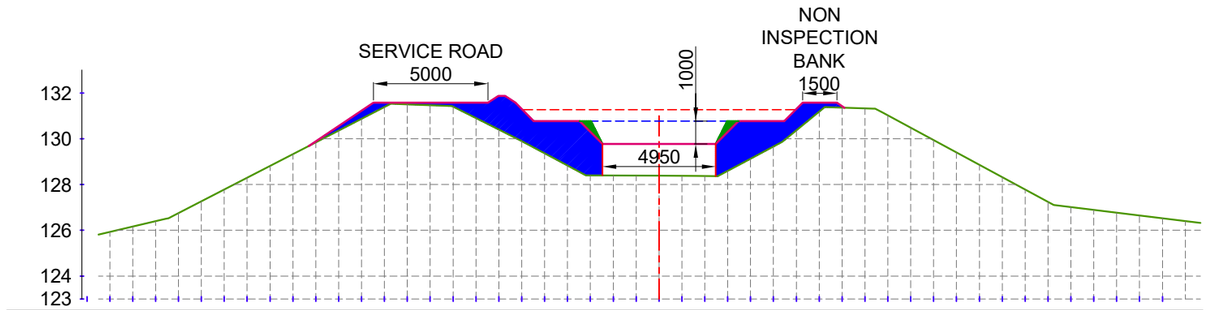
| | | |

X SECTION OF CHAIN NAWADA SUB-DY.



| | | |

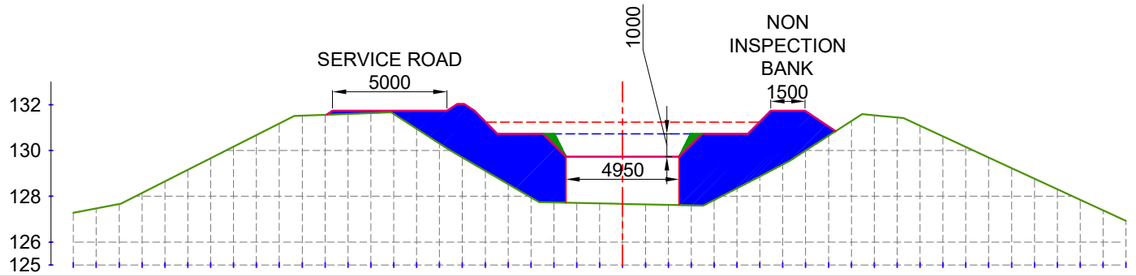
X SECTION OF CHAIN NAWADA SUB-DY.



OFFSET (M)	-25	-24	-23	-22	-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	17	18	19	20	21	22	23
EXIST. LEVEL (M)	125.928	126.161	126.393	126.749	127.265	127.780	128.296	128.811	129.327	129.842	130.358	130.873	131.387	131.502	131.464	131.403	130.901	130.398	129.893	129.361	128.830	128.401	128.395	128.388	128.382	128.375	128.369	128.595	129.125	129.655	130.362	131.178	131.356	131.327	131.015	130.475	129.936	129.397	128.857	128.318	127.779	127.239	127.014	126.891	126.768	126.645	126.522	126.399

CUTTING AREA (SQ.M) = 0.000
FILLING AREA (SQ.M) = 15.819

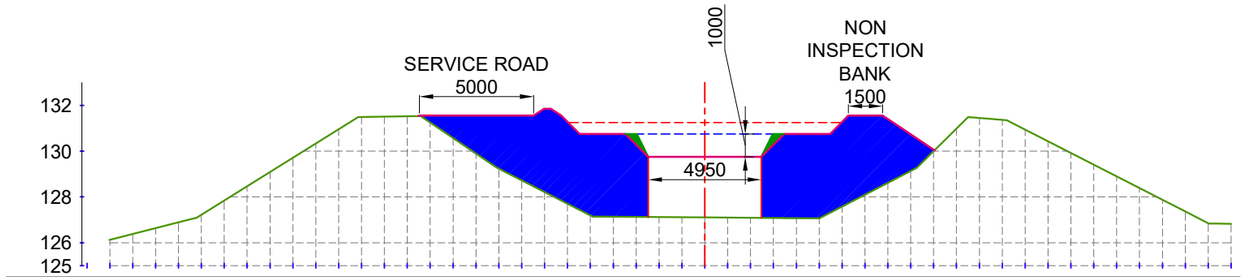
CH. (KM):- 4+500
DESIGNED BED LEVEL = 129.772 M



OFFSET (M)	-24	-23	-22	-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	17	18	19	20	21	22
EXIST. LEVEL (M)	127.281	127.472	127.662	128.147	128.653	129.160	129.666	130.172	130.679	131.185	131.526	131.564	131.601	131.639	131.597	130.952	130.307	129.690	129.110	128.530	127.950	127.733	127.711	127.689	127.667	127.645	127.624	127.602	127.829	128.348	128.867	129.387	129.994	130.641	131.287	131.537	131.443	131.080	130.619	130.157	129.696	129.234	128.773	128.311	127.850	127.388	126.927

CUTTING AREA (SQ.M) = 0.000
FILLING AREA (SQ.M) = 29.430

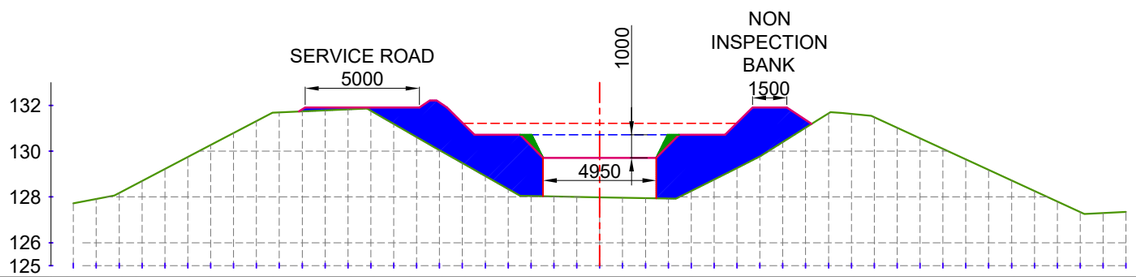
CH. (KM):- 4+700
DESIGNED BED LEVEL = 129.732 M



OFFSET (M)	-27	-26	-25	-24	-23	-22	-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	17	18	19	20	21	22	23
EXIST. LEVEL (M)	126.131	126.384	126.637	126.889	127.221	127.844	128.467	129.090	129.712	130.335	130.958	131.493	131.508	131.524	131.254	130.577	129.899	129.240	128.729	128.217	127.706	127.195	127.138	127.130	127.122	127.114	127.107	127.099	127.091	127.084	127.076	127.068	127.583	128.102	128.621	129.140	130.001	130.987	131.447	131.371	130.945	130.434	129.923	129.411	128.900	128.389	127.877	127.366	126.855	126.820

CUTTING AREA (SQ.M) = 0.000
FILLING AREA (SQ.M) = 47.757

CH. (KM):- 4+600
DESIGNED BED LEVEL = 129.752 M



OFFSET (M)	-23	-22	-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	17	18	19	20	21	22	23
EXIST. LEVEL (M)	127.727	127.916	128.173	128.697	129.221	129.745	130.269	130.792	131.316	131.697	131.741	131.784	131.828	131.768	131.192	130.617	130.043	129.478	128.913	128.347	128.039	128.021	128.003	127.984	127.966	127.948	127.930	128.259	128.761	129.263	129.765	130.393	131.024	131.654	131.628	131.490	131.029	130.569	130.108	129.647	129.187	128.726	128.266	127.805	127.344	127.301	127.350

CUTTING AREA (SQ.M) = 0.000
FILLING AREA (SQ.M) = 25.426

CH. (KM):- 4+800
DESIGNED BED LEVEL = 129.712 M

LEGEND

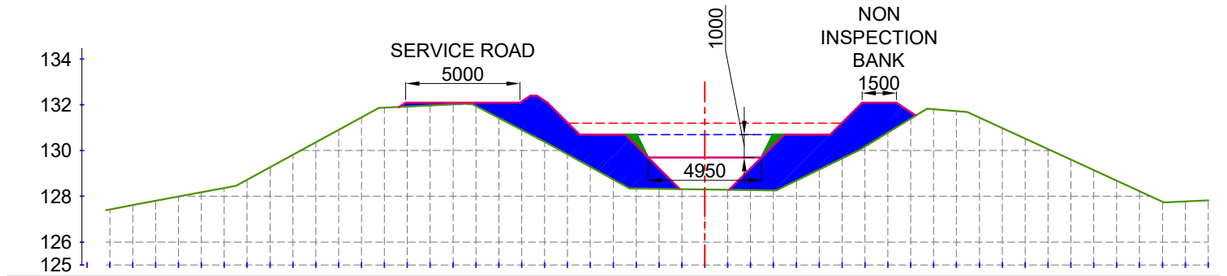
CUT AREA		EXISTING BED LINE	
		F.S.L.	
FILL AREA		DESIGNED BED LINE	
		H.G. LINE	

Prepared by :-

WAPCOS LTD.

Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
Drawing Title :-	X SEC OF CHAIN NAWADA SUB-DY. (OFFTAKE FROM RD - 94+494 KM. (L), NORTH KOEL RIGHT MAIN CANAL)
Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34/ XSEC- 12 of 35

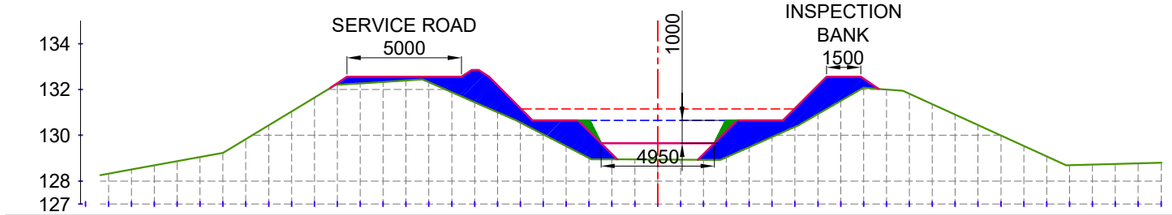
X SECTION OF CHAIN NAWADA SUB-DY.



OFFSET (M)	-27	-26	-25	-24	-23	-22	-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	17	18	19	20	21	22
EXIST. LEVEL (M)	127.427	127.614	127.800	127.986	128.172	128.358	128.718	129.263	129.808	130.352	130.897	131.442	131.868	131.918	131.967	132.017	131.942	131.422	130.902	130.382	129.838	129.288	128.739	128.345	128.330	128.316	128.302	128.288	128.273	128.259	128.682	129.165	129.649	130.169	130.782	131.395	131.807	131.722	131.439	130.979	130.520	130.060	129.601	129.141	128.682	128.222	127.763	127.776	127.819

CUTTING AREA (SQ.M) = 0.000
FILLING AREA (SQ.M) = 23.333

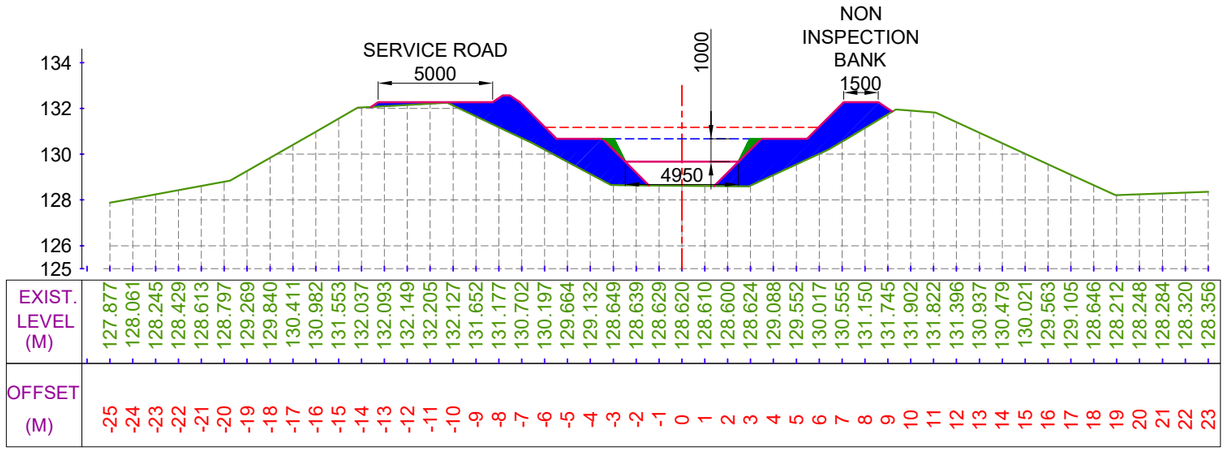
CH. (KM):- 4+900
DESIGNED BED LEVEL = 129.692 M



OFFSET (M)	-25	-24	-23	-22	-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	17	18	19	20	21	22
EXIST. LEVEL (M)	128.325	128.506	128.688	128.869	129.051	129.232	129.833	130.438	131.042	131.646	132.205	132.268	132.331	132.393	132.318	131.880	131.442	131.005	130.552	130.038	129.523	129.009	128.946	128.942	128.937	128.933	128.928	129.036	129.480	129.925	130.369	130.922	131.498	132.074	132.001	131.816	131.359	130.903	130.446	129.989	129.533	129.076	128.689	128.717	128.745	128.773	128.801

CUTTING AREA (SQ.M) = 0.000
FILLING AREA (SQ.M) = 14.803

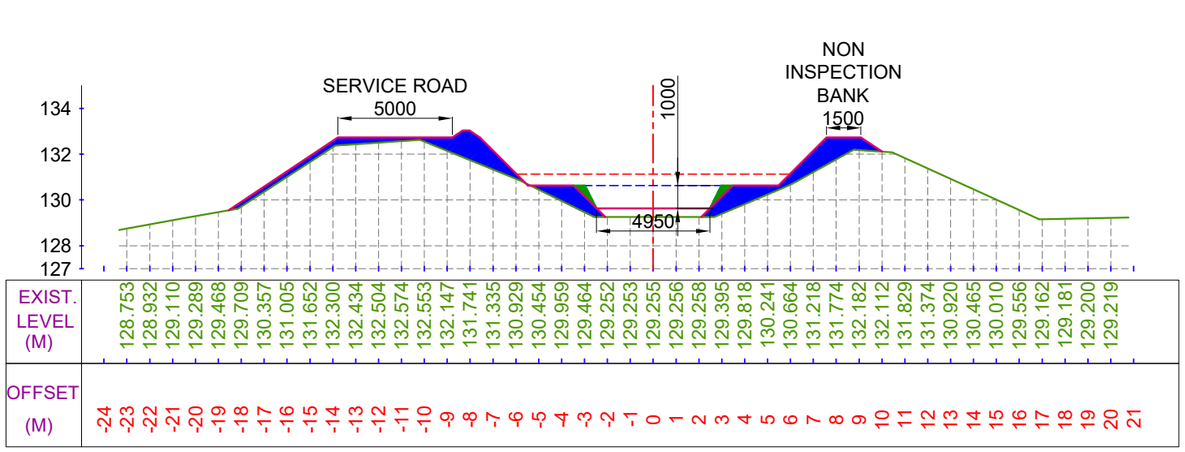
CH. (KM):- 5+100
DESIGNED BED LEVEL = 129.652 M



OFFSET (M)	-25	-24	-23	-22	-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	17	18	19	20	21	22	23
EXIST. LEVEL (M)	127.877	128.061	128.245	128.429	128.613	128.797	129.269	129.840	130.411	130.982	131.553	132.037	132.093	132.149	132.205	132.127	131.652	131.177	130.702	130.197	129.664	129.132	128.649	128.639	128.629	128.620	128.610	128.600	128.624	129.088	129.552	130.017	130.555	131.150	131.745	131.902	131.822	131.396	130.937	130.479	130.021	129.563	129.105	128.646	128.212	128.248	128.284	128.320	128.356

CUTTING AREA (SQ.M) = 0.000
FILLING AREA (SQ.M) = 18.464

CH. (KM):- 5+000
DESIGNED BED LEVEL = 129.672 M



OFFSET (M)	-24	-23	-22	-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	17	18	19	20	21
EXIST. LEVEL (M)	128.753	128.932	129.110	129.289	129.468	129.709	130.357	131.005	131.652	132.300	132.434	132.504	132.574	132.553	132.147	131.741	131.335	130.929	130.454	129.959	129.464	129.252	129.253	129.255	129.256	129.258	129.395	129.818	130.241	130.664	131.218	131.774	132.182	132.112	131.829	131.374	130.920	130.465	130.010	129.556	129.162	129.181	129.200	129.219

CUTTING AREA (SQ.M) = 0.000
FILLING AREA (SQ.M) = 11.576

CH. (KM):- 5+200
DESIGNED BED LEVEL = 129.632 M

LEGEND

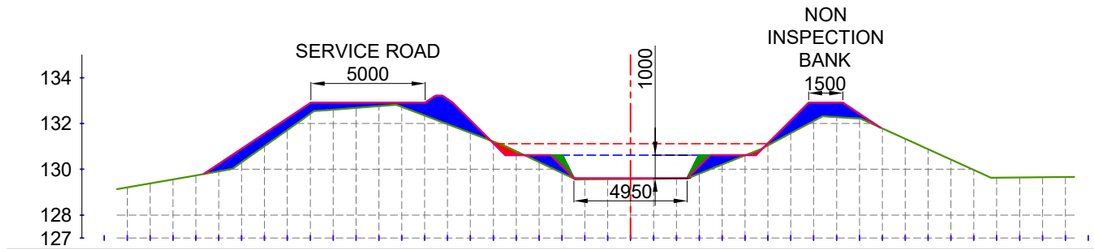
CUT AREA		EXISTING BED LINE	
		F.S.L.	
FILL AREA		DESIGNED BED LINE	
		H.G. LINE	

Prepared by :-

WAPCOS LTD.

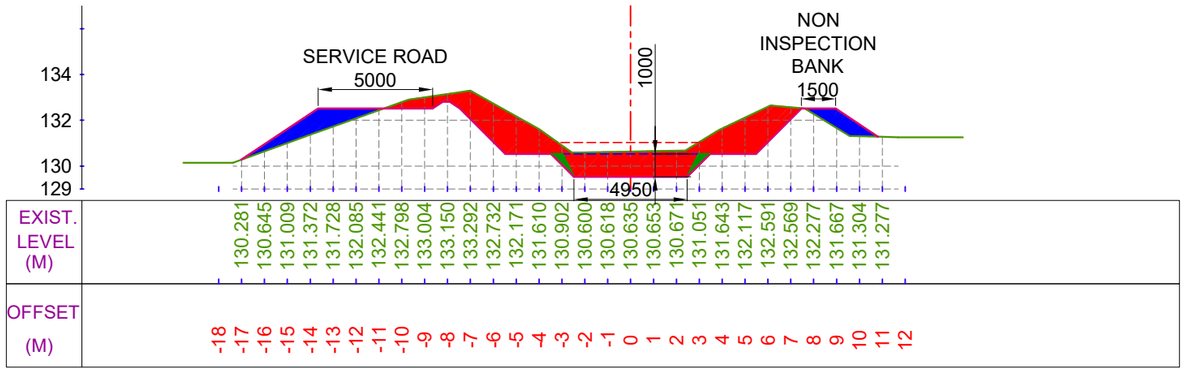
Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
Drawing Title :-	X SEC OF CHAIN NAWADA SUB-DY. (OFFTAKE FROM RD - 94+494 KM. (L), NORTH KOEL RIGHT MAIN CANAL)
Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34/ XSEC- 13 of 35

X SECTION OF CHAIN NAWADA SUB-DY.



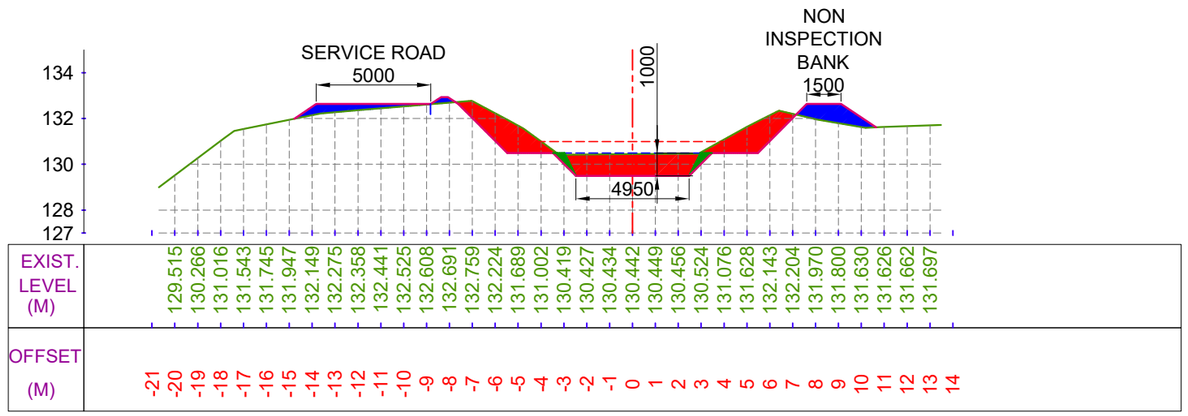
| | | |

X SECTION OF CHAIN NAWADA SUB-DY.



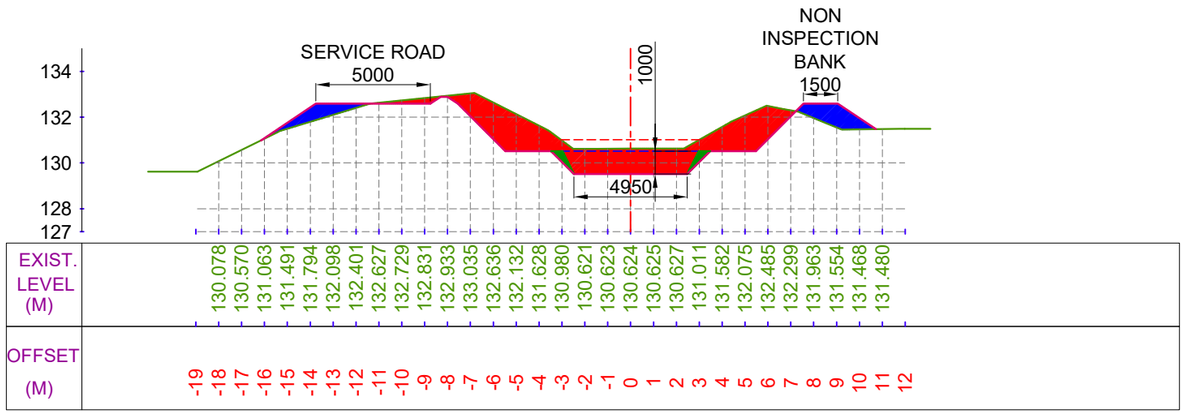
CUTTING AREA (SQ.M) = 18.274
FILLING AREA (SQ.M) = 4.699

CH. (KM):- 5+700
DESIGNED BED LEVEL = 129.532 M



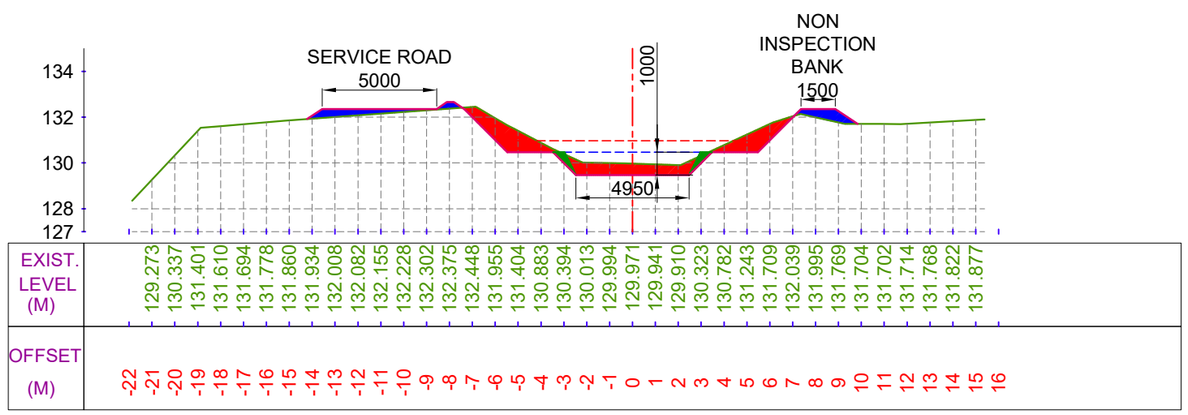
CUTTING AREA (SQ.M) = 11.954
FILLING AREA (SQ.M) = 3.413

CH. (KM):- 5+900
DESIGNED BED LEVEL = 129.492 M



CUTTING AREA (SQ.M) = 17.155
FILLING AREA (SQ.M) = 3.726

CH. (KM):- 5+800
DESIGNED BED LEVEL = 129.512 M



CUTTING AREA (SQ.M) = 7.408
FILLING AREA (SQ.M) = 2.260

CH. (KM):- 6+000
DESIGNED BED LEVEL = 129.472 M

LEGEND

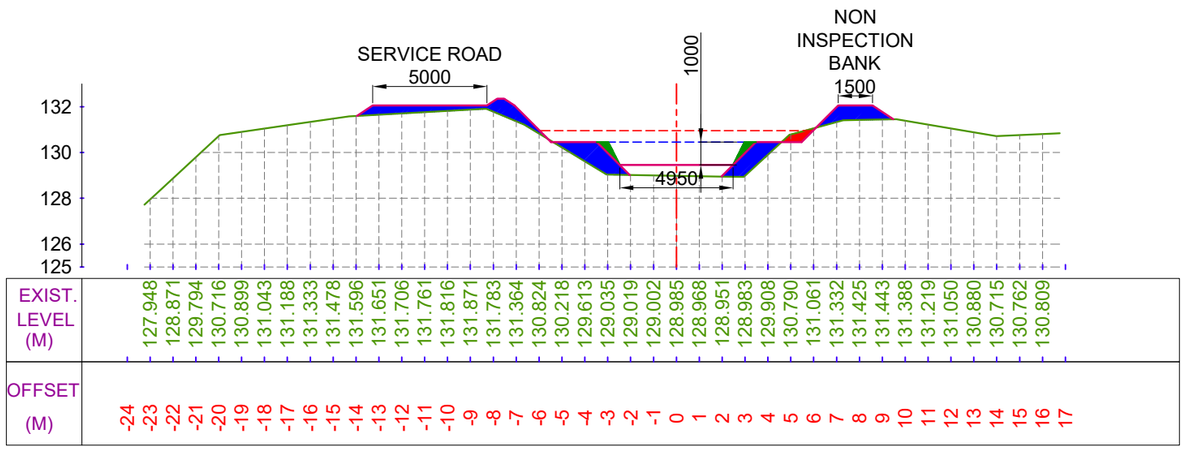
CUT AREA		EXISTING BED LINE	
		F.S.L.	
FILL AREA		DESIGNED BED LINE	
		H.G. LINE	

Prepared by :-

WAPCOS LTD.

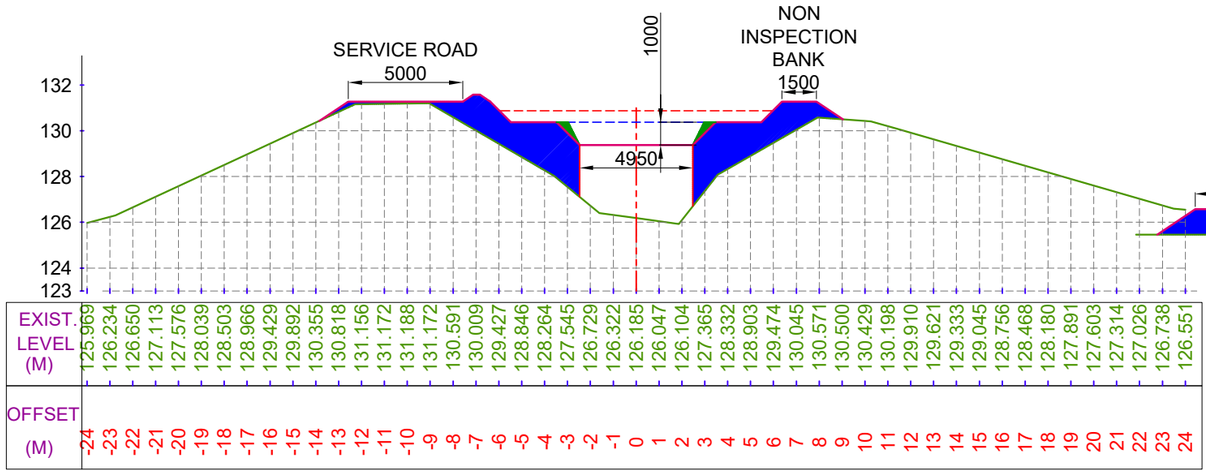
Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
Drawing Title :-	X SEC OF CHAIN NAWADA SUB-DY. (OFFTAKE FROM RD - 94+494 KM. (L), NORTH KOEL RIGHT MAIN CANAL)
Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34/ XSEC- 15 of 35

X SECTION OF CHAIN NAWADA SUB-DY.



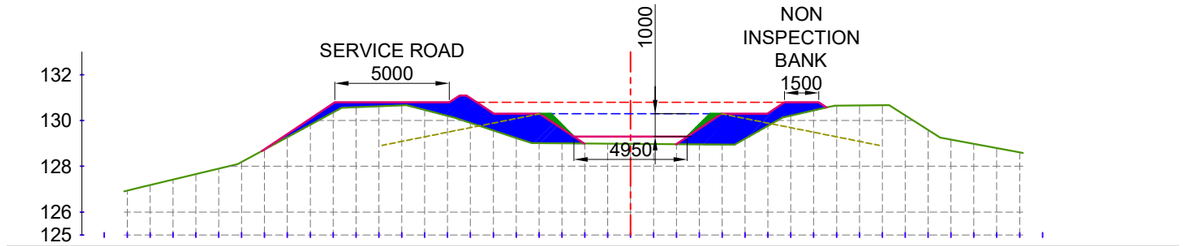
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X SECTION OF CHAIN NAWADA SUB-DY.



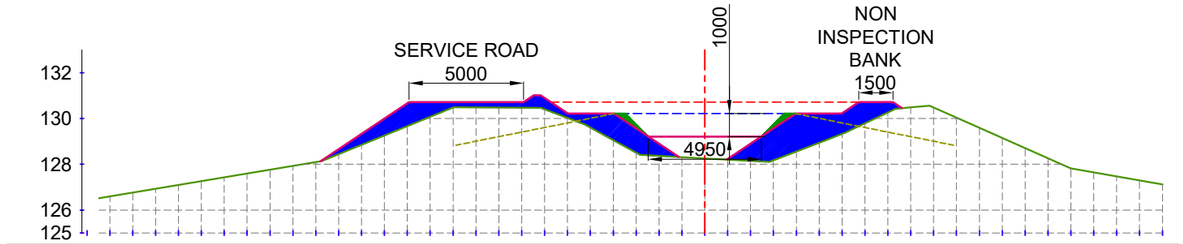
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X SECTION OF CHAIN NAWADA SUB-DY.



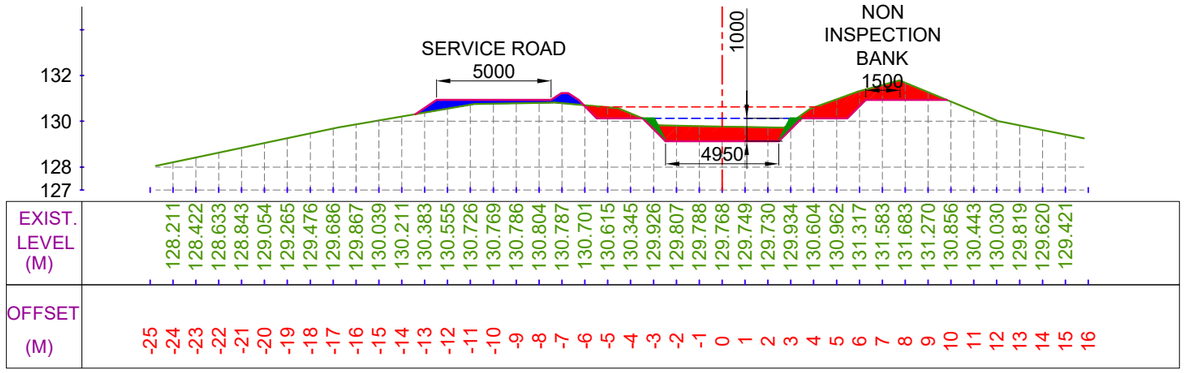
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X SECTION OF CHAIN NAWADA SUB-DY.



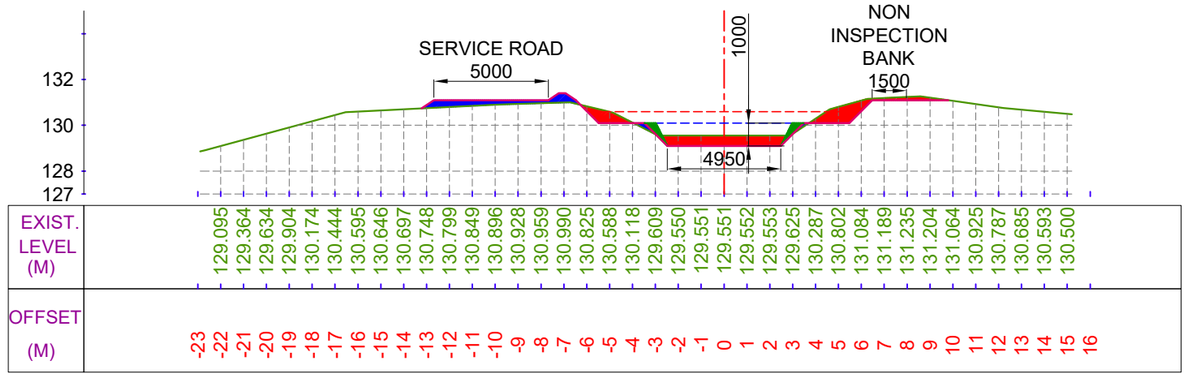
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X SECTION OF CHAIN NAWADA SUB-DY.



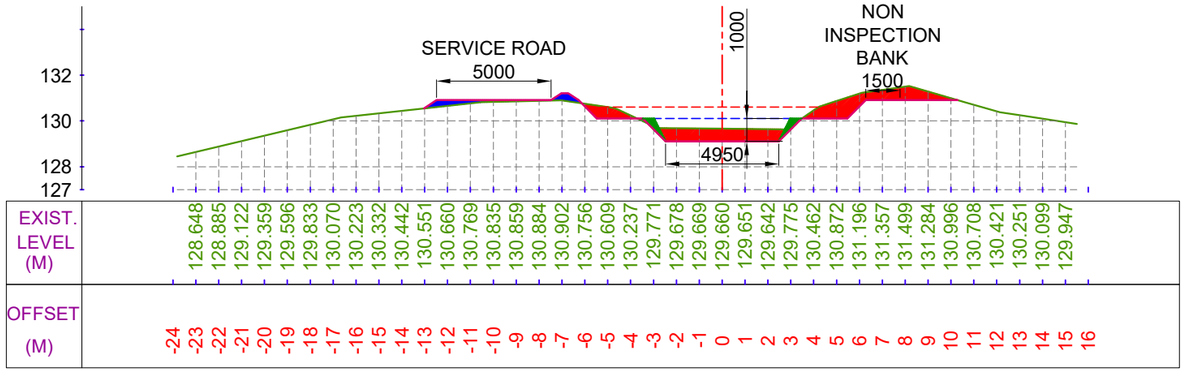
CUTTING AREA (SQ.M) = 7.902
FILLING AREA (SQ.M) = 1.669

CH. (KM):- 7+700
DESIGNED BED LEVEL = 129.132 M



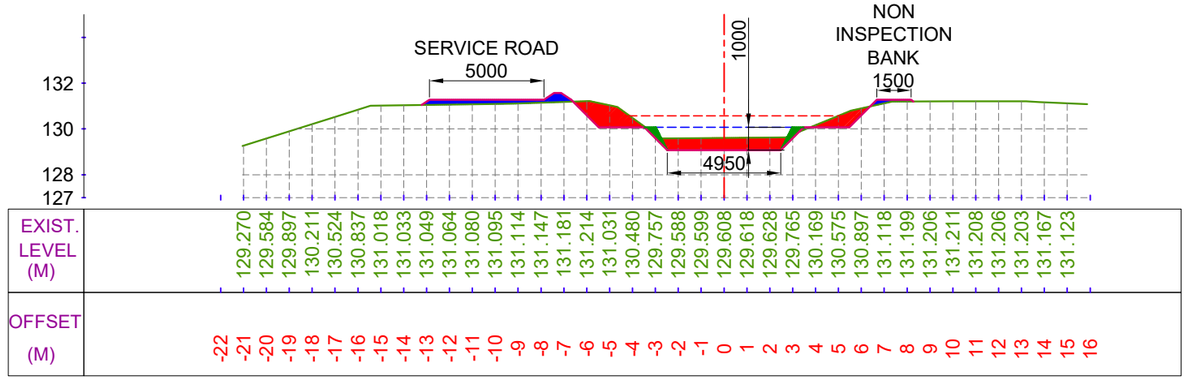
CUTTING AREA (SQ.M) = 4.899
FILLING AREA (SQ.M) = 1.710

CH. (KM):- 7+900
DESIGNED BED LEVEL = 129.092 M



CUTTING AREA (SQ.M) = 6.803
FILLING AREA (SQ.M) = 0.941

CH. (KM):- 7+800
DESIGNED BED LEVEL = 129.112 M



CUTTING AREA (SQ.M) = 5.684
FILLING AREA (SQ.M) = 1.512

CH. (KM):- 8+000
DESIGNED BED LEVEL = 129.072 M

LEGEND

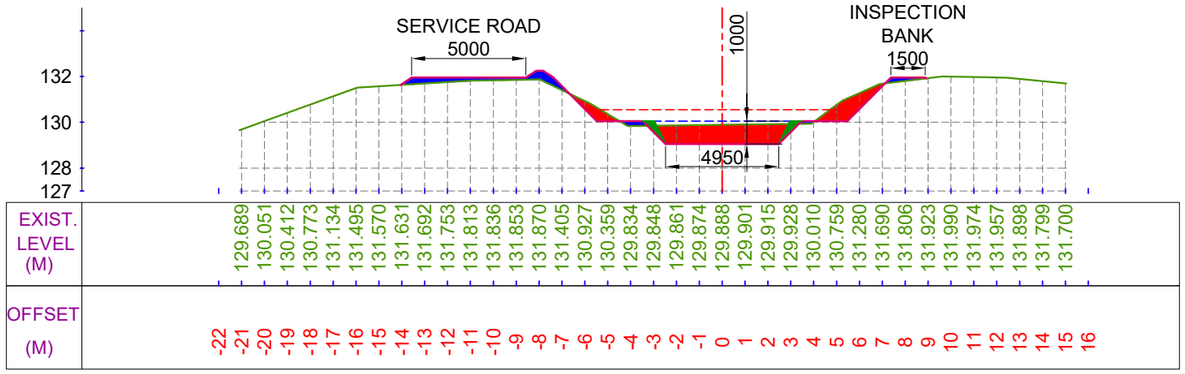
CUT AREA		EXISTING BED LINE	
		F.S.L.	
FILL AREA		DESIGNED BED LINE	
		H.G. LINE	

Prepared by :-

WAPCOS LTD.

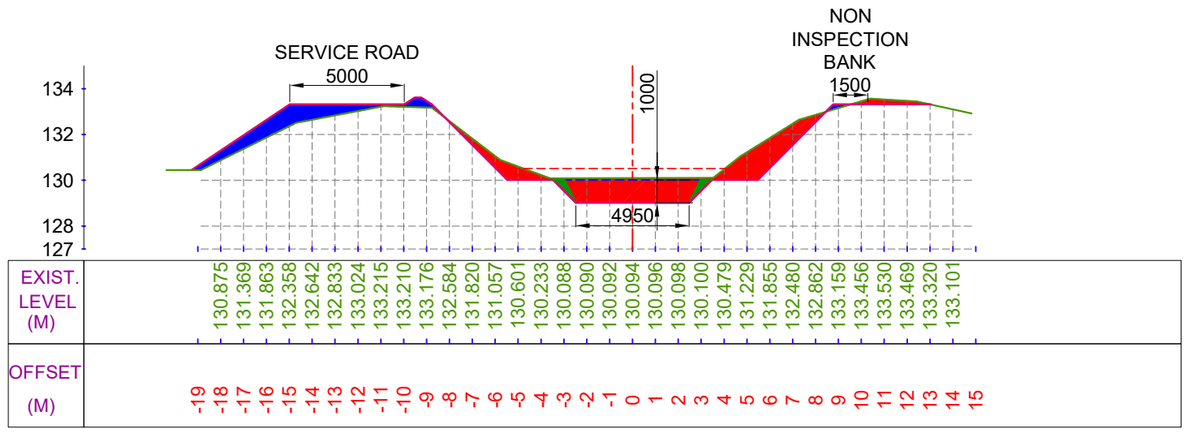
Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
Drawing Title :-	X SEC OF CHAIN NAWADA SUB-DY. (OFFTAKE FROM RD - 94+494 KM. (L), NORTH KOEL RIGHT MAIN CANAL)
Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34/ XSEC- 20 of 35

X SECTION OF CHAIN NAWADA SUB-DY.



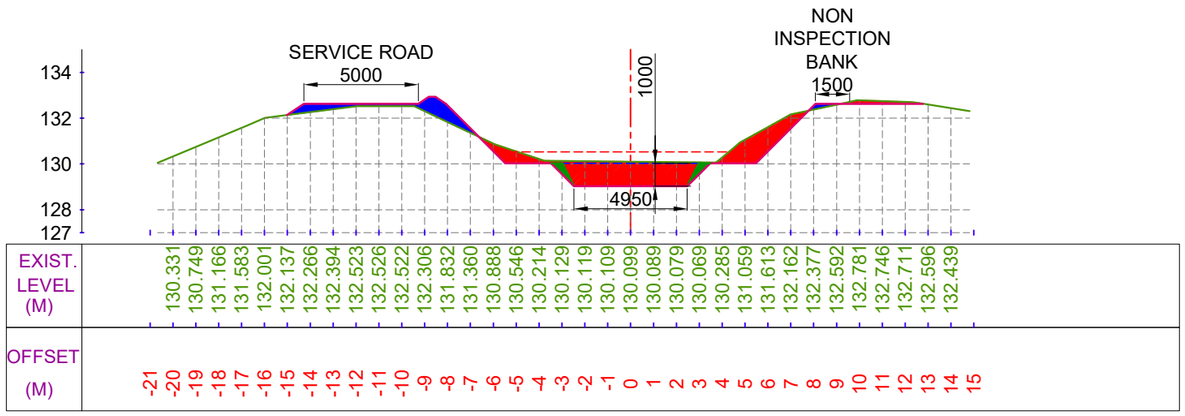
CUTTING AREA (SQ.M) = 6.773
FILLING AREA (SQ.M) = 1.936

CH. (KM):- 8+100
DESIGNED BED LEVEL = 129.052 M



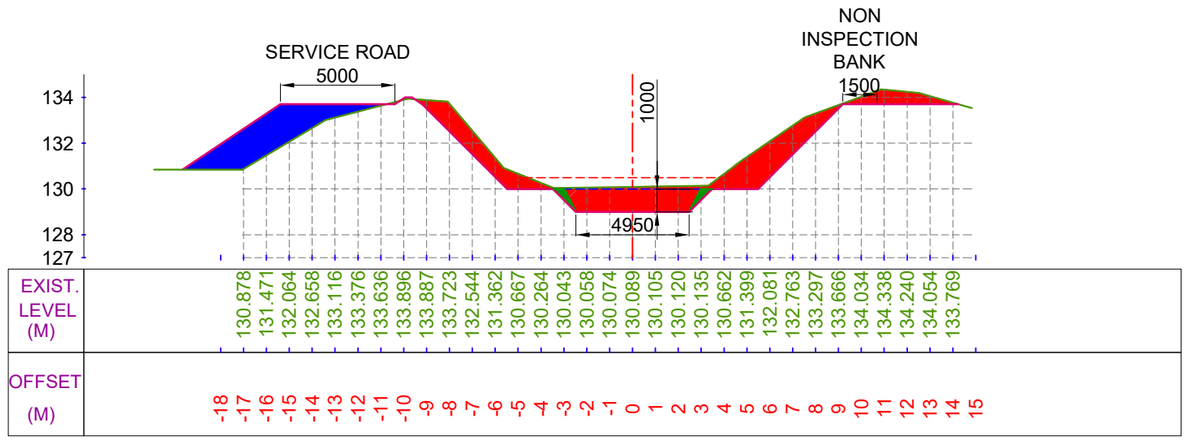
CUTTING AREA (SQ.M) = 12.515
FILLING AREA (SQ.M) = 4.938

CH. (KM):- 8+300
DESIGNED BED LEVEL = 129.012 M



CUTTING AREA (SQ.M) = 10.252
FILLING AREA (SQ.M) = 2.554

CH. (KM):- 8+200
DESIGNED BED LEVEL = 129.032 M



CUTTING AREA (SQ.M) = 18.243
FILLING AREA (SQ.M) = 8.799

CH. (KM):- 8+400
DESIGNED BED LEVEL = 128.992 M

LEGEND

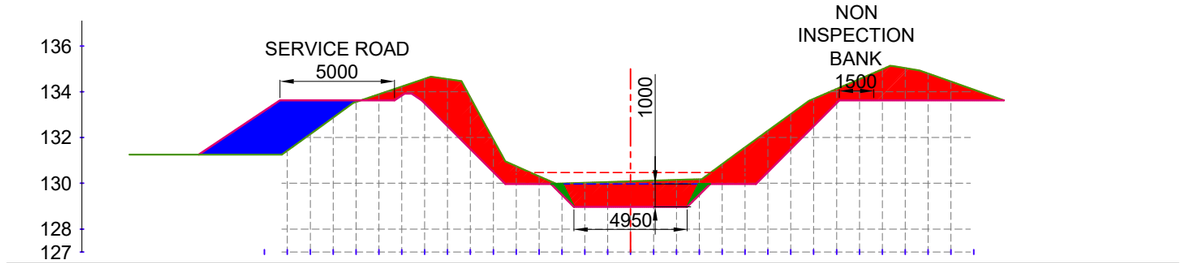
CUT AREA	EXISTING BED LINE	
	F.S.L.	
FILL AREA	DESIGNED BED LINE	
	H.G. LINE	

Prepared by :-

WAPCOS LTD.

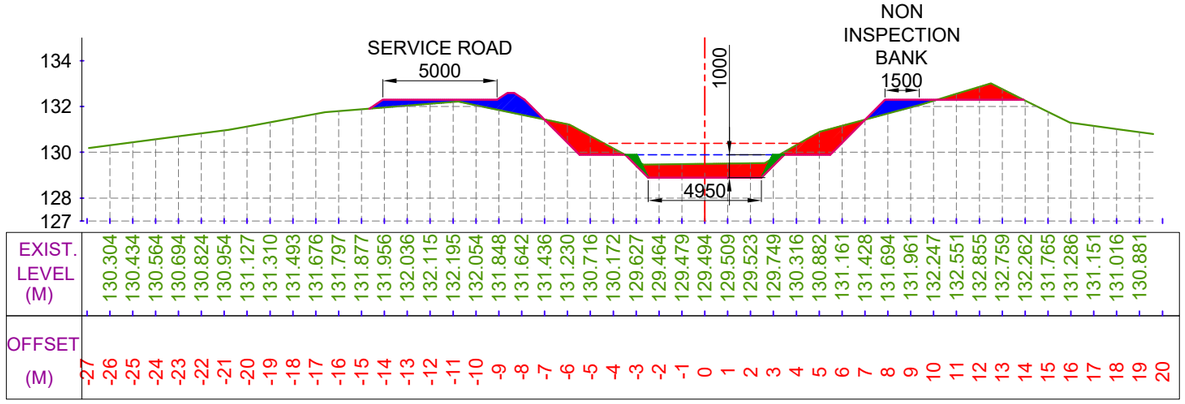
Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
Drawing Title :-	X SEC OF CHAIN NAWADA SUB-DY. (OFFTAKE FROM RD - 94+494 KM. (L), NORTH KOEL RIGHT MAIN CANAL)
Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34/ XSEC- 21 of 35

X SECTION OF CHAIN NAWADA SUB-DY.



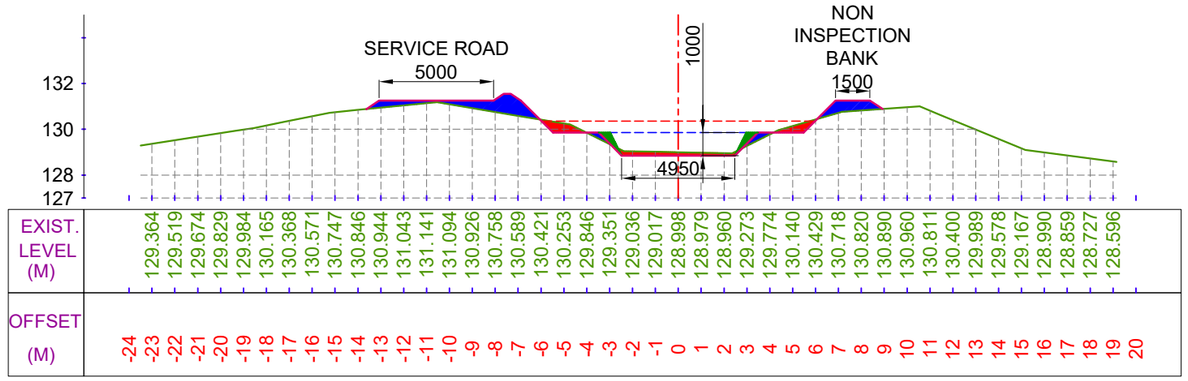
| | | |

X SECTION OF CHAIN NAWADA SUB-DY.



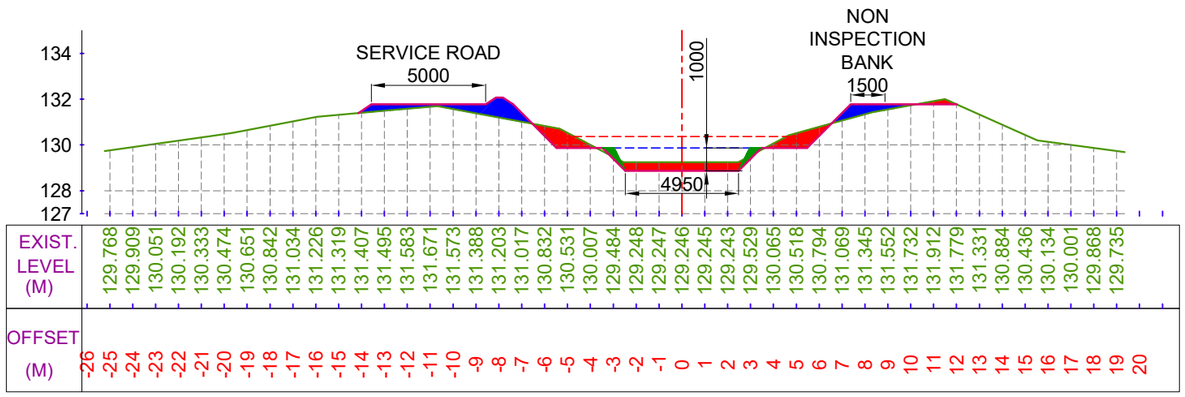
CUTTING AREA (SQ.M) = 8.767
FILLING AREA (SQ.M) = 3.410

CH. (KM):- 8+900
DESIGNED BED LEVEL = 128.892 M



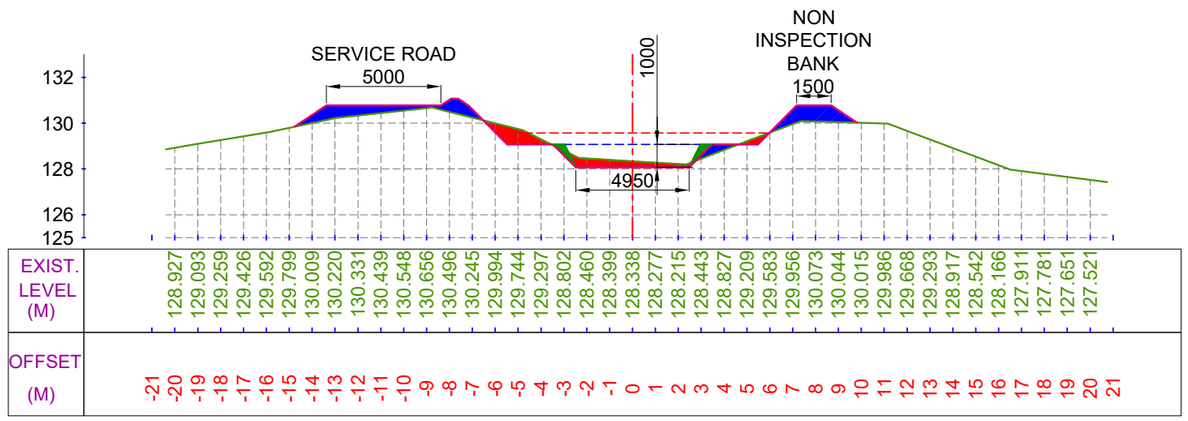
CUTTING AREA (SQ.M) = 1.766
FILLING AREA (SQ.M) = 3.861

CH. (KM):- 9+100
DESIGNED BED LEVEL = 128.852 M



CUTTING AREA (SQ.M) = 4.621
FILLING AREA (SQ.M) = 3.454

CH. (KM):- 9+000
DESIGNED BED LEVEL = 128.872 M



CUTTING AREA (SQ.M) = 2.918
FILLING AREA (SQ.M) = 5.147

CH. (KM):- 9+200
DESIGNED BED LEVEL = 128.070 M

LEGEND

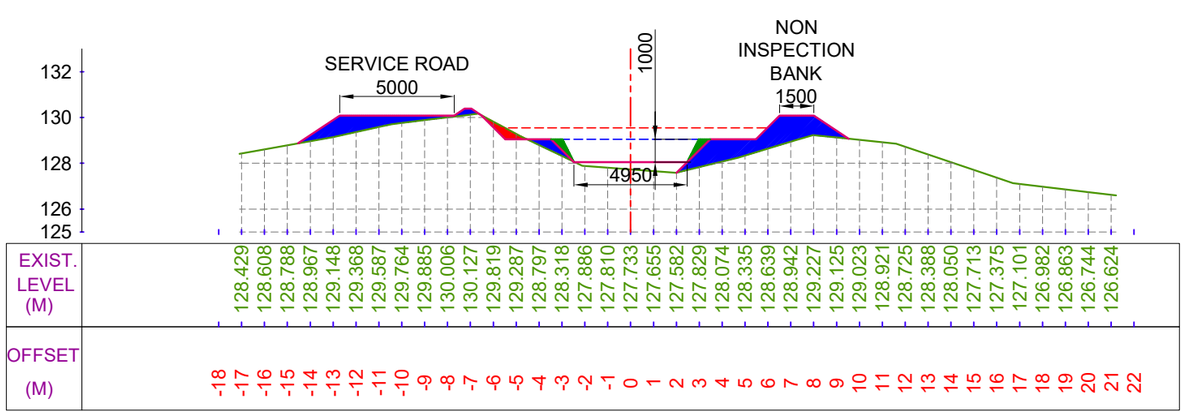
CUT AREA		EXISTING BED LINE	
		F.S.L.	
FILL AREA		DESIGNED BED LINE	
		H.G. LINE	

Prepared by :-

WAPCOS LTD.

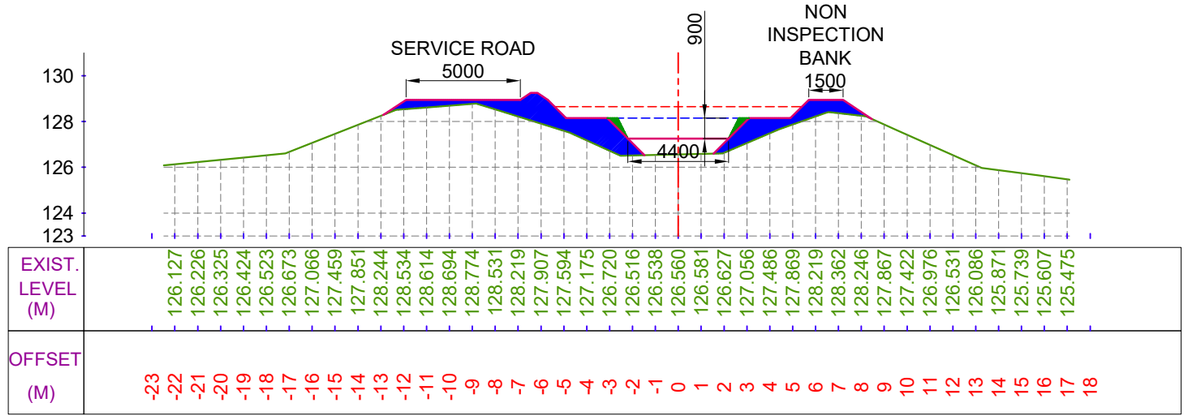
Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
Drawing Title :-	X SEC OF CHAIN NAWADA SUB-DY. (OFFTAKE FROM RD - 94+494 KM. (L), NORTH KOEL RIGHT MAIN CANAL)
Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34/ XSEC- 23 of 35

X SECTION OF CHAIN NAWADA SUB-DY.



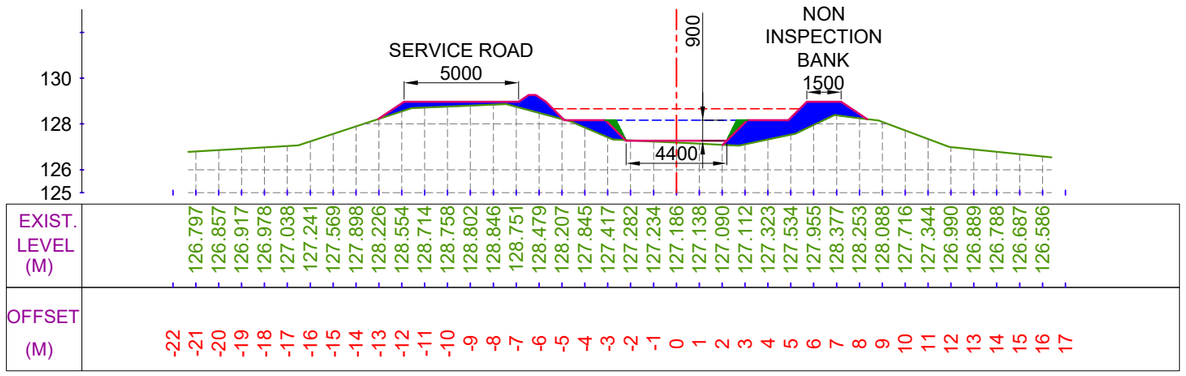
CUTTING AREA (SQ.M) = 0.483
FILLING AREA (SQ.M) = 9.215

CH. (KM):- 9+300
DESIGNED BED LEVEL = 128.050 M



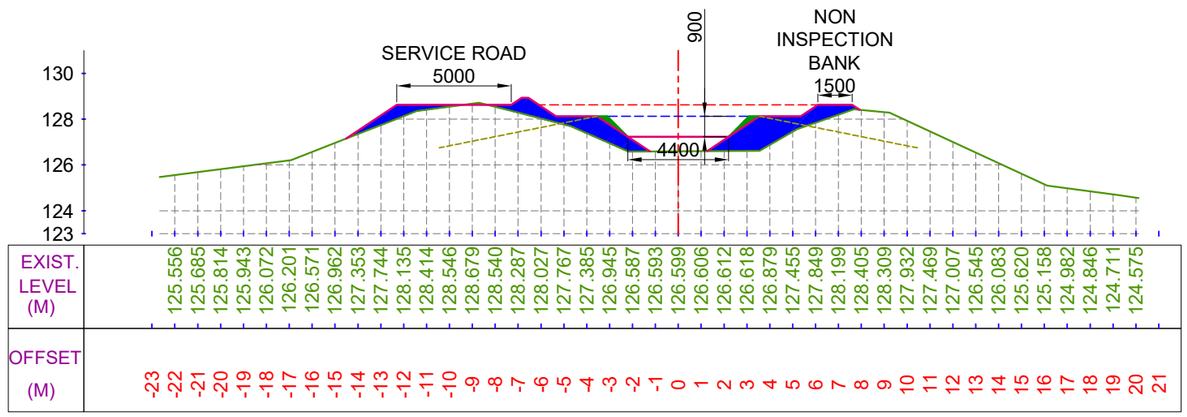
CUTTING AREA (SQ.M) = 0.000
FILLING AREA (SQ.M) = 10.849

CH. (KM):- 9+500
DESIGNED BED LEVEL = 127.248 M



CUTTING AREA (SQ.M) = 0.000
FILLING AREA (SQ.M) = 7.495

CH. (KM):- 9+400
DESIGNED BED LEVEL = 127.268 M



CUTTING AREA (SQ.M) = 0.047
FILLING AREA (SQ.M) = 9.636

CH. (KM):- 9+600
DESIGNED BED LEVEL = 127.228 M

LEGEND

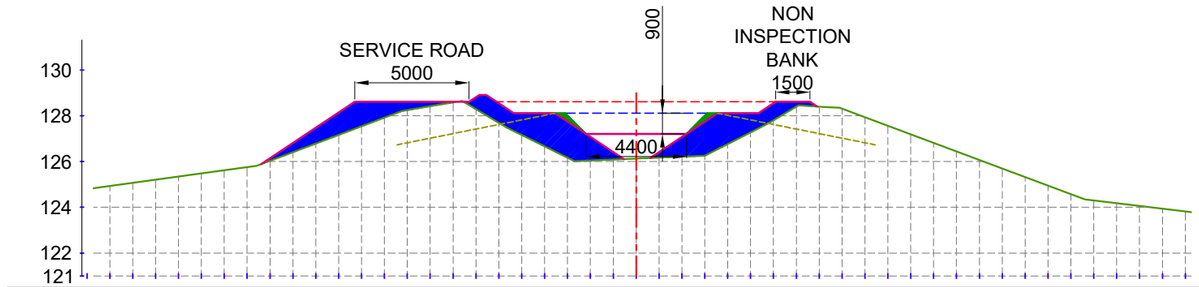
CUT AREA		EXISTING BED LINE	
		F.S.L.	
FILL AREA		DESIGNED BED LINE	
		H.G. LINE	

Prepared by :-

WAPCOS LTD.

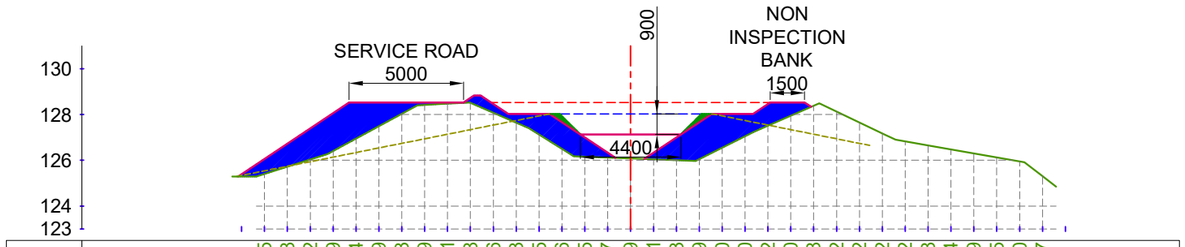
Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
Drawing Title :-	X SEC OF CHAIN NAWADA SUB-DY. (OFFTAKE FROM RD - 94+494 KM. (L), NORTH KOEL RIGHT MAIN CANAL)
Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34/ XSEC- 24 of 35

X SECTION OF CHAIN NAWADA SUB-DY.



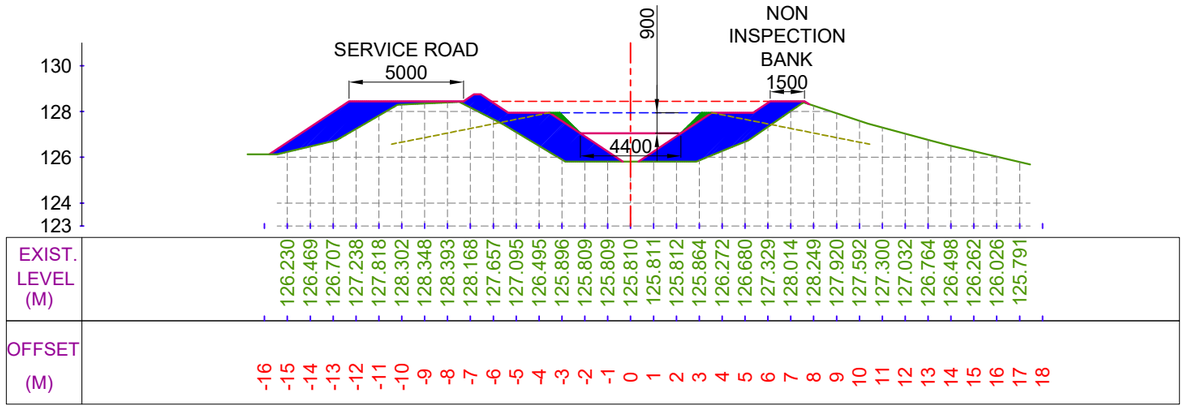
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X SECTION OF CHAIN NAWADA SUB-DY.



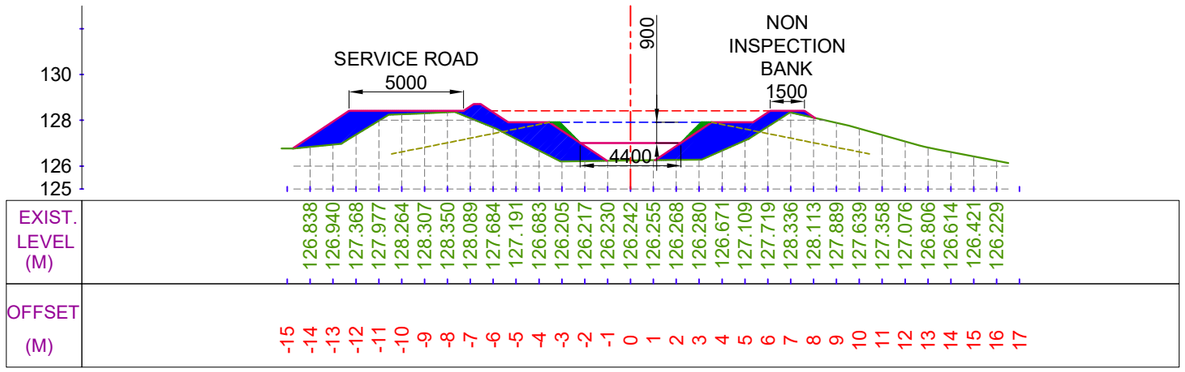
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X SECTION OF CHAIN NAWADA SUB-DY.



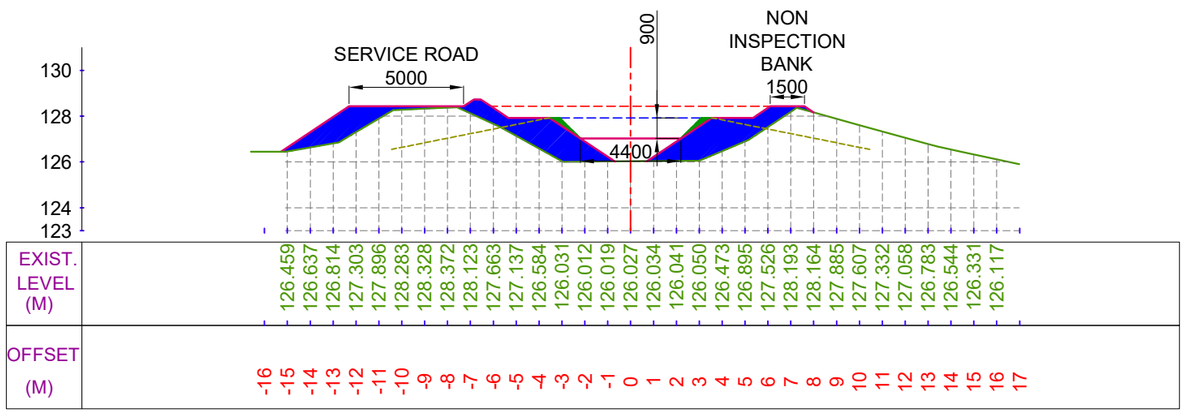
CUTTING AREA (SQ.M) = 0.000
FILLING AREA (SQ.M) = 19.001

CH. (KM):- 10+500
DESIGNED BED LEVEL = 127.048 M



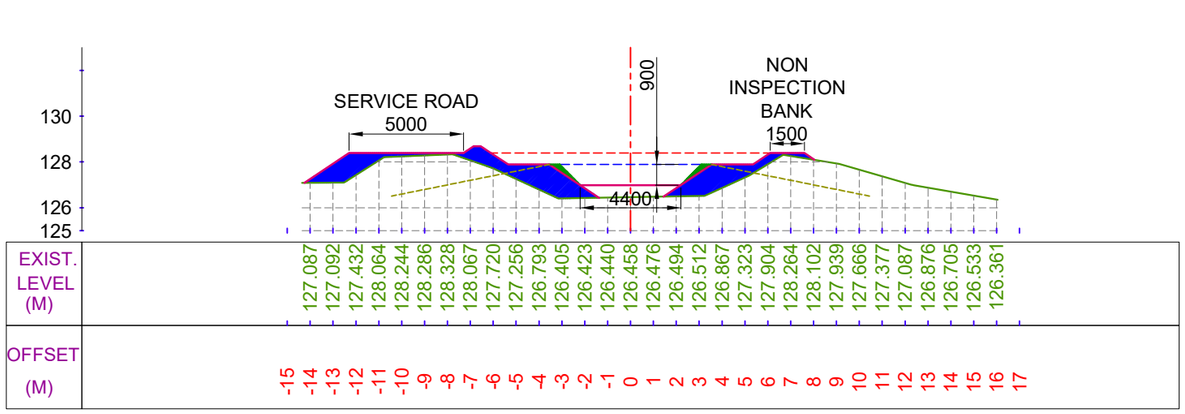
CUTTING AREA (SQ.M) = 0.000
FILLING AREA (SQ.M) = 13.074

CH. (KM):- 10+700
DESIGNED BED LEVEL = 127.008 M



CUTTING AREA (SQ.M) = 0.000
FILLING AREA (SQ.M) = 15.898

CH. (KM):- 10+600
DESIGNED BED LEVEL = 127.028 M



CUTTING AREA (SQ.M) = 0.000
FILLING AREA (SQ.M) = 10.502

CH. (KM):- 10+800
DESIGNED BED LEVEL = 126.988 M

LEGEND

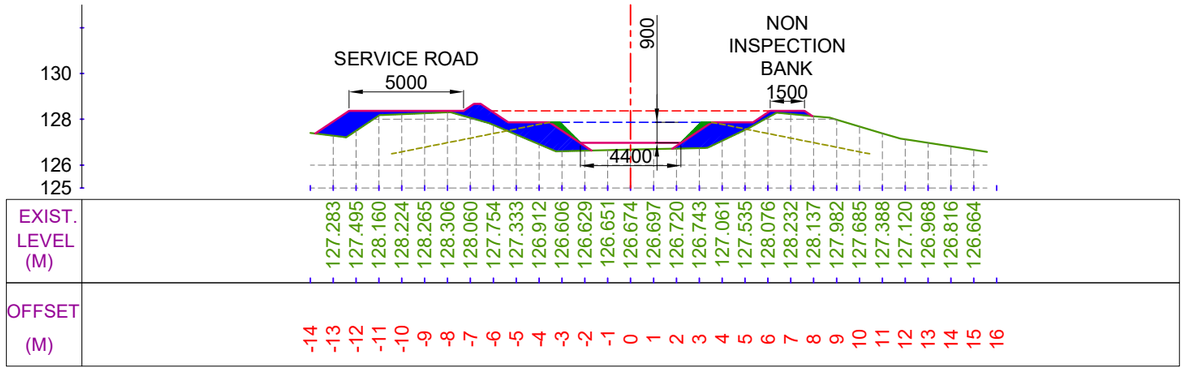
CUT AREA		EXISTING BED LINE	
		F.S.L.	
FILL AREA		DESIGNED BED LINE	
		H.G. LINE	

Prepared by :-

WAPCOS LTD.

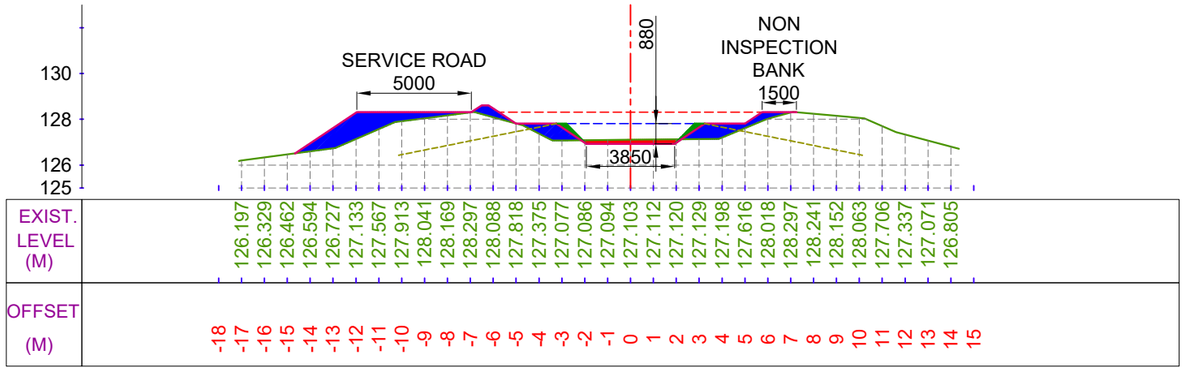
Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
Drawing Title :-	X SEC OF CHAIN NAWADA SUB-DY. (OFFTAKE FROM RD - 94+494 KM. (L), NORTH KOEL RIGHT MAIN CANAL)
Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34/ XSEC- 27 of 35

X SECTION OF CHAIN NAWADA SUB-DY.



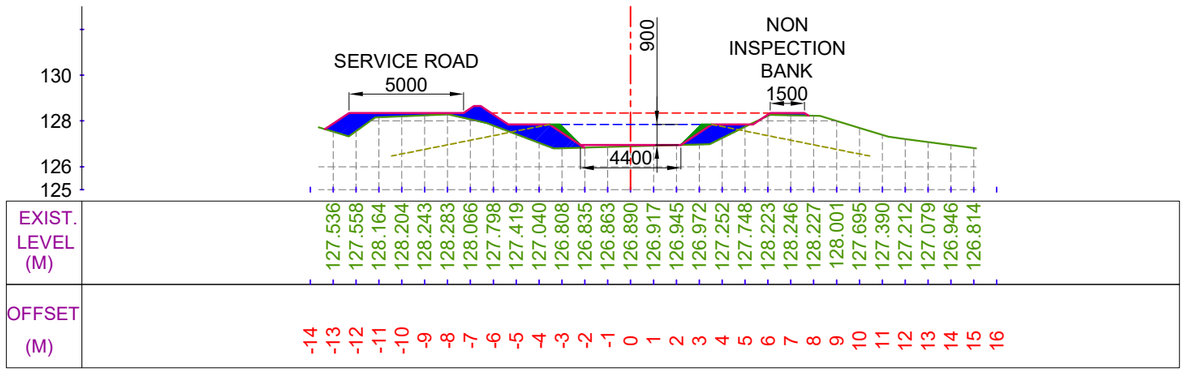
CUTTING AREA (SQ.M) = 0.000
FILLING AREA (SQ.M) = 8.159

CH. (KM):- 10+900
DESIGNED BED LEVEL = 126.968 M



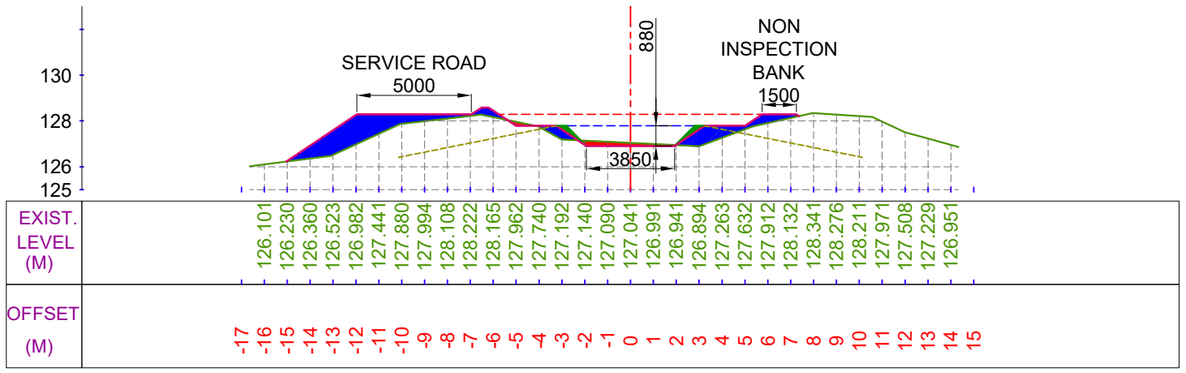
CUTTING AREA (SQ.M) = 0.000
FILLING AREA (SQ.M) = 0.000

CH. (KM):- 11+100
DESIGNED BED LEVEL = 126.928 M



CUTTING AREA (SQ.M) = 0.018
FILLING AREA (SQ.M) = 6.040

CH. (KM):- 11+000
DESIGNED BED LEVEL = 126.948 M



CUTTING AREA (SQ.M) = 0.000
FILLING AREA (SQ.M) = 0.000

CH. (KM):- 11+200
DESIGNED BED LEVEL = 126.908 M

LEGEND

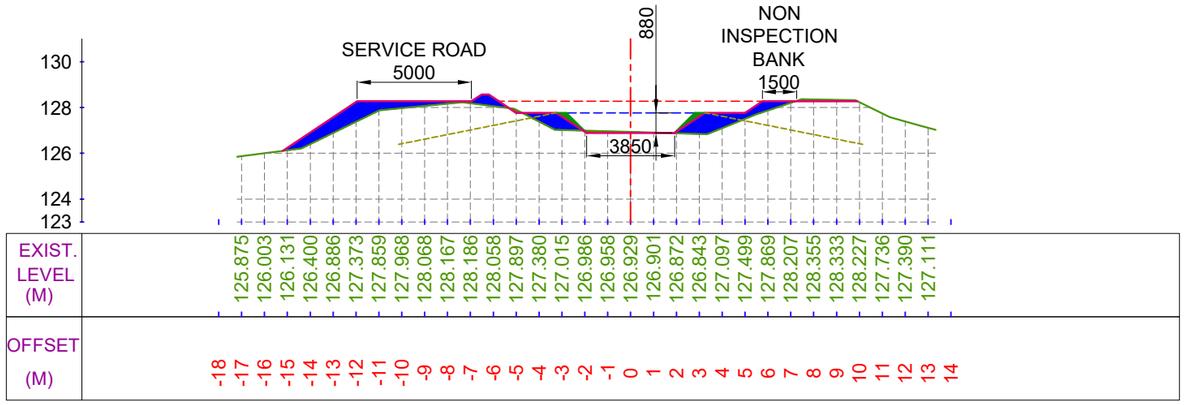
CUT AREA		EXISTING BED LINE	
		F.S.L.	
FILL AREA		DESIGNED BED LINE	
		H.G. LINE	

Prepared by :-

WAPCOS LTD.

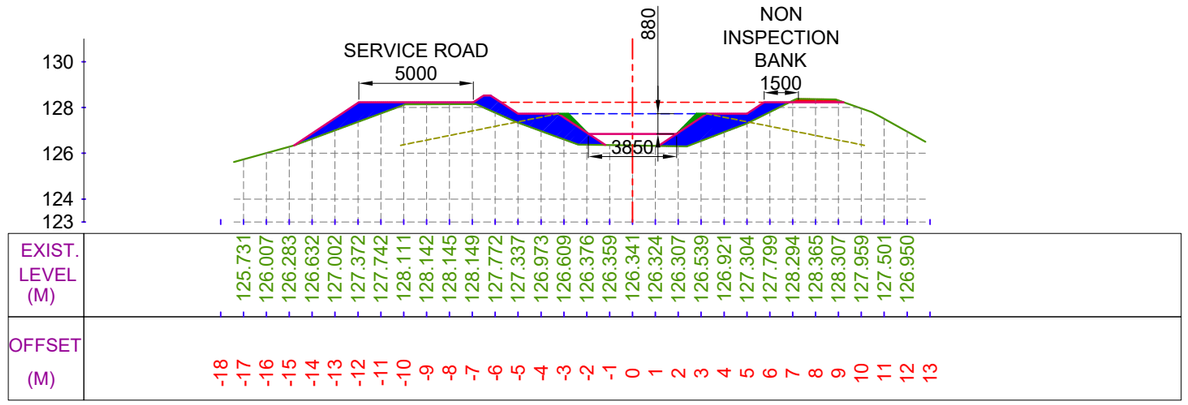
Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
Drawing Title :-	X SEC OF CHAIN NAWADA SUB-DY. (OFFTAKE FROM RD - 94+494 KM. (L), NORTH KOEL RIGHT MAIN CANAL)
Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34/ XSEC- 28 of 35

X SECTION OF CHAIN NAWADA SUB-DY.



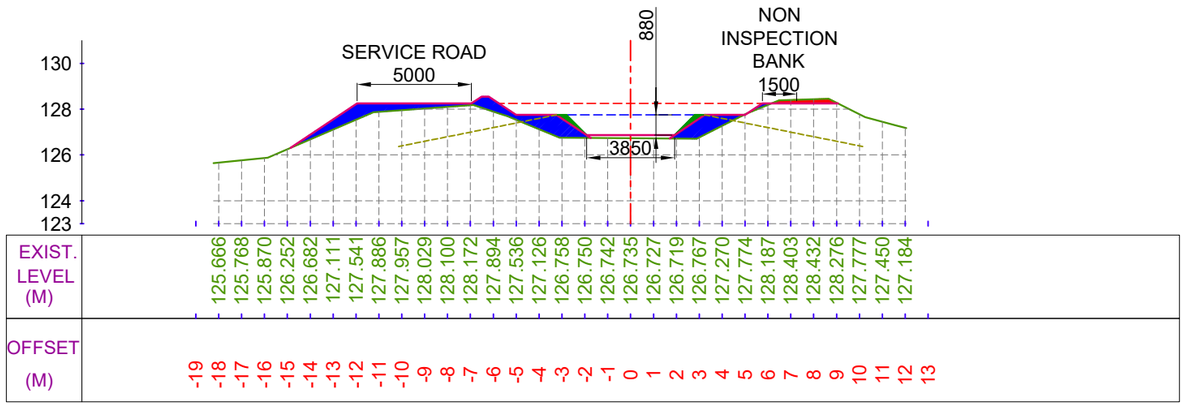
CUTTING AREA (SQ.M) = 0.395
FILLING AREA (SQ.M) = 7.032

CH. (KM):- 11+300
DESIGNED BED LEVEL = 126.888 M



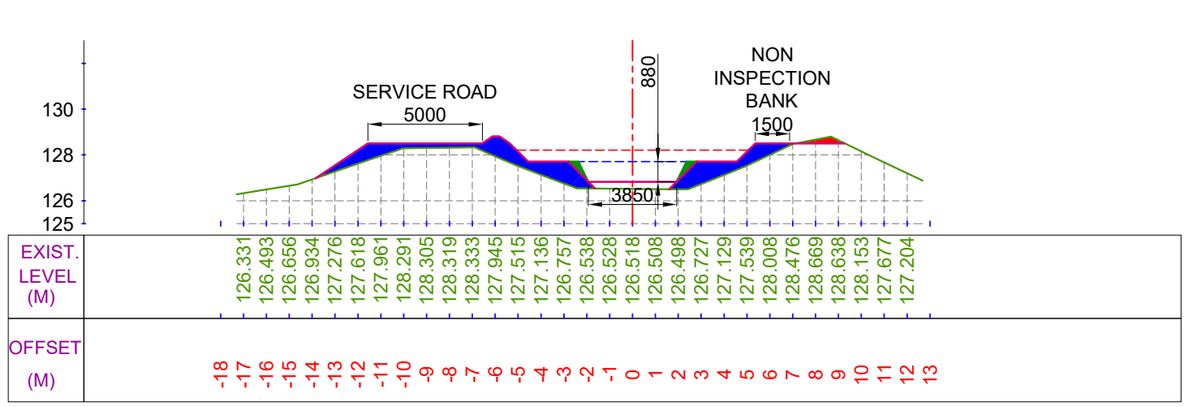
CUTTING AREA (SQ.M) = 0.278
FILLING AREA (SQ.M) = 9.182

CH. (KM):- 11+500
DESIGNED BED LEVEL = 126.848 M



CUTTING AREA (SQ.M) = 0.439
FILLING AREA (SQ.M) = 6.415

CH. (KM):- 11+400
DESIGNED BED LEVEL = 126.868 M



CUTTING AREA (SQ.M) = 0.306
FILLING AREA (SQ.M) = 8.641

CH. (KM):- 11+600
DESIGNED BED LEVEL = 126.828 M

LEGEND

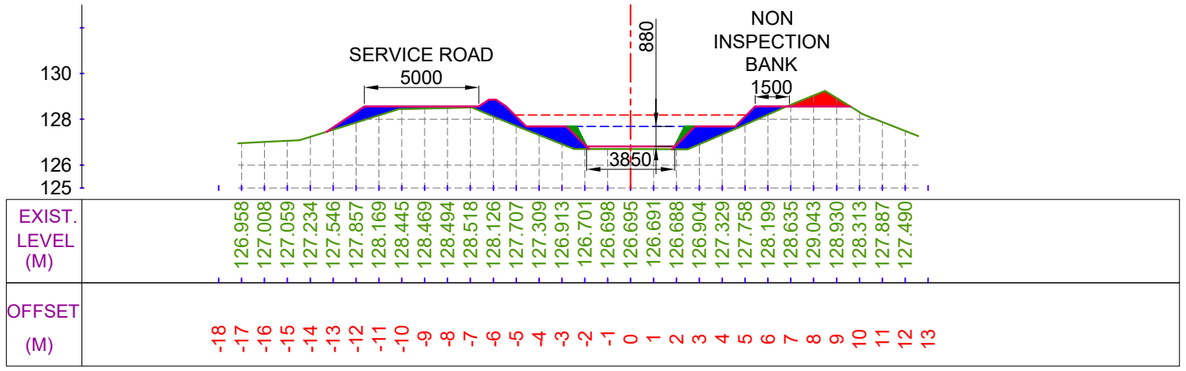
CUT AREA		EXISTING BED LINE	
		F.S.L.	
FILL AREA		DESIGNED BED LINE	
		H.G. LINE	

Prepared by :-

WAPCOS LTD.

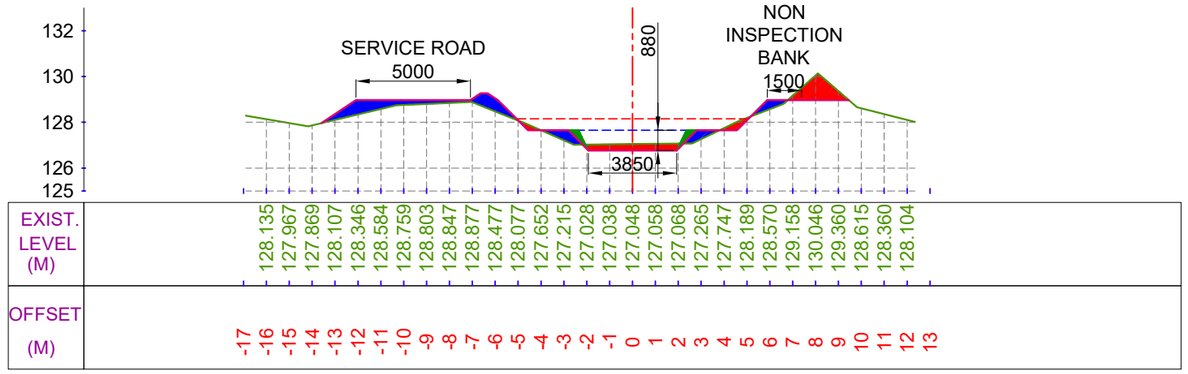
Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
Drawing Title :-	X SEC OF CHAIN NAWADA SUB-DY. (OFFTAKE FROM RD - 94+494 KM. (L), NORTH KOEL RIGHT MAIN CANAL)
Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34/ XSEC- 29 of 35

X SECTION OF CHAIN NAWADA SUB-DY.



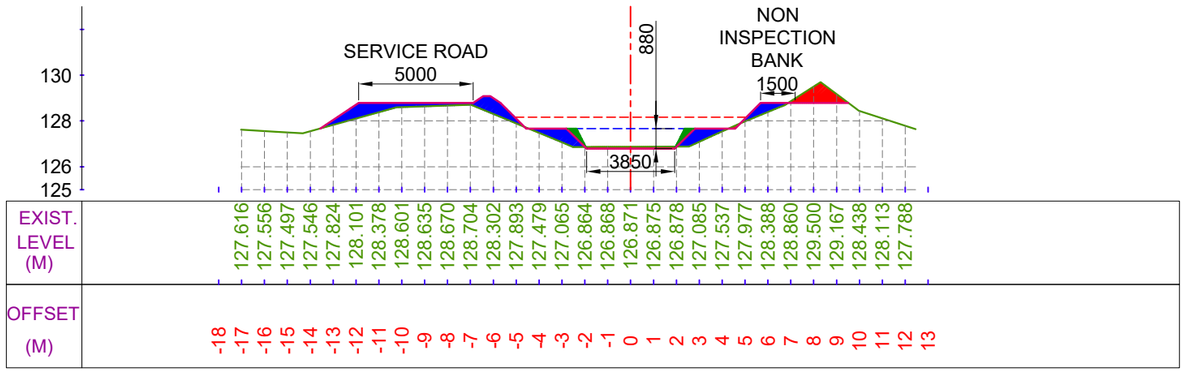
CUTTING AREA (SQ.M) =0.952
FILLING AREA (SQ.M) = 5.832

CH. (KM):- 11+700
DESIGNED BED LEVEL = 126.808 M



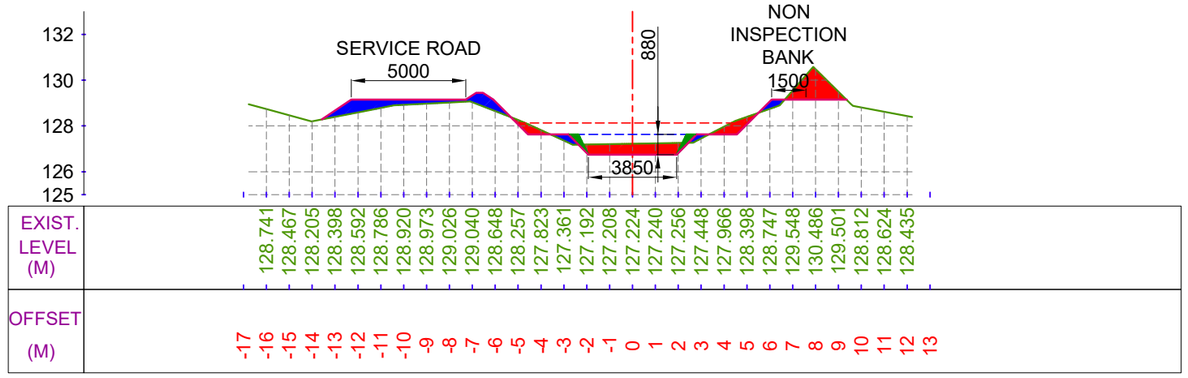
CUTTING AREA (SQ.M) = 3.058
FILLING AREA (SQ.M) = 3.831

CH. (KM):- 11+900
DESIGNED BED LEVEL = 126.768 M



CUTTING AREA (SQ.M) = 1.542
FILLING AREA (SQ.M) = 4.945

CH. (KM):- 11+800
DESIGNED BED LEVEL = 126.788 M



CUTTING AREA (SQ.M) = 4.964
FILLING AREA (SQ.M) = 3.018

CH. (KM):- 12+000
DESIGNED BED LEVEL = 126.748 M

LEGEND

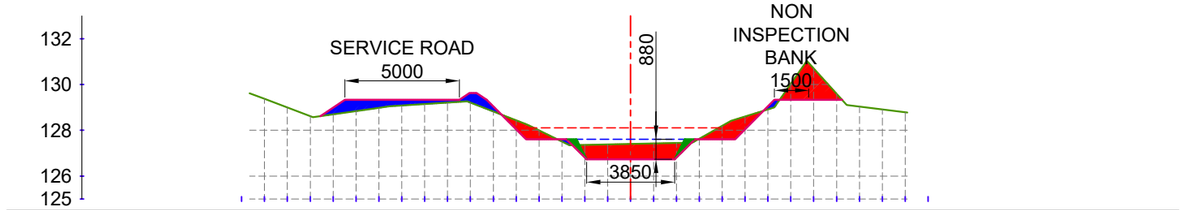
CUT AREA	EXISTING BED LINE	
	F.S.L.	
FILL AREA	DESIGNED BED LINE	
	H.G. LINE	

Prepared by :-

WAPCOS LTD.

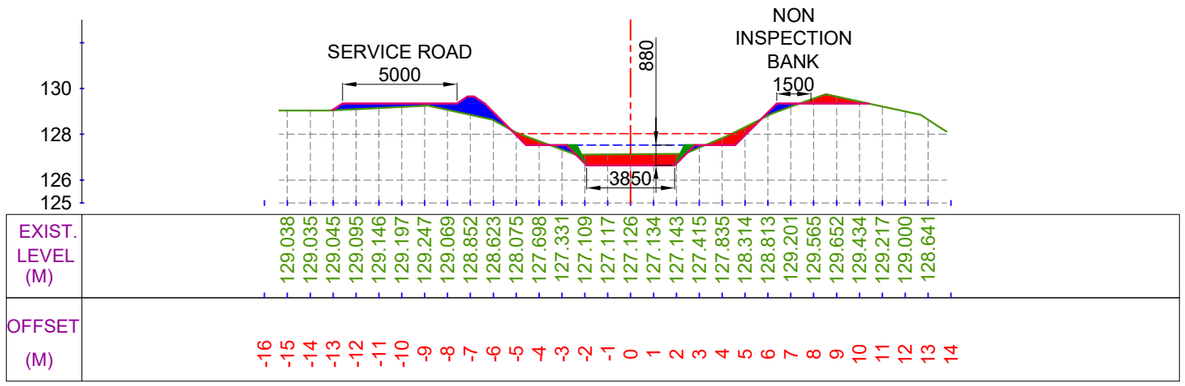
Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
Drawing Title :-	X SEC OF CHAIN NAWADA SUB-DY. (OFFTAKE FROM RD - 94+494 KM. (L), NORTH KOEL RIGHT MAIN CANAL)
Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34/ XSEC- 30 of 35

X SECTION OF CHAIN NAWADA SUB-DY.



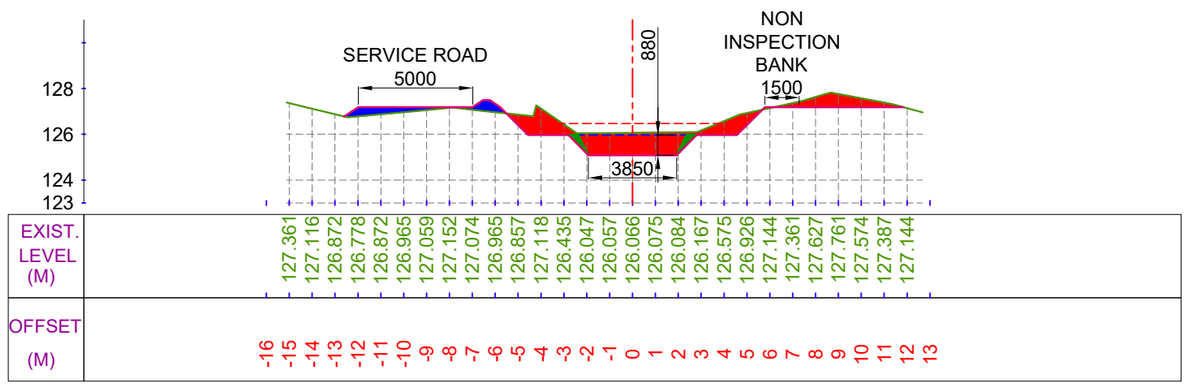
| | | |

X SECTION OF CHAIN NAWADA SUB-DY.



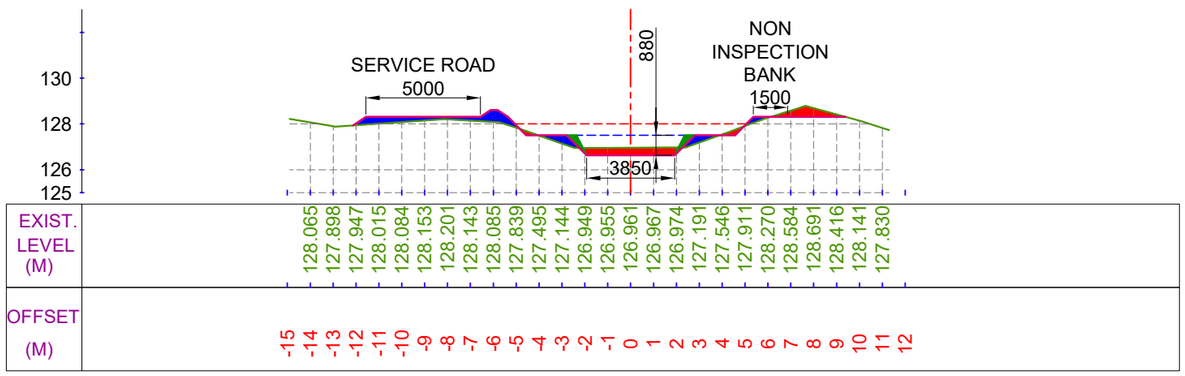
CUTTING AREA (SQ.M) = 3.557
FILLING AREA (SQ.M) = 2.738

CH. (KM):- 12+500
DESIGNED BED LEVEL = 126.648 M



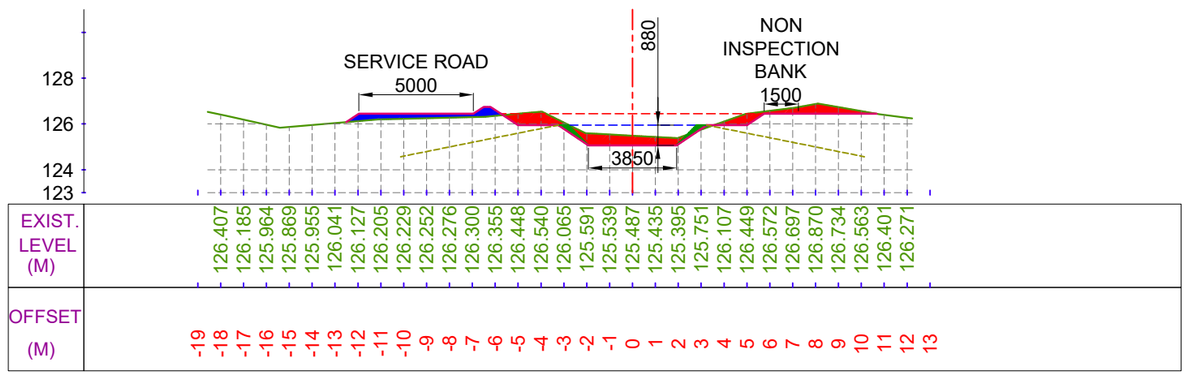
CUTTING AREA (SQ.M) = 9.340
FILLING AREA (SQ.M) = 1.588

CH. (KM):- 12+700
DESIGNED BED LEVEL = 125.088 M



CUTTING AREA (SQ.M) = 2.326
FILLING AREA (SQ.M) = 2.526

CH. (KM):- 12+600
DESIGNED BED LEVEL = 126.628 M



CUTTING AREA (SQ.M) = 4.744
FILLING AREA (SQ.M) = 1.548

CH. (KM):- 12+800
DESIGNED BED LEVEL = 125.068 M

LEGEND

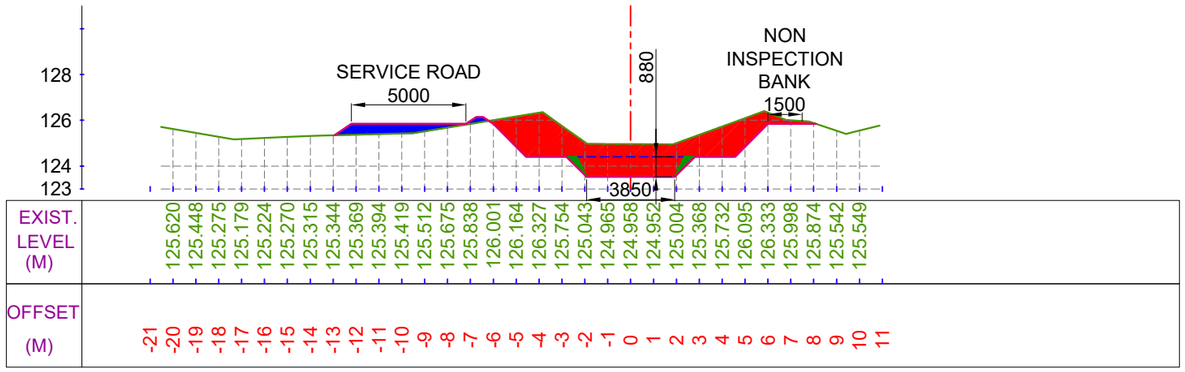
CUT AREA		EXISTING BED LINE	
		F.S.L.	
FILL AREA		DESIGNED BED LINE	
		H.G. LINE	

Prepared by :-

WAPCOS LTD.

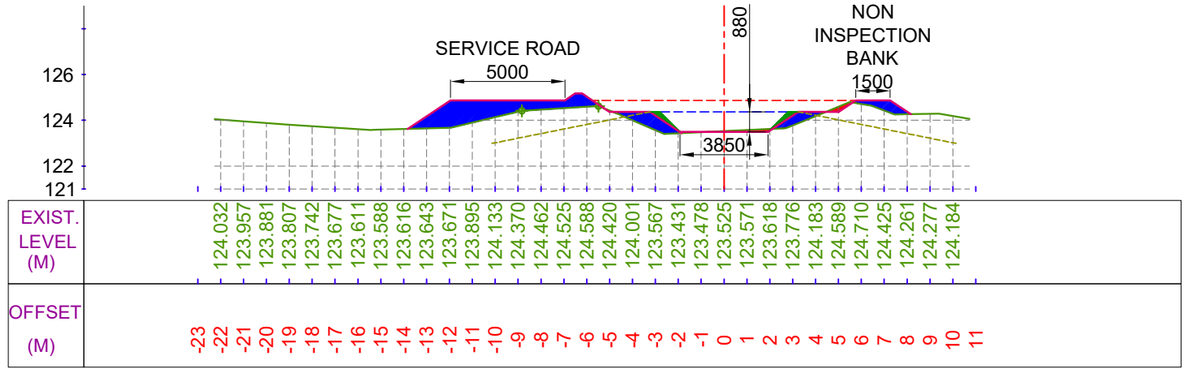
Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
Drawing Title :-	X SEC OF CHAIN NAWADA SUB-DY. (OFFTAKE FROM RD - 94+494 KM. (L), NORTH KOEL RIGHT MAIN CANAL)
Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34/ XSEC- 32 of 35

X SECTION OF CHAIN NAWADA SUB-DY.



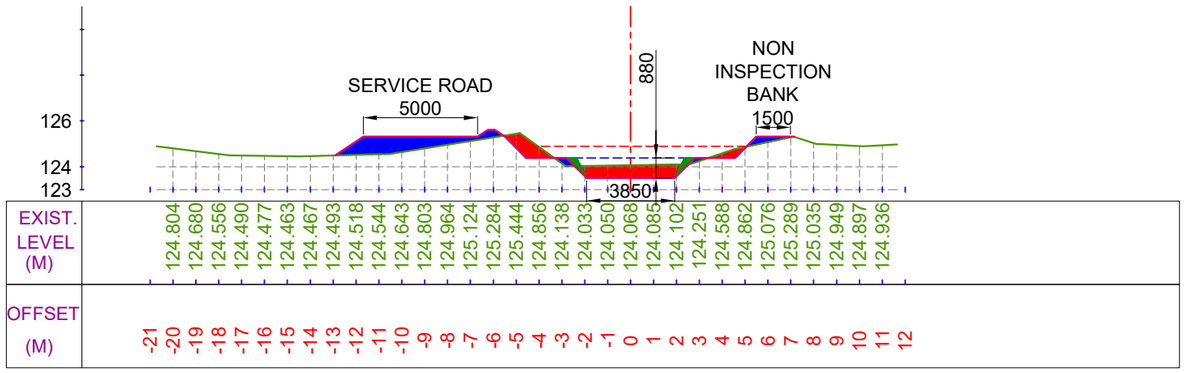
CUTTING AREA (SQ.M) = 15.832
FILLING AREA (SQ.M) = 2.053

CH. (KM):- 12+900
DESIGNED BED LEVEL = 123.528 M



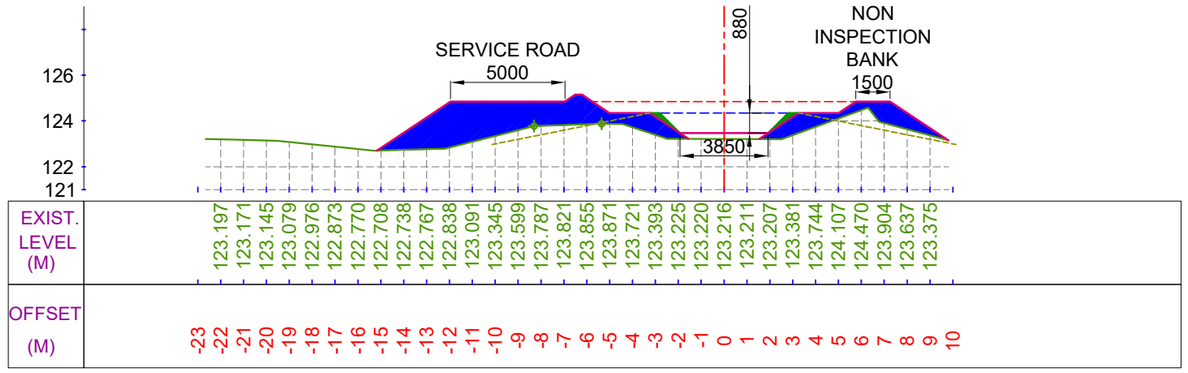
CUTTING AREA (SQ.M) = 0.335
FILLING AREA (SQ.M) = 7.552

CH. (KM):- 13+100
DESIGNED BED LEVEL = 123.488 M



CUTTING AREA (SQ.M) = 3.672
FILLING AREA (SQ.M) = 3.946

CH. (KM):- 13+000
DESIGNED BED LEVEL = 123.508 M



CUTTING AREA (SQ.M) = 0.000
FILLING AREA (SQ.M) = 18.508

CH. (KM):- 13+200
DESIGNED BED LEVEL = 123.468 M

LEGEND

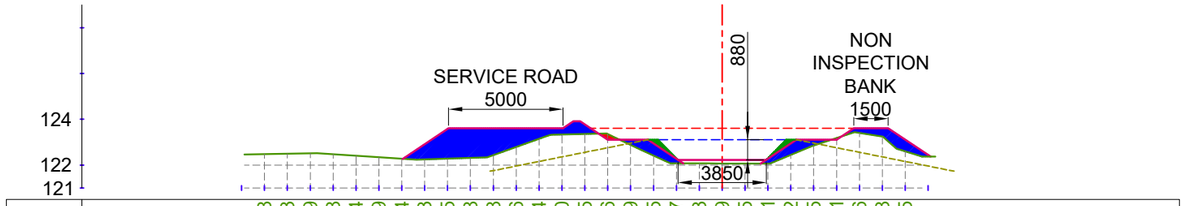
CUT AREA		EXISTING BED LINE	
		F.S.L.	
FILL AREA		DESIGNED BED LINE	
		H.G. LINE	

Prepared by :-

WAPCOS LTD.

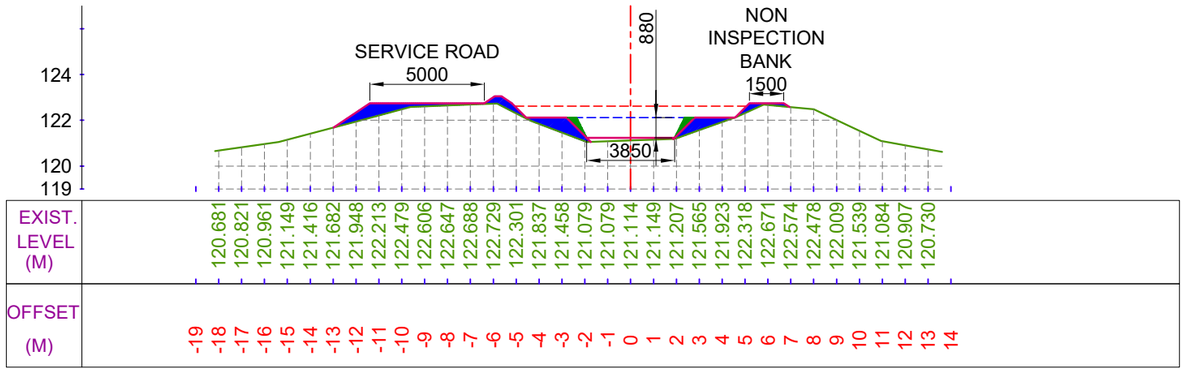
Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
Drawing Title :-	X SEC OF CHAIN NAWADA SUB-DY. (OFFTAKE FROM RD - 94+494 KM. (L), NORTH KOEL RIGHT MAIN CANAL)
Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34/ XSEC- 33 of 35

X SECTION OF CHAIN NAWADA SUB-DY.



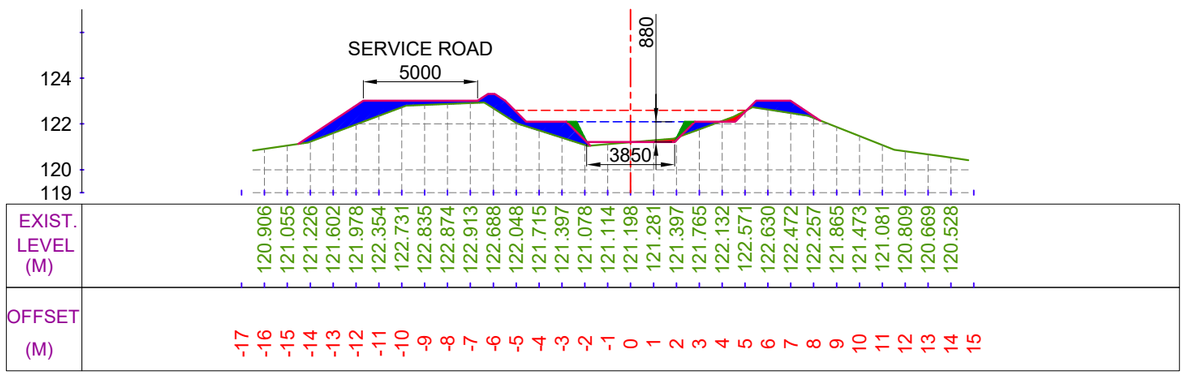
| | | |

X SECTION OF CHAIN NAWADA SUB-DY.



CUTTING AREA (SQ.M) = 0.000
FILLING AREA (SQ.M) = 4.267

CH. (KM):- 13+700
DESIGNED BED LEVEL = 121.234 M



CUTTING AREA (SQ.M) = 0.282
FILLING AREA (SQ.M) = 6.537

CH. (KM):- 13+800
DESIGNED BED LEVEL = 121.214 M

LEGEND

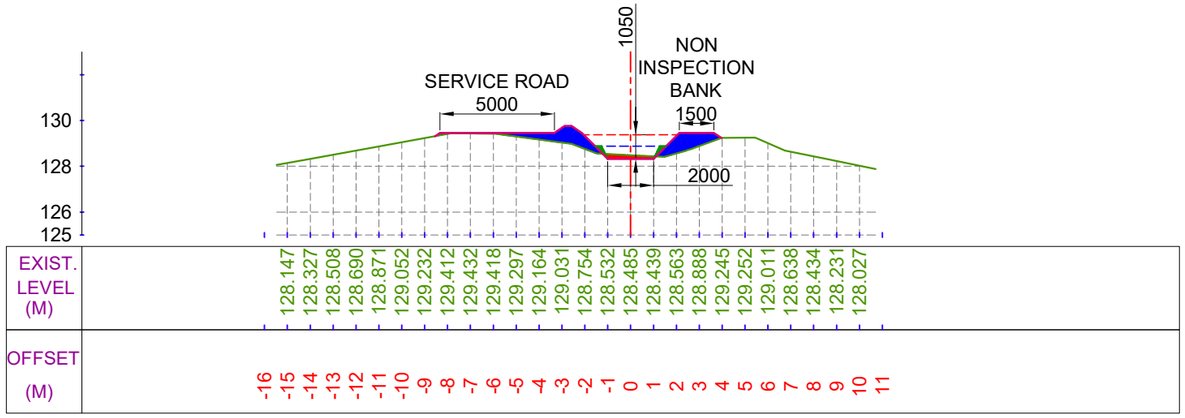
CUT AREA		EXISTING BED LINE	
		F.S.L.	
FILL AREA		DESIGNED BED LINE	
		H.G. LINE	

Prepared by :-

WAPCOS LTD.

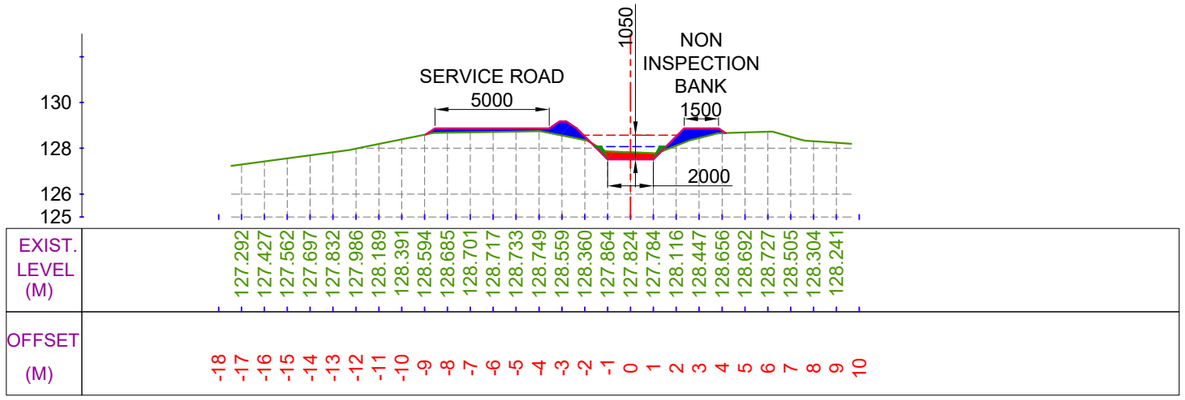
Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
Drawing Title :-	X SEC OF CHAIN NAWADA SUB-DY. (OFFTAKE FROM RD - 94+494 KM. (L), NORTH KOEL RIGHT MAIN CANAL)
Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34/ XSEC- 35 of 35

X SECTION OF PARANPUR MINOR



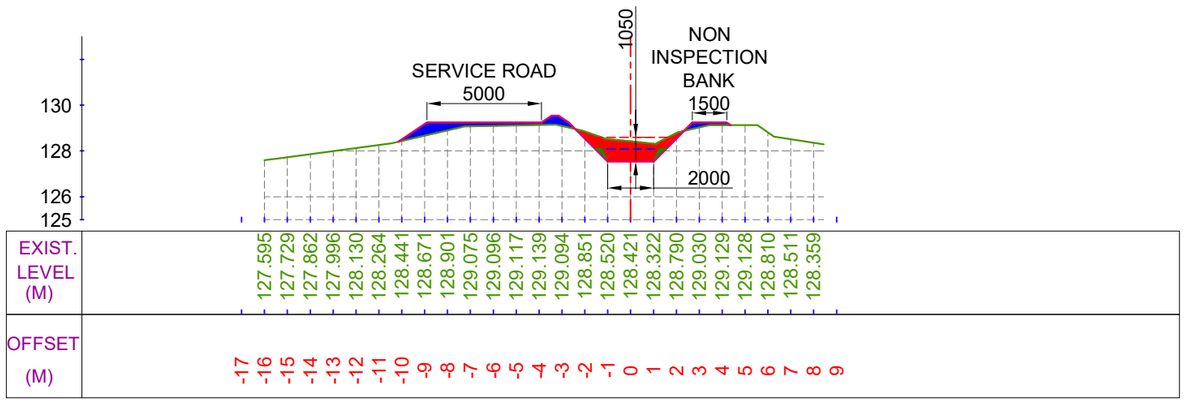
CUTTING AREA (SQ.M) = 0.337
FILLING AREA (SQ.M) = 3.223

CH. (KM):- 0+100
DESIGNED BED LEVEL = 128.324 M



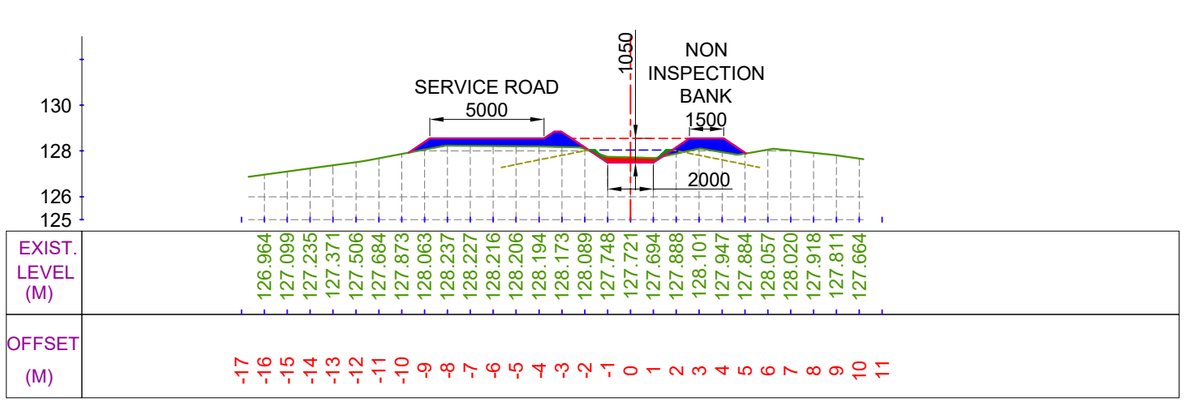
CUTTING AREA (SQ.M) = 0.675
FILLING AREA (SQ.M) = 2.478

CH. (KM):- 0+300
DESIGNED BED LEVEL = 127.517 M



CUTTING AREA (SQ.M) = 2.852
FILLING AREA (SQ.M) = 2.068

CH. (KM):- 0+200
DESIGNED BED LEVEL = 127.540 M



CUTTING AREA (SQ.M) = 0.520
FILLING AREA (SQ.M) = 4.093

CH. (KM):- 0+400
DESIGNED BED LEVEL = 127.495 M

LEGEND

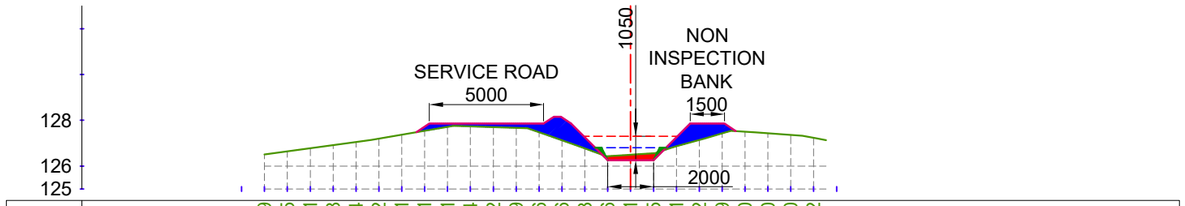
CUT AREA		EXISTING BED LINE	
		F.S.L.	
FILL AREA		DESIGNED BED LINE	
		H.G. LINE	

Prepared by :-

WAPCOS LTD.

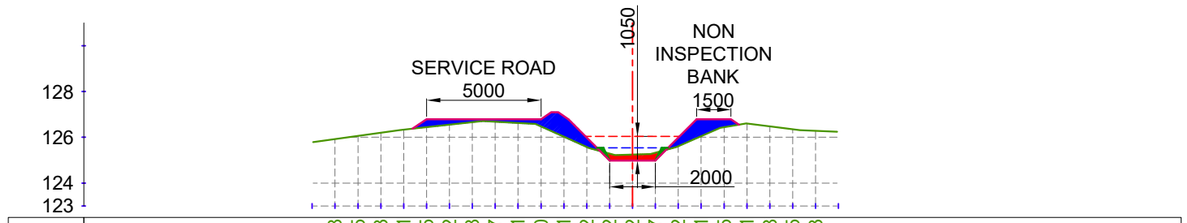
Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
Drawing Title :-	X SEC OF PARANPUR MINOR (OFFTAKE FROM RD - 9+310 KM. (L), CHAIN NAWADA SUB-DISTRIBUTARY CANAL)
Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34-01/ XSEC- 1 of 08

X SECTION OF PARANPUR MINOR



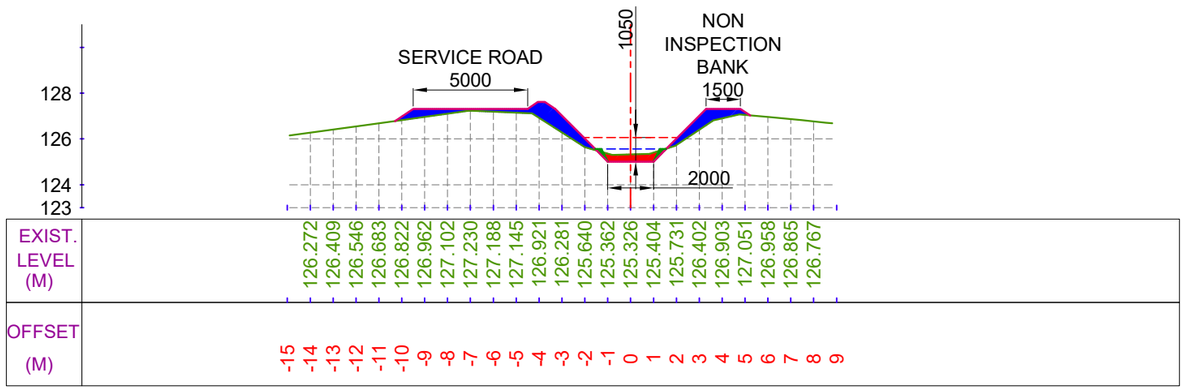
CUTTING AREA (SQ.M) = 0.507
FILLING AREA (SQ.M) = 4.053

CH. (KM):- 0+500
DESIGNED BED LEVEL = 126.253 M



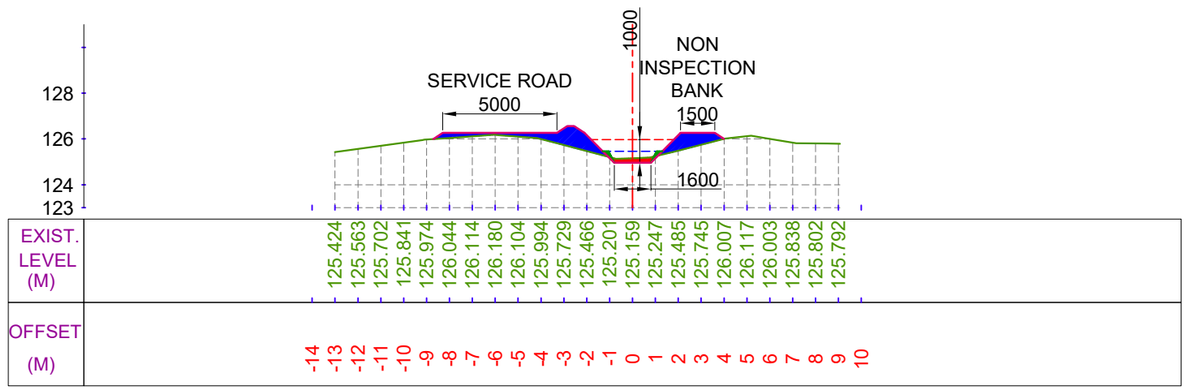
CUTTING AREA (SQ.M) = 0.581
FILLING AREA (SQ.M) = 3.999

CH. (KM):- 0+700
DESIGNED BED LEVEL = 124.988 M



CUTTING AREA (SQ.M) = 0.722
FILLING AREA (SQ.M) = 4.149

CH. (KM):- 0+600
DESIGNED BED LEVEL = 125.011 M



CUTTING AREA (SQ.M) = 0.334
FILLING AREA (SQ.M) = 3.666

CH. (KM):- 0+800
DESIGNED BED LEVEL = 124.966 M

LEGEND

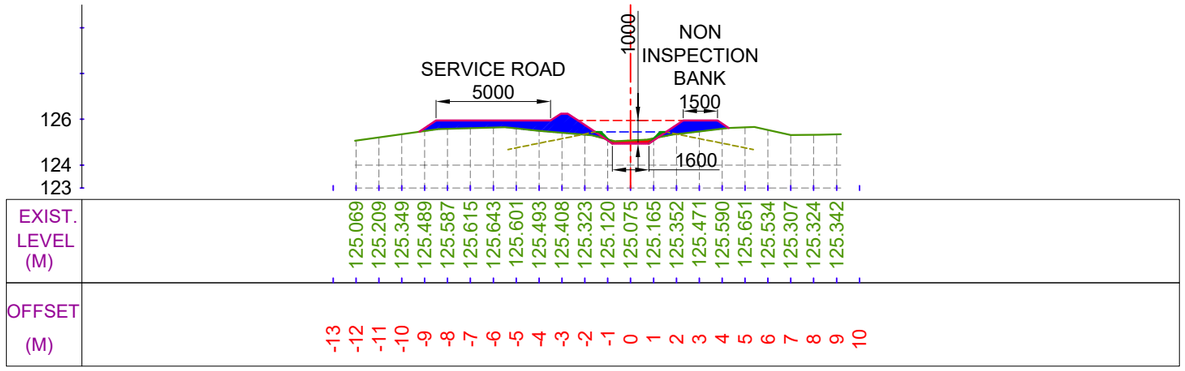
CUT AREA		EXISTING BED LINE	
		F.S.L.	
FILL AREA		DESIGNED BED LINE	
		H.G. LINE	

Prepared by :-

WAPCOS LTD.

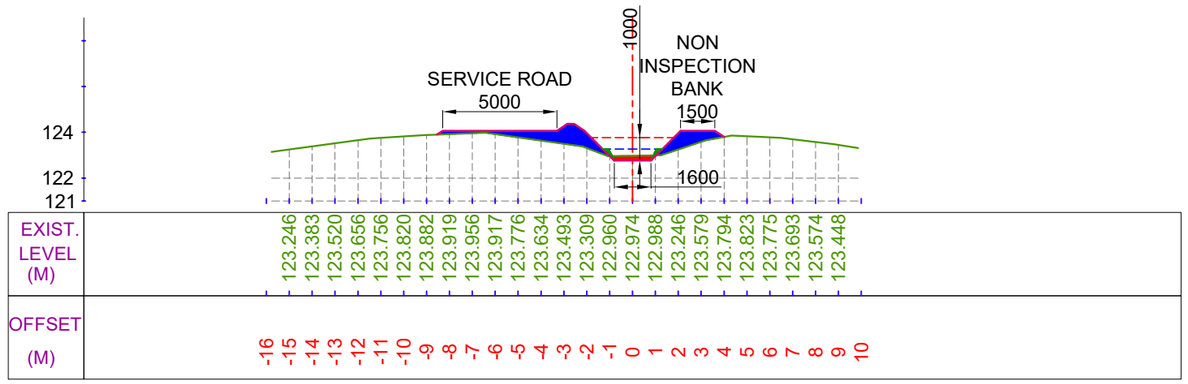
Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
Drawing Title :-	X SEC OF PARANPUR MINOR (OFFTAKE FROM RD - 9+310 KM. (L), CHAIN NAWADA SUB-DISTRIBUTARY CANAL)
Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34-01/ XSEC- 2 of 08

X SECTION OF PARANPUR MINOR



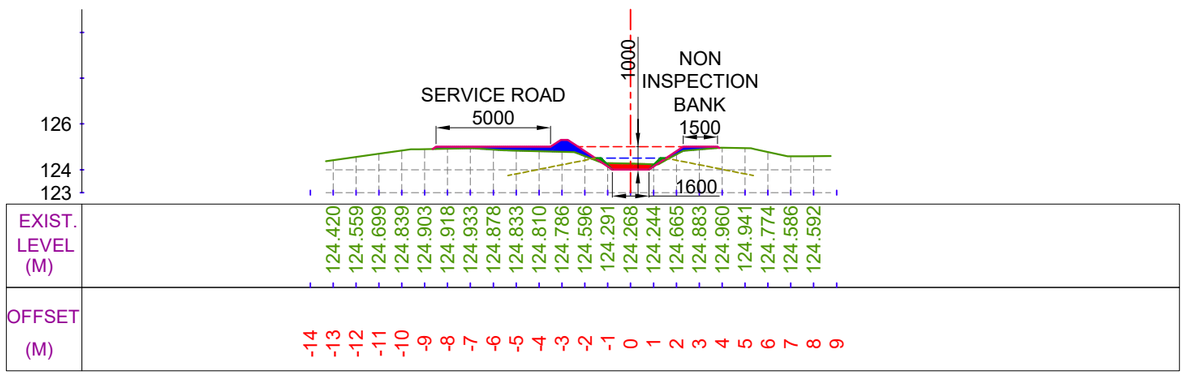
CUTTING AREA (SQ.M) = 0.245
FILLING AREA (SQ.M) = 4.204

CH. (KM):- 0+900
DESIGNED BED LEVEL = 124.943 M



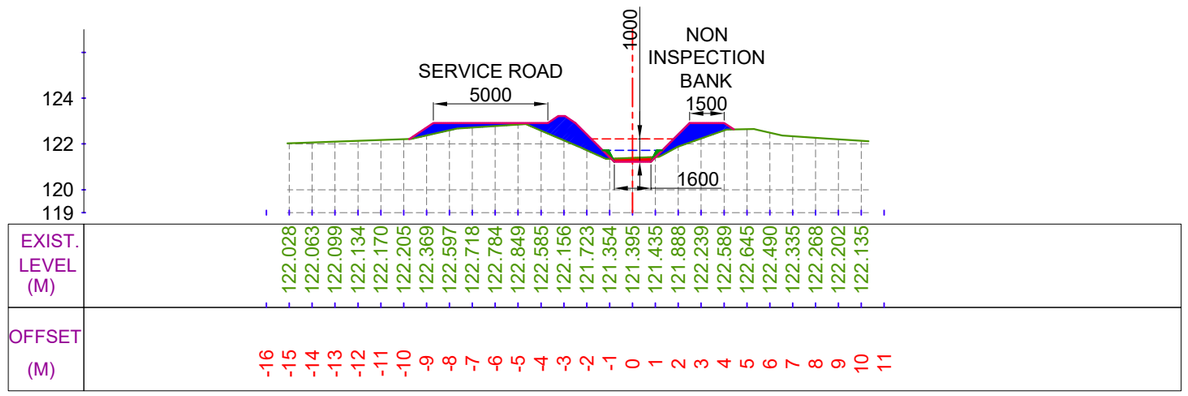
CUTTING AREA (SQ.M) = 0.358
FILLING AREA (SQ.M) = 3.917

CH. (KM):- 1+100
DESIGNED BED LEVEL = 122.764 M



CUTTING AREA (SQ.M) = 0.486
FILLING AREA (SQ.M) = 1.633

CH. (KM):- 1+000
DESIGNED BED LEVEL = 124.007 M



CUTTING AREA (SQ.M) = 0.301
FILLING AREA (SQ.M) = 4.811

CH. (KM):- 1+200
DESIGNED BED LEVEL = 121.217 M

LEGEND

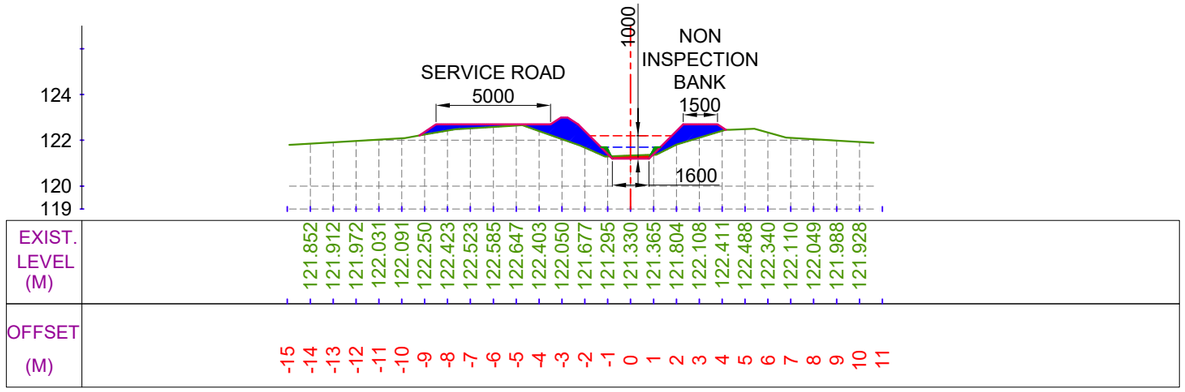
CUT AREA		EXISTING BED LINE	
		F.S.L.	
FILL AREA		DESIGNED BED LINE	
		H.G. LINE	

Prepared by :-

WAPCOS LTD.

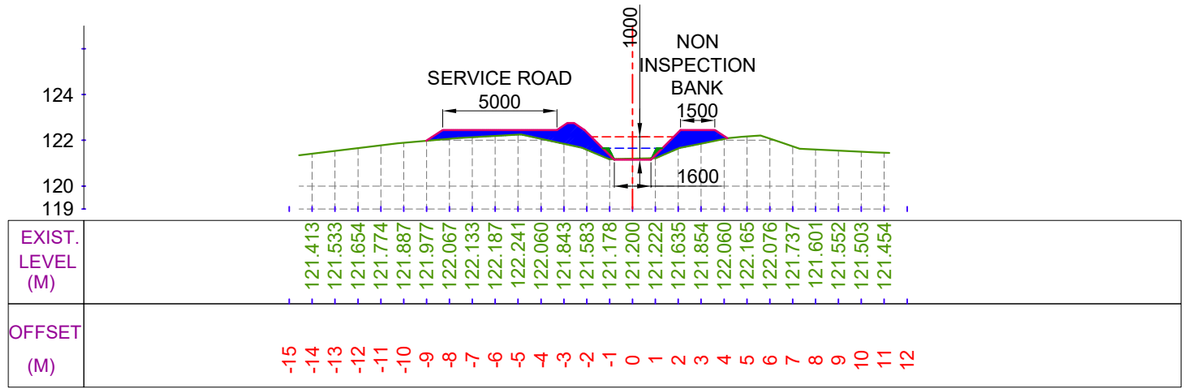
Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
Drawing Title :-	X SEC OF PARANPUR MINOR (OFFTAKE FROM RD - 9+310 KM. (L), CHAIN NAWADA SUB-DISTRIBUTARY CANAL)
Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34-01/ XSEC- 3 of 08

X SECTION OF PARANPUR MINOR



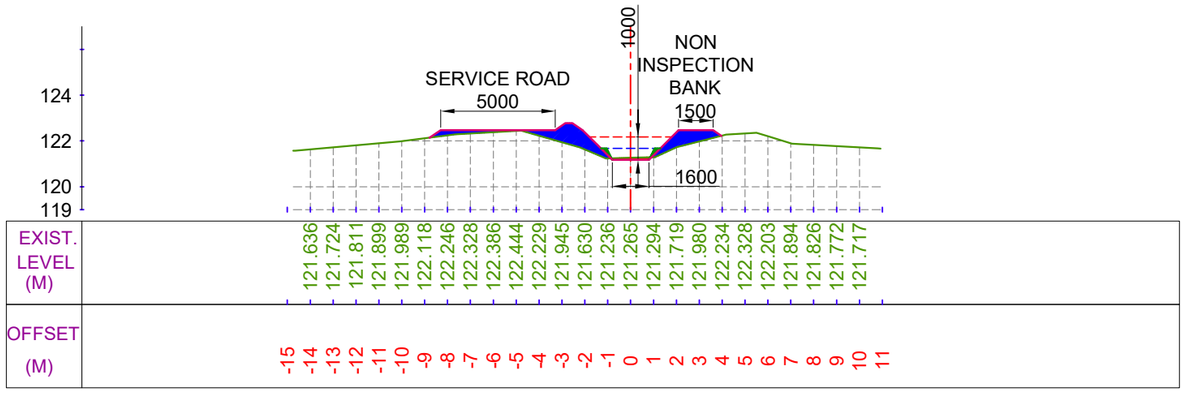
CUTTING AREA (SQ.M) = 0.225
FILLING AREA (SQ.M) = 4.220

CH. (KM):- 1+300
DESIGNED BED LEVEL = 121.195 M



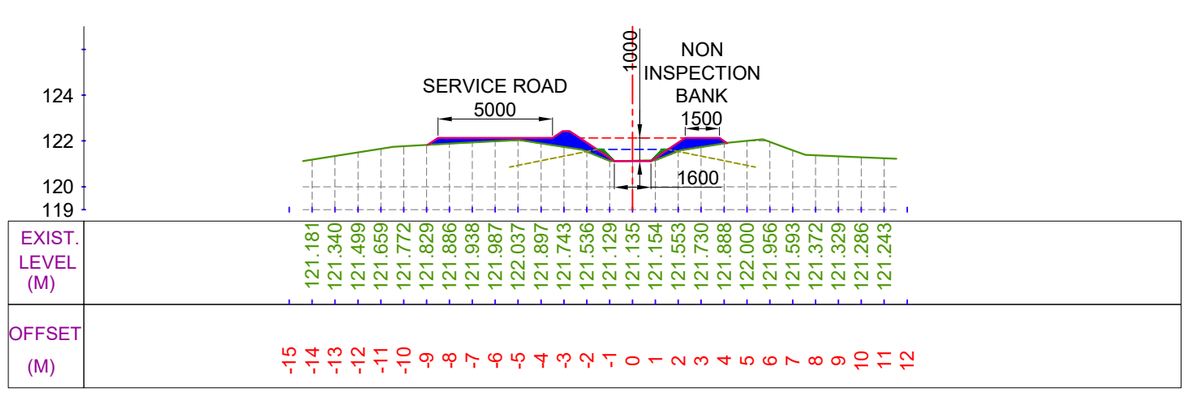
CUTTING AREA (SQ.M) = 0.083
FILLING AREA (SQ.M) = 4.917

CH. (KM):- 1+500
DESIGNED BED LEVEL = 121.149 M



CUTTING AREA (SQ.M) = 0.153
FILLING AREA (SQ.M) = 3.646

CH. (KM):- 1+400
DESIGNED BED LEVEL = 121.172 M



CUTTING AREA (SQ.M) = 0.015
FILLING AREA (SQ.M) = 3.076

CH. (KM):- 1+600
DESIGNED BED LEVEL = 121.126 M

LEGEND

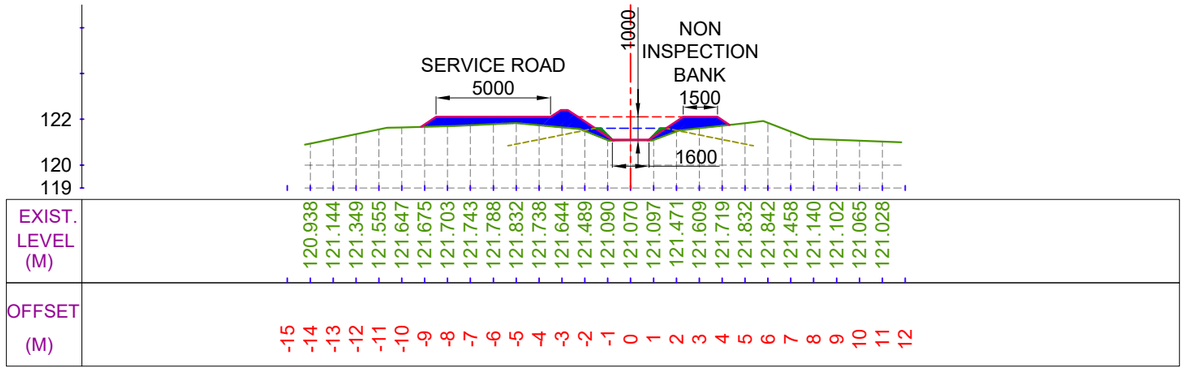
CUT AREA		EXISTING BED LINE	
		F.S.L.	
FILL AREA		DESIGNED BED LINE	
		H.G. LINE	

Prepared by :-

WAPCOS LTD.

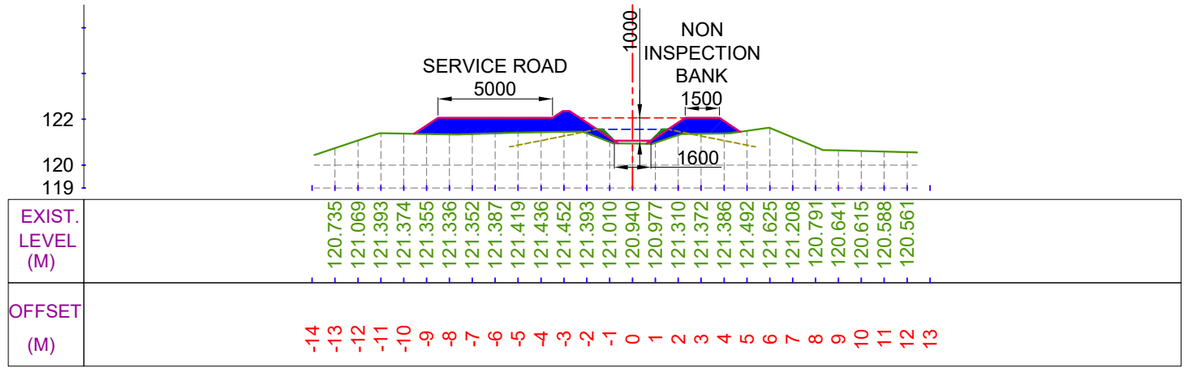
Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
Drawing Title :-	X SEC OF PARANPUR MINOR (OFFTAKE FROM RD - 9+310 KM. (L), CHAIN NAWADA SUB-DISTRIBUTARY CANAL)
Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34-01/ XSEC- 4 of 08

X SECTION OF PARANPUR MINOR



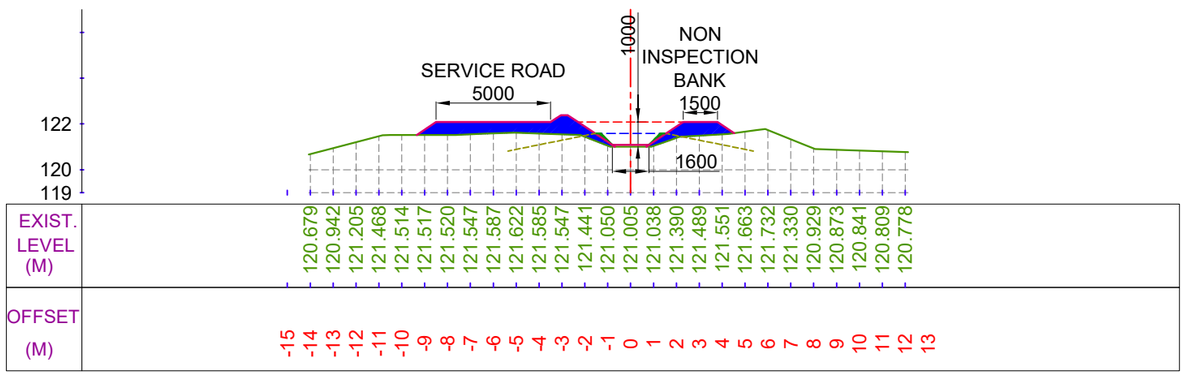
CUTTING AREA (SQ.M) = 0.000
FILLING AREA (SQ.M) = 4.392

CH. (KM):- 1+700
DESIGNED BED LEVEL = 121.104 M



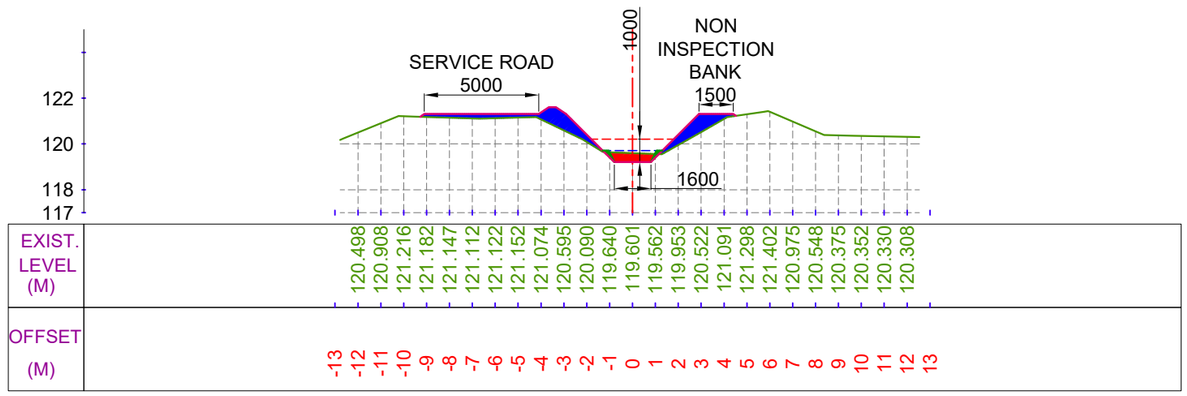
CUTTING AREA (SQ.M) = 0.000
FILLING AREA (SQ.M) = 7.159

CH. (KM):- 1+900
DESIGNED BED LEVEL = 121.058 M



CUTTING AREA (SQ.M) = 0.000
FILLING AREA (SQ.M) = 5.750

CH. (KM):- 1+800
DESIGNED BED LEVEL = 121.081 M



CUTTING AREA (SQ.M) = 0.709
FILLING AREA (SQ.M) = 3.690

CH. (KM):- 2+000
DESIGNED BED LEVEL = 119.207 M

LEGEND

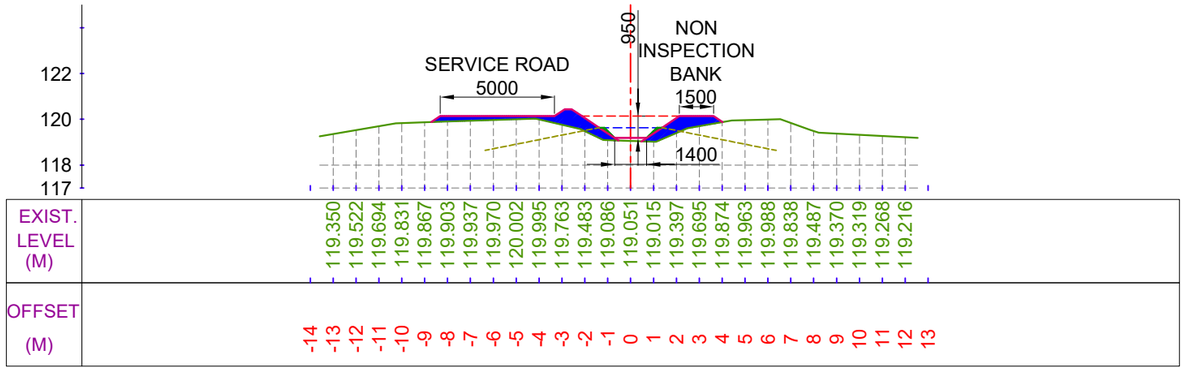
CUT AREA	EXISTING BED LINE	
	F.S.L.	
FILL AREA	DESIGNED BED LINE	
	H.G. LINE	

Prepared by :-

WAPCOS LTD.

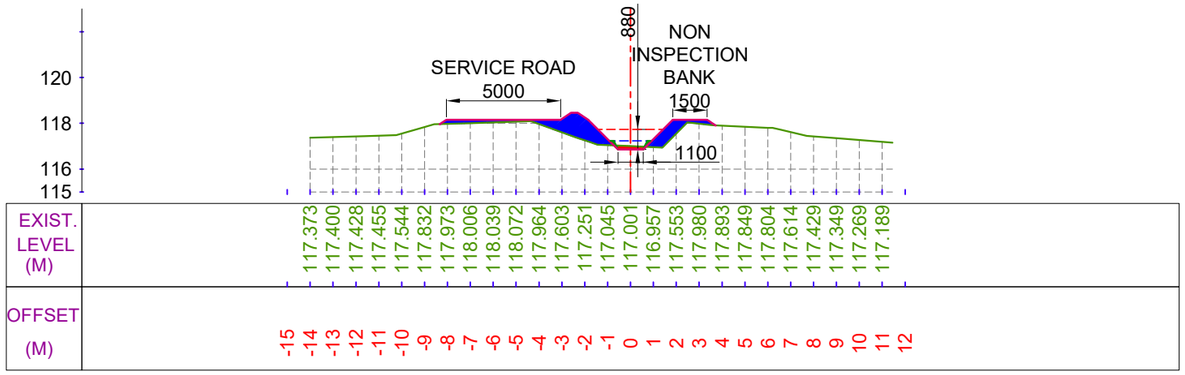
Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
Drawing Title :-	X SEC OF PARANPUR MINOR (OFFTAKE FROM RD - 9+310 KM. (L), CHAIN NAWADA SUB-DISTRIBUTARY CANAL)
Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34-01/ XSEC- 5 of 08

X SECTION OF PARANPUR MINOR



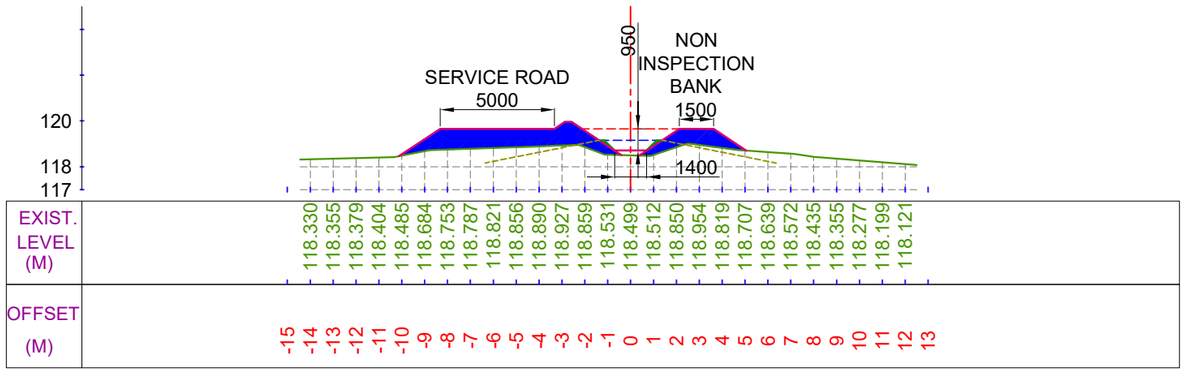
CUTTING AREA (SQ.M) = 0.000
FILLING AREA (SQ.M) = 3.784

CH. (KM):- 2+100
DESIGNED BED LEVEL = 119.185 M



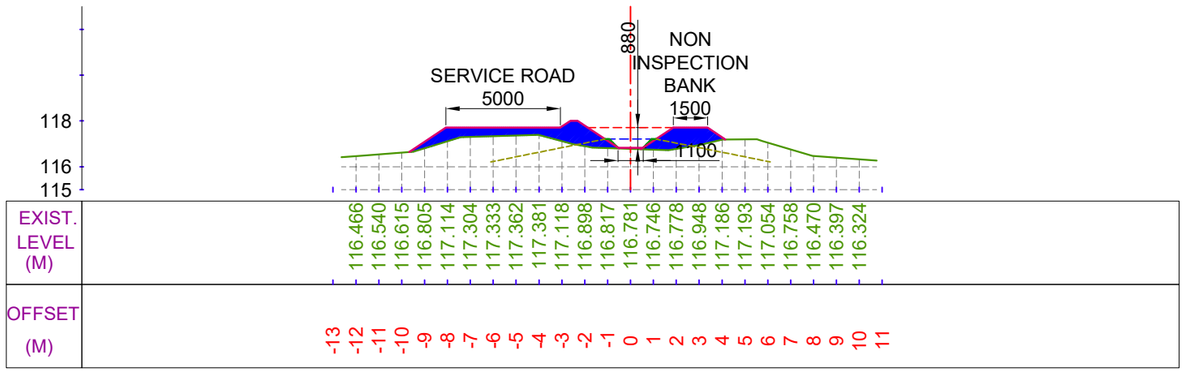
CUTTING AREA (SQ.M) = 0.174
FILLING AREA (SQ.M) = 3.630

CH. (KM):- 2+300
DESIGNED BED LEVEL = 116.853 M



CUTTING AREA (SQ.M) = 0.000
FILLING AREA (SQ.M) = 9.223

CH. (KM):- 2+200
DESIGNED BED LEVEL = 118.708 M



CUTTING AREA (SQ.M) = 0.000
FILLING AREA (SQ.M) = 6.394

CH. (KM):- 2+400
DESIGNED BED LEVEL = 116.829 M

LEGEND

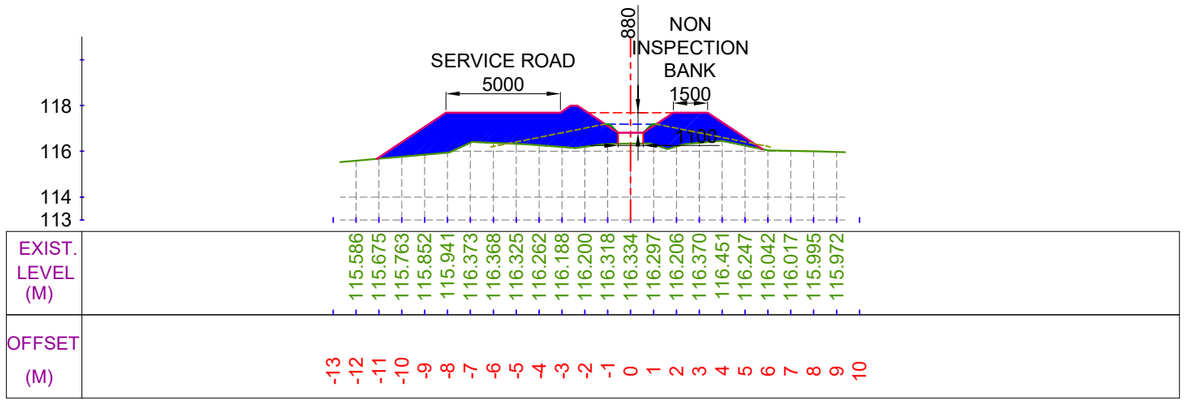
CUT AREA		EXISTING BED LINE	
		F.S.L.	
FILL AREA		DESIGNED BED LINE	
		H.G. LINE	

Prepared by :-

WAPCOS LTD.

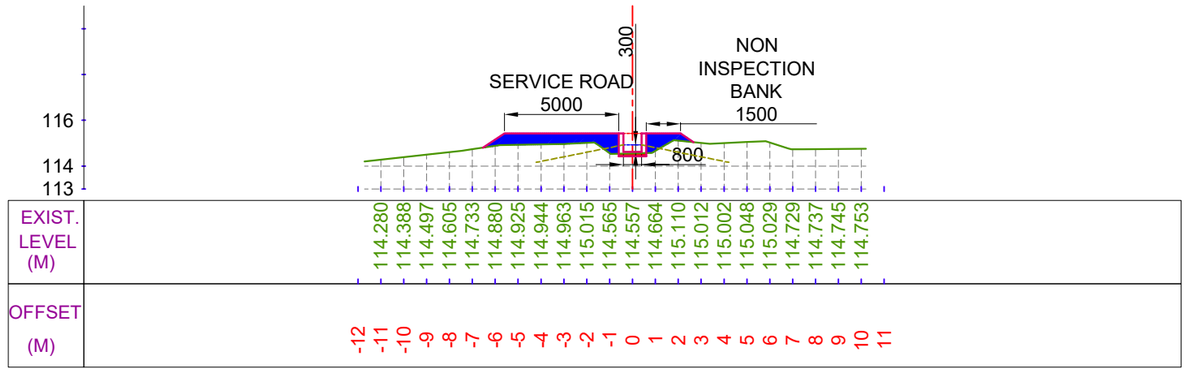
Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
Drawing Title :-	X SEC OF PARANPUR MINOR (OFFTAKE FROM RD - 9+310 KM. (L), CHAIN NAWADA SUB-DISTRIBUTARY CANAL)
Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34-01/ XSEC- 6 of 08

X SECTION OF PARANPUR MINOR



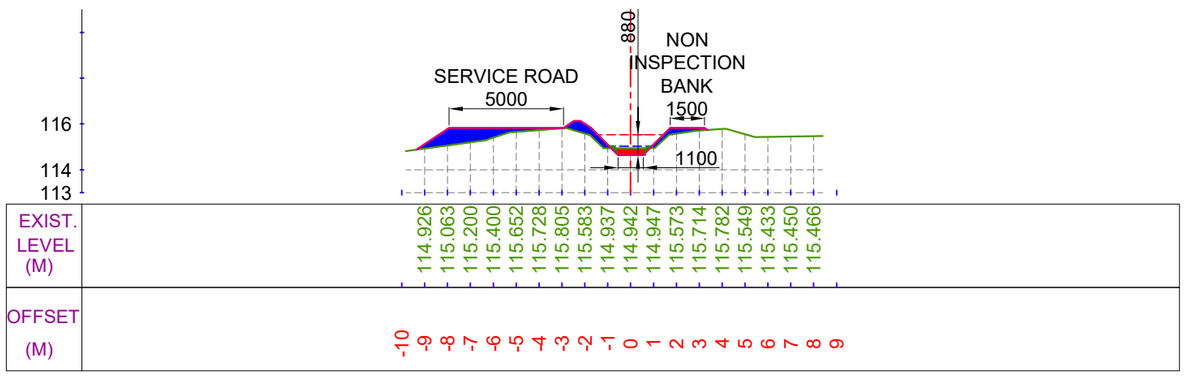
CUTTING AREA (SQ.M) = 0.000
FILLING AREA (SQ.M) = 17.752

CH. (KM):- 2+500
DESIGNED BED LEVEL = 116.805 M



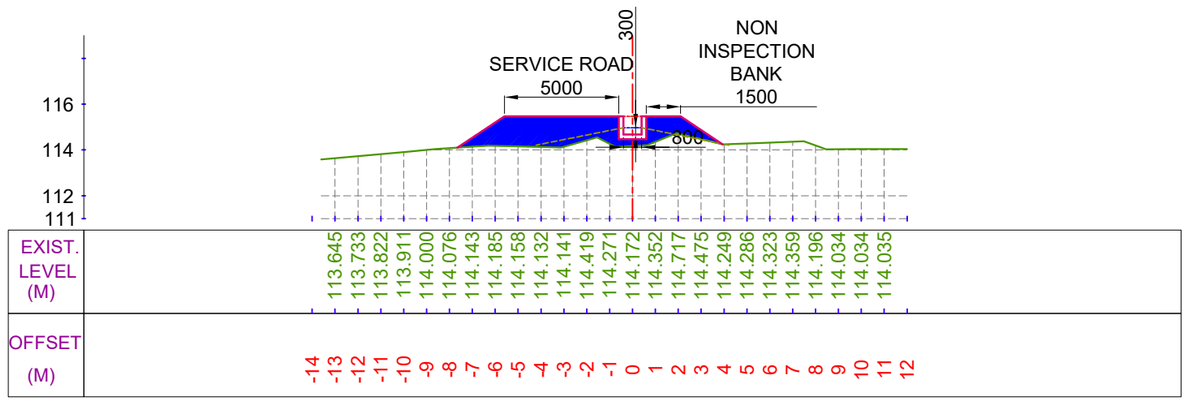
CUTTING AREA (SQ.M) = 0.159
FILLING AREA (SQ.M) = 3.772

CH. (KM):- 2+700
DESIGNED BED LEVEL = 114.624 M



CUTTING AREA (SQ.M) = 0.368
FILLING AREA (SQ.M) = 3.321

CH. (KM):- 2+600
DESIGNED BED LEVEL = 114.647 M



CUTTING AREA (SQ.M) = 0.000
FILLING AREA (SQ.M) = 10.055

CH. (KM):- 2+800
DESIGNED BED LEVEL = 113.073 M

LEGEND

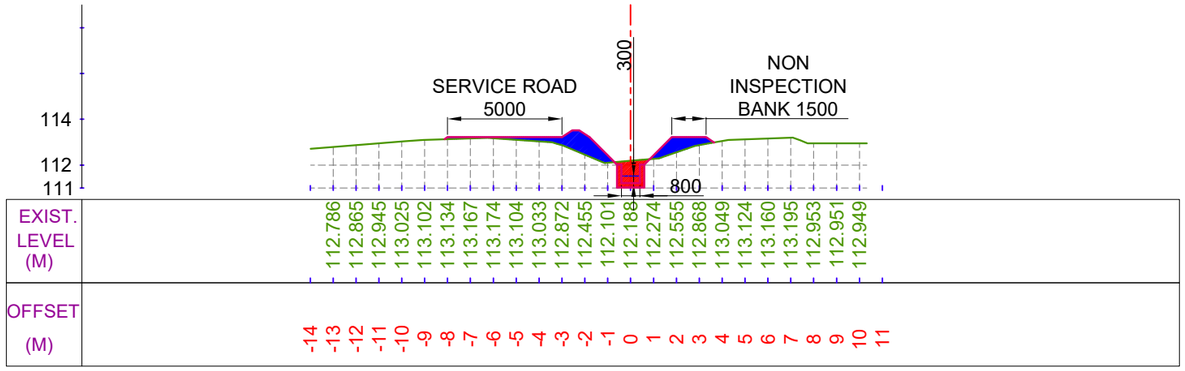
CUT AREA		EXISTING BED LINE	
		F.S.L.	
FILL AREA		DESIGNED BED LINE	
		H.G. LINE	

Prepared by :-

WAPCOS LTD.

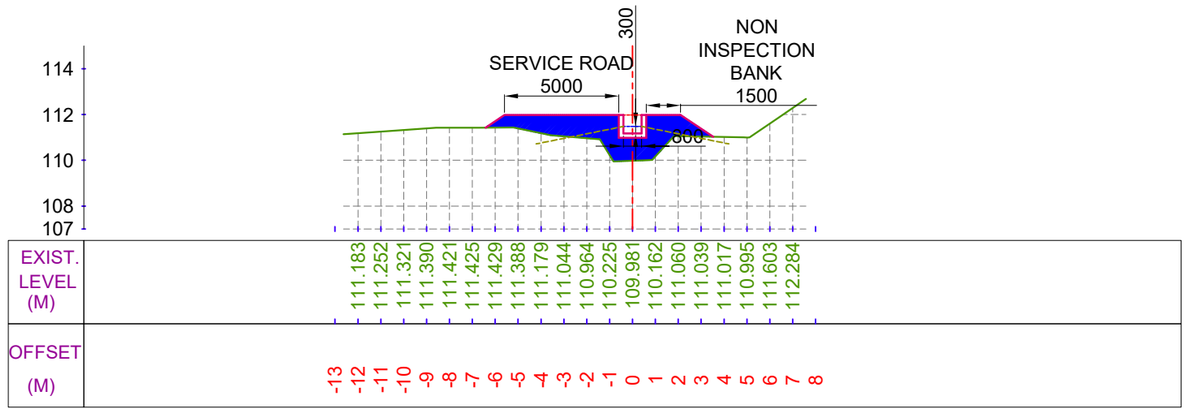
Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
Drawing Title :-	X SEC OF PARANPUR MINOR (OFFTAKE FROM RD - 9+310 KM. (L), CHAIN NAWADA SUB-DISTRIBUTARY CANAL)
Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34-01/ XSEC- 7 of 08

X SECTION OF PARANPUR MINOR



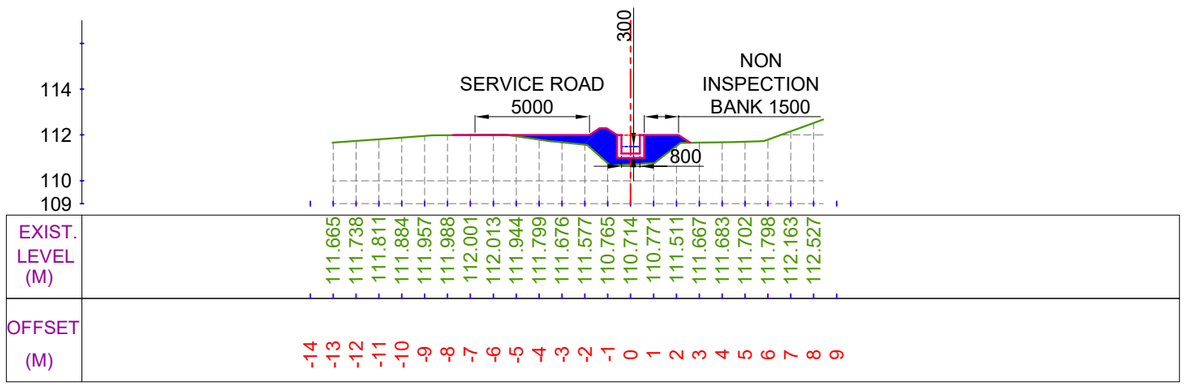
CUTTING AREA (SQ.M) = 1.438
FILLING AREA (SQ.M) = 3.201

CH. (KM):- 2+900
DESIGNED BED LEVEL = 111.217 M



CUTTING AREA (SQ.M) = 0.000
FILLING AREA (SQ.M) = 9.081

CH. (KM):- 3+050
DESIGNED BED LEVEL = 111.177 M



CUTTING AREA (SQ.M) = 0.034
FILLING AREA (SQ.M) = 4.098

CH. (KM):- 3+000
DESIGNED BED LEVEL = 111.191 M

LEGEND

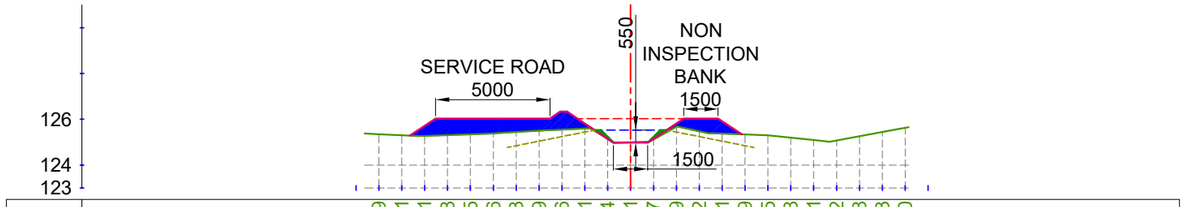
	CUT AREA		EXISTING BED LINE
			F.S.L.
	FILL AREA		DESIGNED BED LINE
			H.G. LINE

Prepared by :-

WAPCOS LTD.

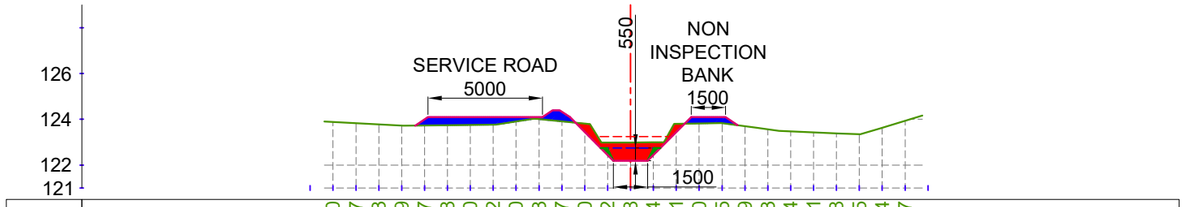
Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
Drawing Title :-	X SEC OF PARANPUR MINOR (OFFTAKE FROM RD - 9+310 KM. (L), CHAIN NAWADA SUB-DISTRIBUTARY CANAL)
Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34-01/ XSEC- 8 of 08

X SECTION OF SALAIYA MINOR



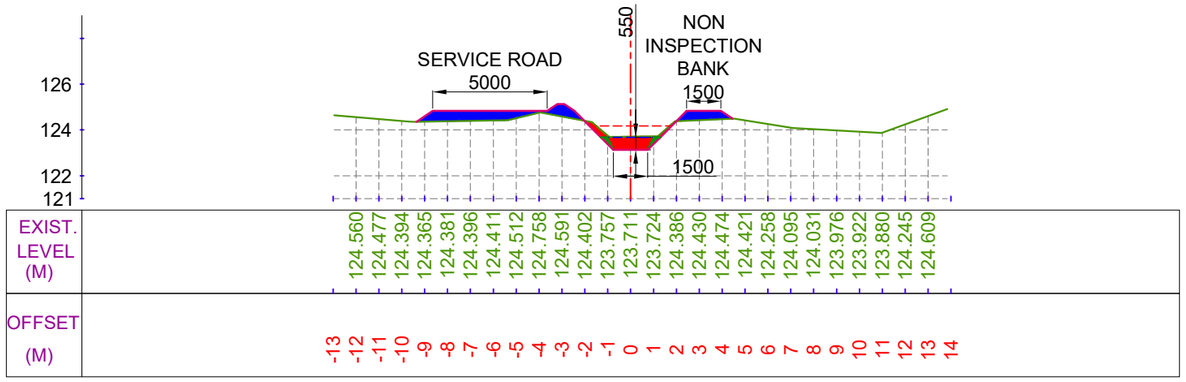
CUTTING AREA (SQ.M) = 0.021
FILLING AREA (SQ.M) = 5.915

CH. (KM):- 0+100
DESIGNED BED LEVEL = 124.979 M



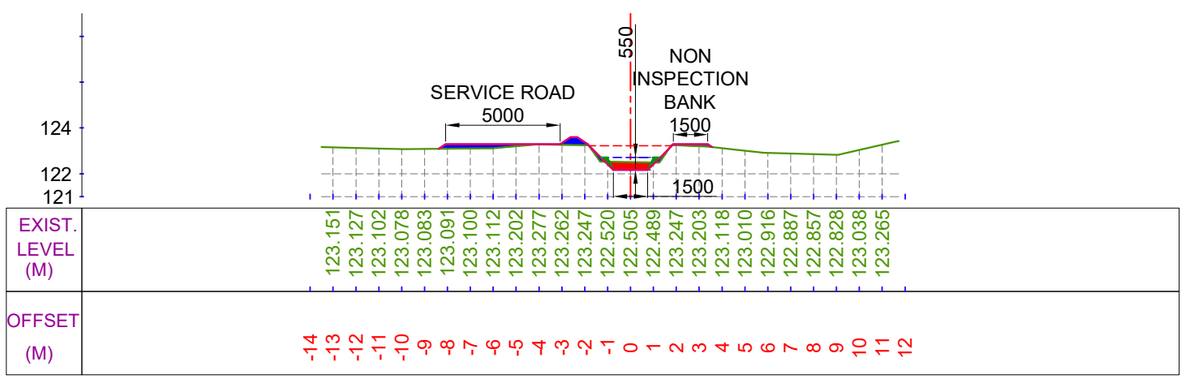
CUTTING AREA (SQ.M) = 2.251
FILLING AREA (SQ.M) = 2.449

CH. (KM):- 0+300
DESIGNED BED LEVEL = 122.192 M



CUTTING AREA (SQ.M) = 1.349
FILLING AREA (SQ.M) = 3.299

CH. (KM):- 0+200
DESIGNED BED LEVEL = 123.131 M



CUTTING AREA (SQ.M) = 0.568
FILLING AREA (SQ.M) = 1.161

CH. (KM):- 0+400
DESIGNED BED LEVEL = 122.167 M

LEGEND

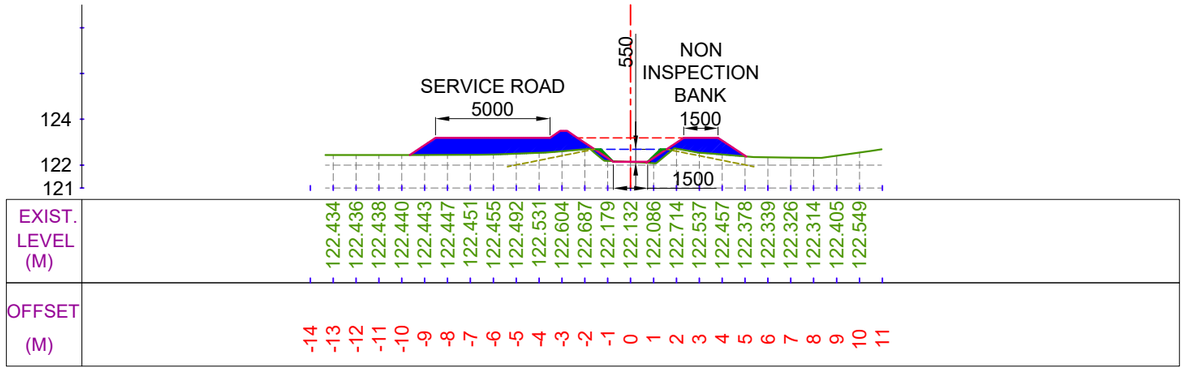
CUT AREA	EXISTING BED LINE	
	F.S.L.	
FILL AREA	DESIGNED BED LINE	
	H.G. LINE	

Prepared by :-

WAPCOS LTD.

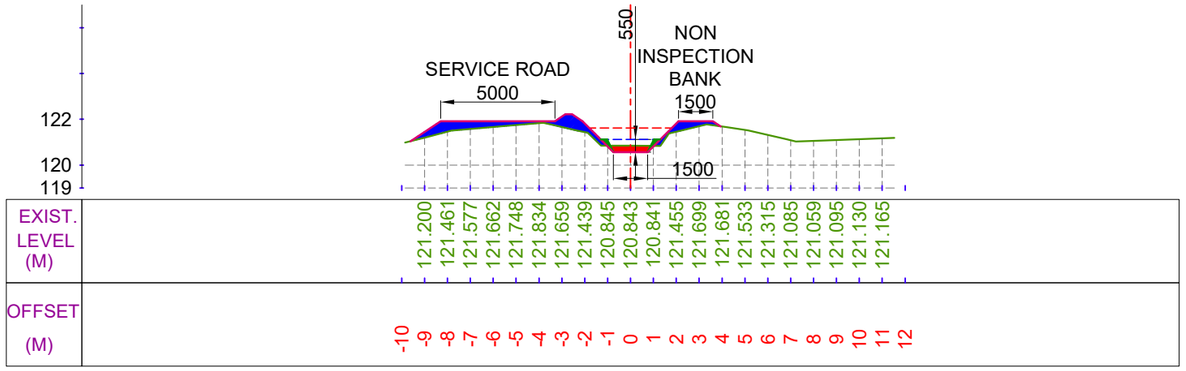
Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
Drawing Title :-	X SEC OF SALAIYA MINOR (OFFTAKE FROM RD - 11+060 KM. (L), CHAIN NAWADA SUB-DISTRIBUTARY CANAL)
Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34-02/ XSEC- 1 of 06

X SECTION OF SALAIYA MINOR



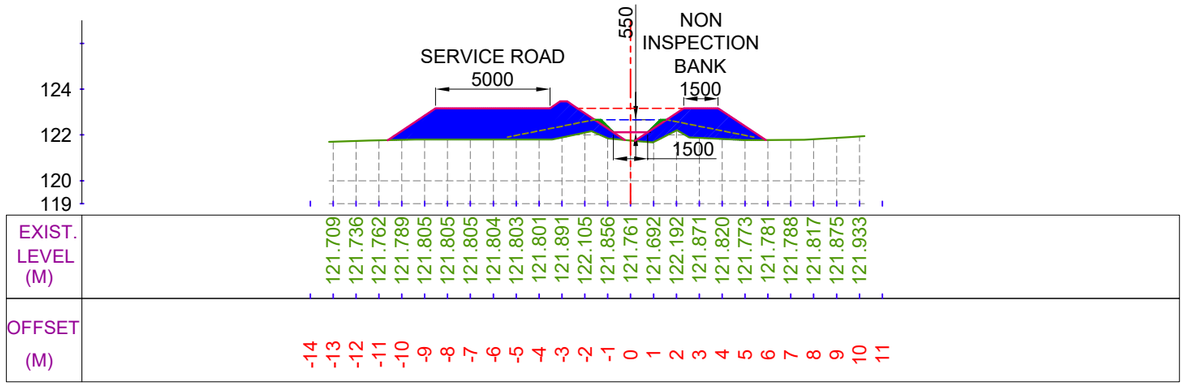
CUTTING AREA (SQ.M) = 0.007
FILLING AREA (SQ.M) = 7.074

CH. (KM):- 0+500
DESIGNED BED LEVEL = 122.142 M



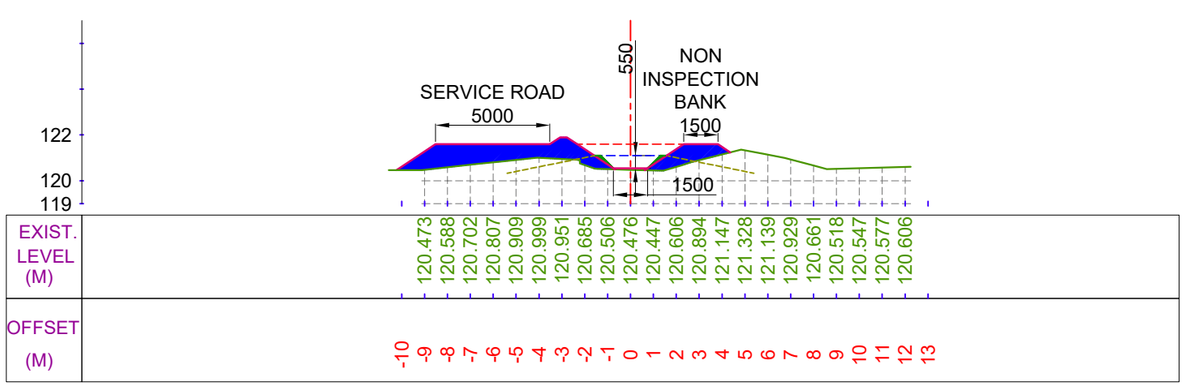
CUTTING AREA (SQ.M) = 0.450
FILLING AREA (SQ.M) = 3.160

CH. (KM):- 0+700
DESIGNED BED LEVEL = 120.568 M



CUTTING AREA (SQ.M) = 0.000
FILLING AREA (SQ.M) = 15.602

CH. (KM):- 0+600
DESIGNED BED LEVEL = 122.117 M



CUTTING AREA (SQ.M) = 0.000
FILLING AREA (SQ.M) = 8.708

CH. (KM):- 0+800
DESIGNED BED LEVEL = 120.543 M

LEGEND

CUT AREA

FILL AREA

EXISTING BED LINE

F.S.L.

DESIGNED BED LINE

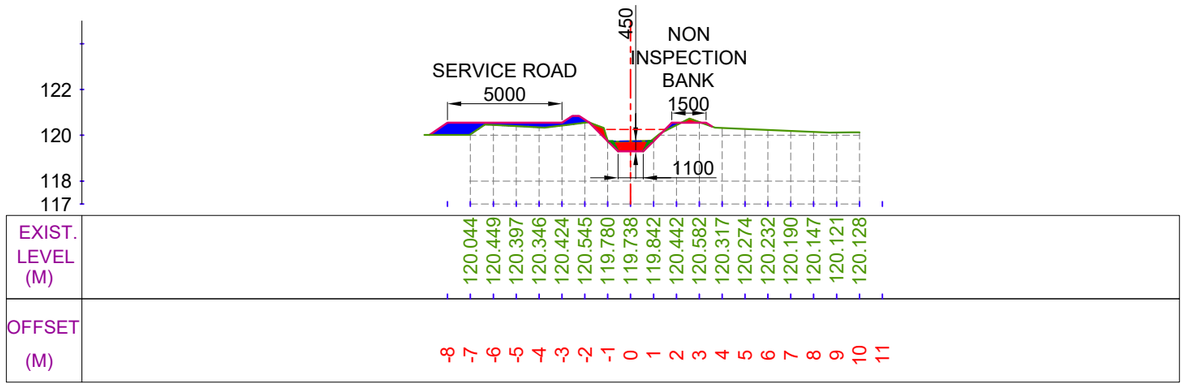
H.G. LINE

Prepared by :-

WAPCOS LTD.

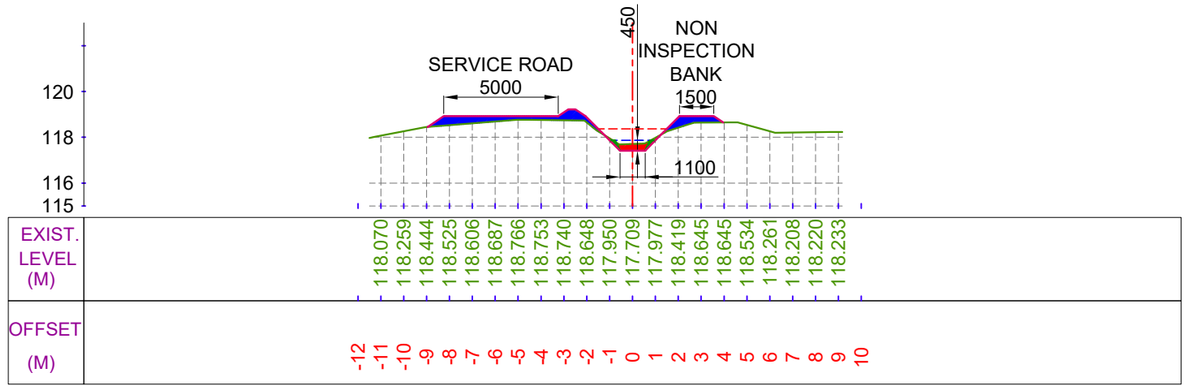
Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
Drawing Title :-	X SEC OF SALAIYA MINOR (OFFTAKE FROM RD - 11+060 KM. (L), CHAIN NAWADA SUB-DISTRIBUTARY CANAL)
Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34-02/ XSEC- 2 of 06

X SECTION OF SALAIYA MINOR



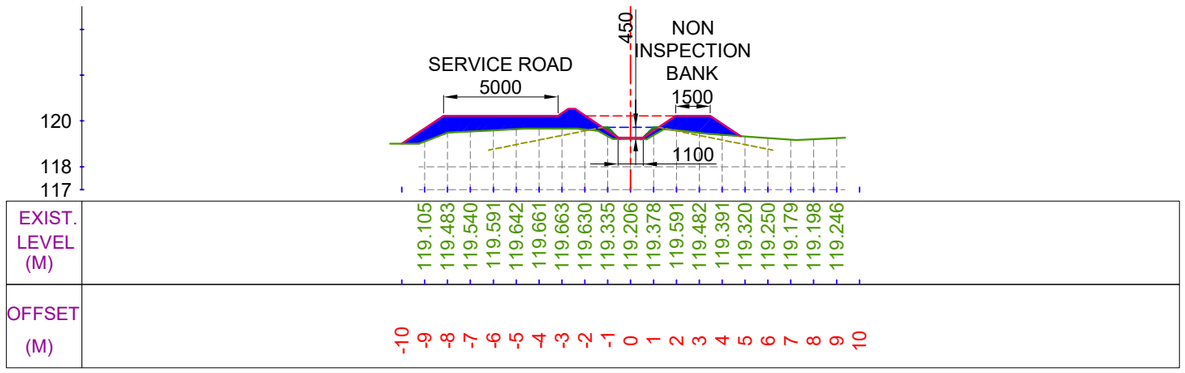
CUTTING AREA (SQ.M) = 0.850
FILLING AREA (SQ.M) = 1.826

CH. (KM):- 0+900
DESIGNED BED LEVEL = 119.298 M



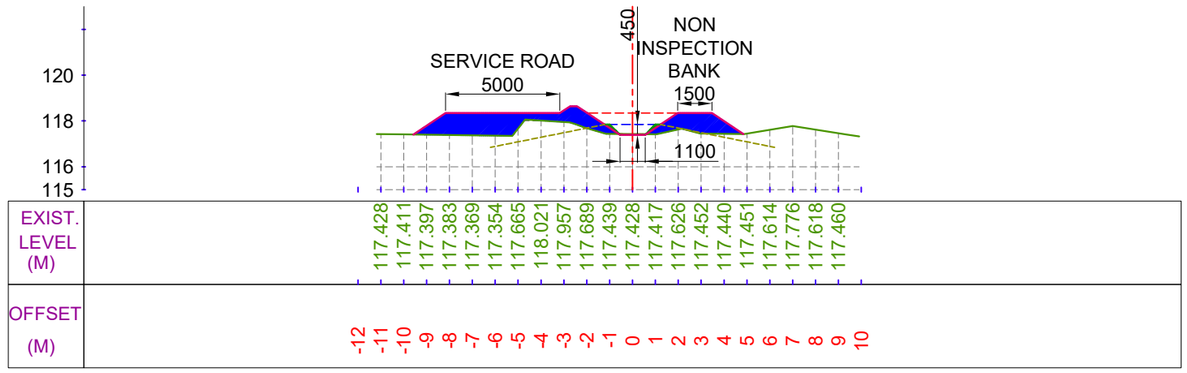
CUTTING AREA (SQ.M) = 0.415
FILLING AREA (SQ.M) = 2.619

CH. (KM):- 1+100
DESIGNED BED LEVEL = 117.418 M



CUTTING AREA (SQ.M) = 0.000
FILLING AREA (SQ.M) = 7.361

CH. (KM):- 1+000
DESIGNED BED LEVEL = 119.273 M



CUTTING AREA (SQ.M) = 0.040
FILLING AREA (SQ.M) = 8.081

CH. (KM):- 1+200
DESIGNED BED LEVEL = 117.393 M

LEGEND

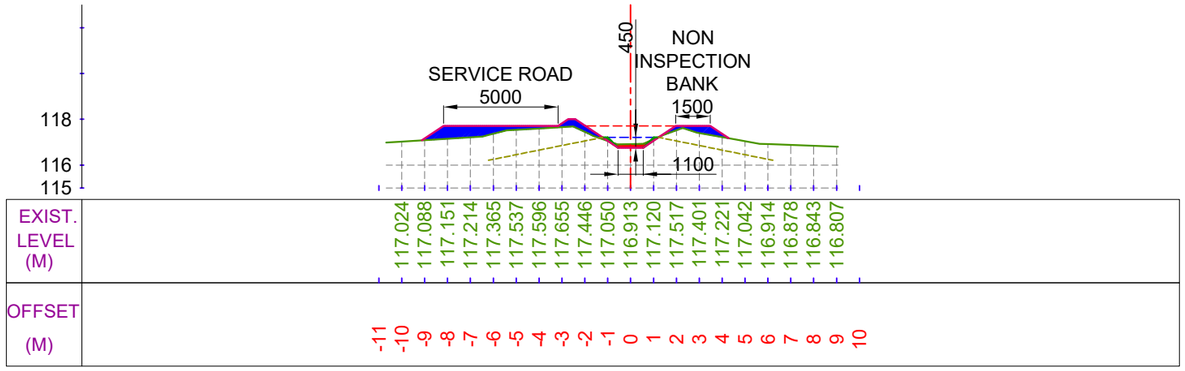
CUT AREA	EXISTING BED LINE	
	F.S.L.	
FILL AREA	DESIGNED BED LINE	
	H.G. LINE	

Prepared by :-

WAPCOS LTD.

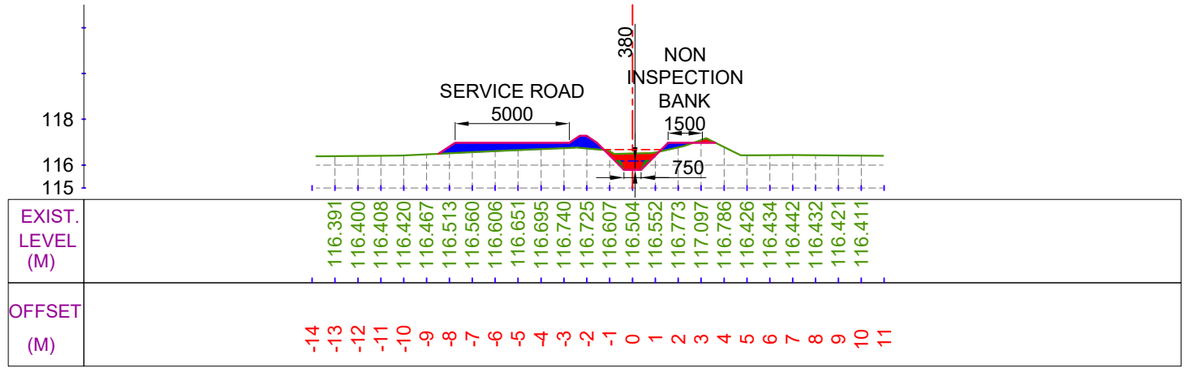
Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
Drawing Title :-	X SEC OF SALAIYA MINOR (OFFTAKE FROM RD - 11+060 KM. (L), CHAIN NAWADA SUB-DISTRIBUTARY CANAL)
Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34-02/ XSEC- 3 of 06

X SECTION OF SALAIYA MINOR



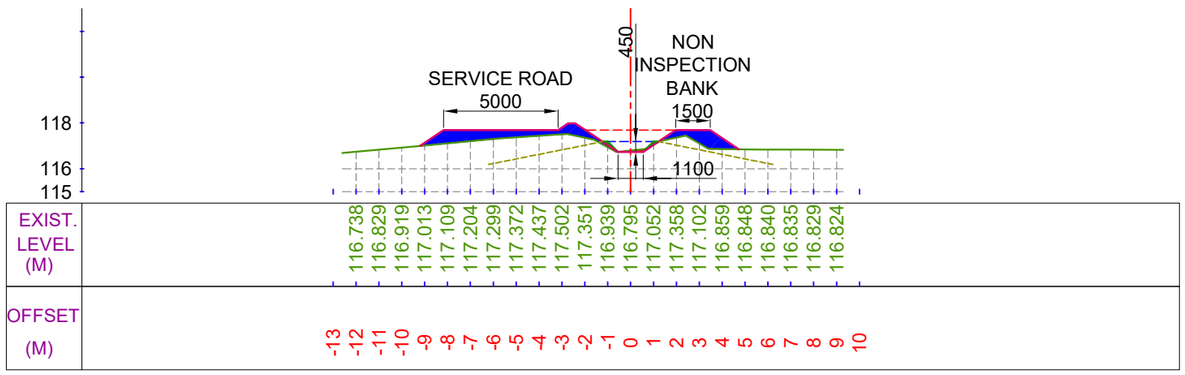
CUTTING AREA (SQ.M) = 0.209
FILLING AREA (SQ.M) = 2.847

CH. (KM):- 1+300
DESIGNED BED LEVEL = 116.758 M



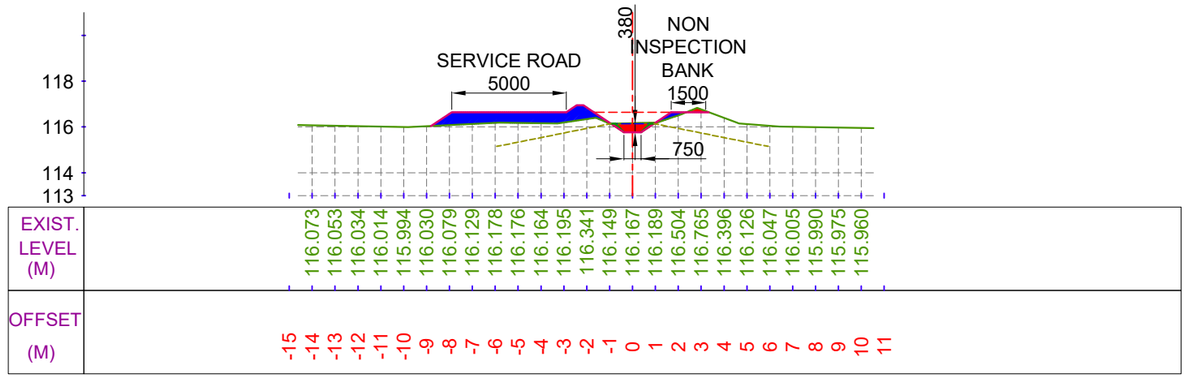
CUTTING AREA (SQ.M) = 1.105
FILLING AREA (SQ.M) = 2.641

CH. (KM):- 1+500
DESIGNED BED LEVEL = 115.794 M



CUTTING AREA (SQ.M) = 0.077
FILLING AREA (SQ.M) = 4.207

CH. (KM):- 1+400
DESIGNED BED LEVEL = 116.733 M



CUTTING AREA (SQ.M) = 0.560
FILLING AREA (SQ.M) = 3.605

CH. (KM):- 1+600
DESIGNED BED LEVEL = 115.766 M

LEGEND

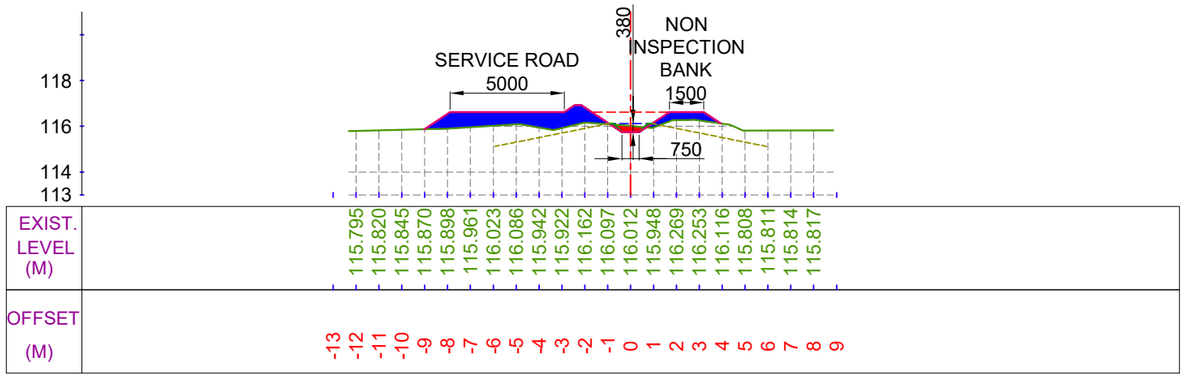
CUT AREA		EXISTING BED LINE	
		F.S.L.	
FILL AREA		DESIGNED BED LINE	
		H.G. LINE	

Prepared by :-

WAPCOS LTD.

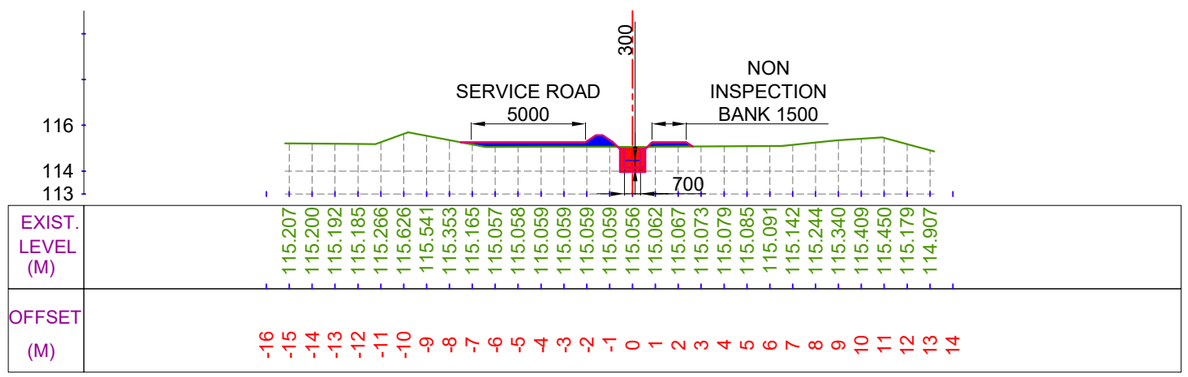
Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
Drawing Title :-	X SEC OF SALAIYA MINOR (OFFTAKE FROM RD - 11+060 KM. (L), CHAIN NAWADA SUB-DISTRIBUTARY CANAL)
Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34-02/ XSEC- 4 of 06

X SECTION OF SALAIYA MINOR



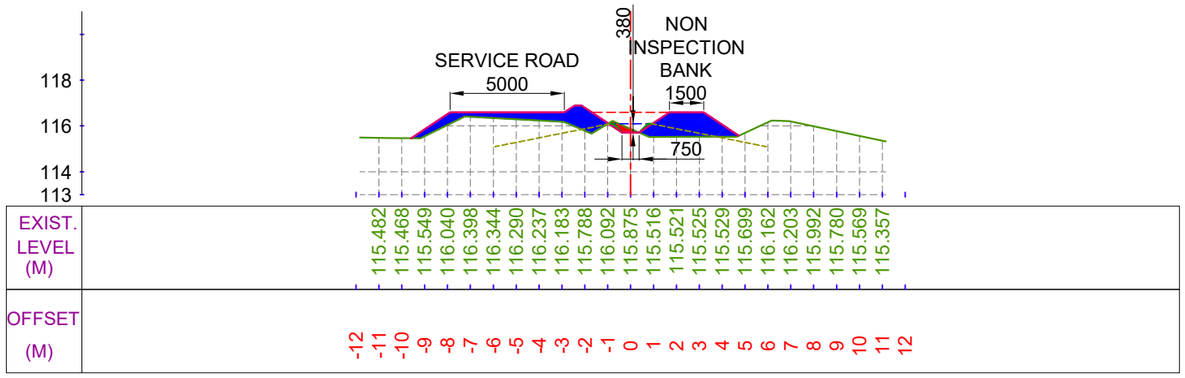
CUTTING AREA (SQ.M) = 0.284
FILLING AREA (SQ.M) = 5.582

CH. (KM):- 1+700
DESIGNED BED LEVEL = 115.738 M



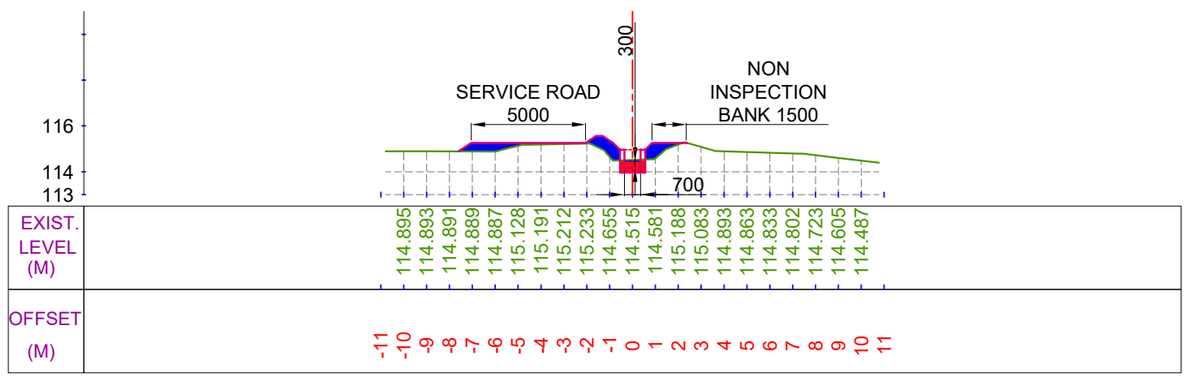
CUTTING AREA (SQ.M) = 1.217
FILLING AREA (SQ.M) = 1.804

CH. (KM):- 1+900
DESIGNED BED LEVEL = 114.158 M



CUTTING AREA (SQ.M) = 0.223
FILLING AREA (SQ.M) = 6.673

CH. (KM):- 1+800
DESIGNED BED LEVEL = 115.711 M



CUTTING AREA (SQ.M) = 0.617
FILLING AREA (SQ.M) = 2.248

CH. (KM):- 2+000
DESIGNED BED LEVEL = 114.127 M

LEGEND

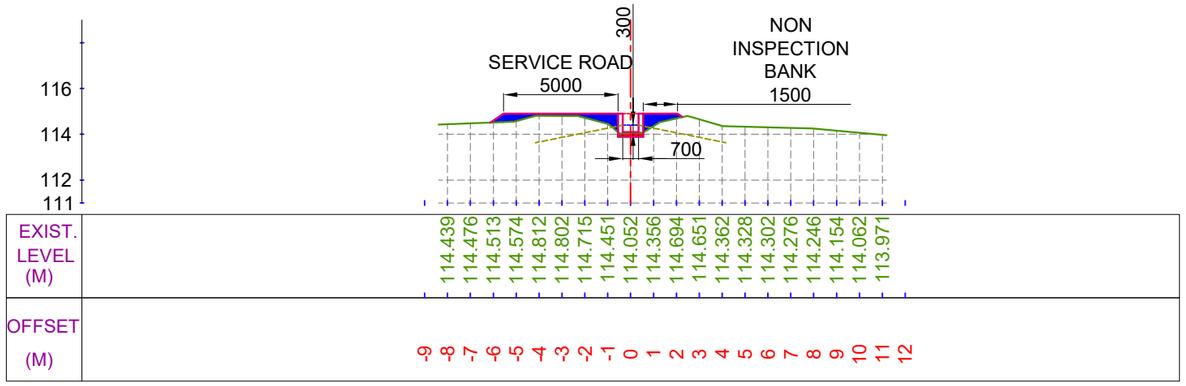
CUT AREA	EXISTING BED LINE	
	F.S.L.	
FILL AREA	DESIGNED BED LINE	
	H.G. LINE	

Prepared by :-

WAPCOS LTD.

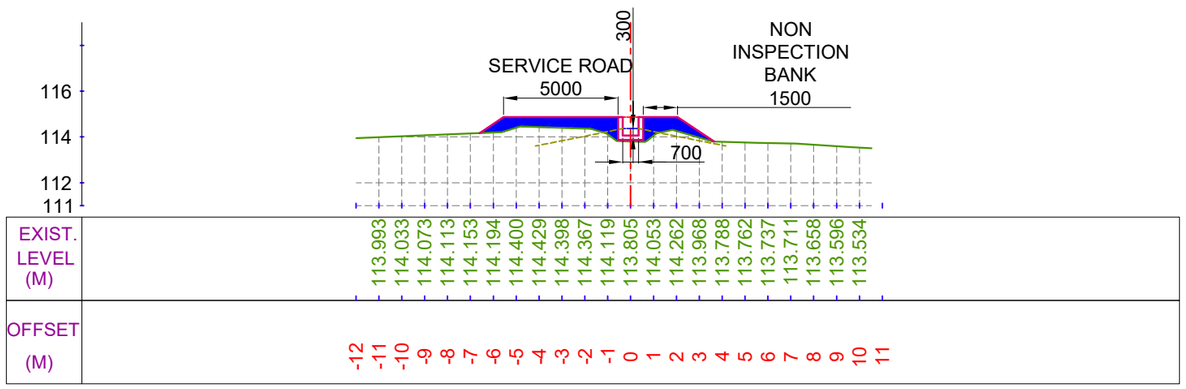
Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
Drawing Title :-	X SEC OF SALAIYA MINOR (OFFTAKE FROM RD - 11+060 KM. (L), CHAIN NAWADA SUB-DISTRIBUTARY CANAL)
Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34-02/ XSEC- 5 of 06

X SECTION OF SALAIYA MINOR



CUTTING AREA (SQ.M) = 0.173
FILLING AREA (SQ.M) = 1.948

CH. (KM):- 2+100
DESIGNED BED LEVEL = 114.096 M



CUTTING AREA (SQ.M) = 0.000
FILLING AREA (SQ.M) = 4.652

CH. (KM):- 2+200
DESIGNED BED LEVEL = 114.065 M

LEGEND

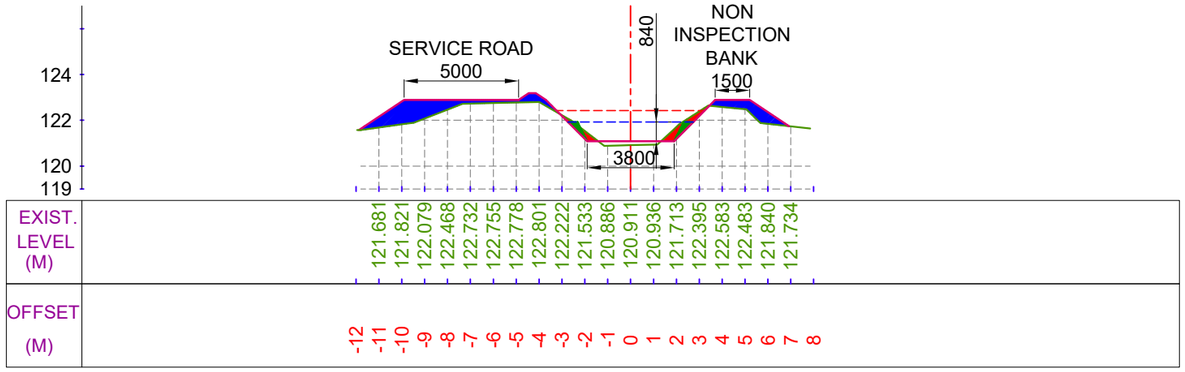
CUT AREA		EXISTING BED LINE	
		F.S.L.	
FILL AREA		DESIGNED BED LINE	
		H.G. LINE	

Prepared by :-

WAPCOS LTD.

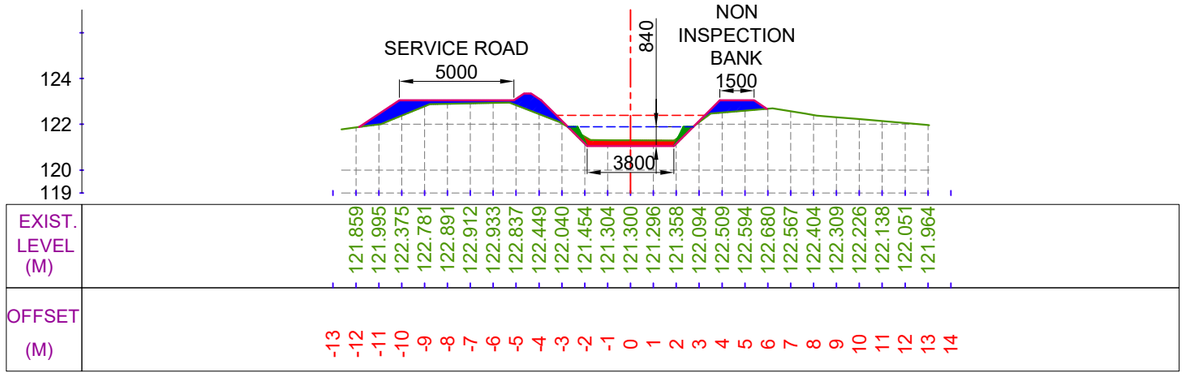
Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
Drawing Title :-	X SEC OF SALAIYA MINOR (OFFTAKE FROM RD - 11+060 KM. (L), CHAIN NAWADA SUB-DISTRIBUTARY CANAL)
Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34-02/ XSEC- 6 of 06

X SECTION OF DHAMANI SUB-DY.



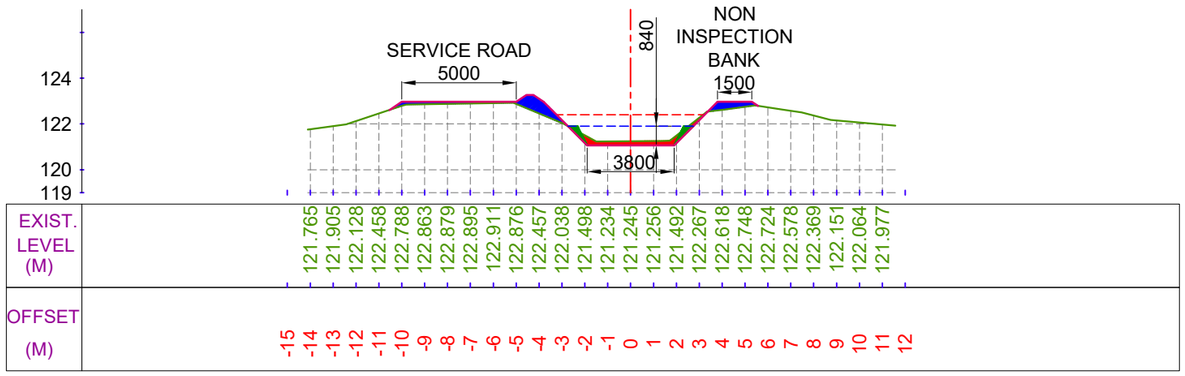
CUTTING AREA (SQ.M) = 0.654
FILLING AREA (SQ.M) = 4.794

CH. (KM):- 0+100
DESIGNED BED LEVEL = 121.088 M



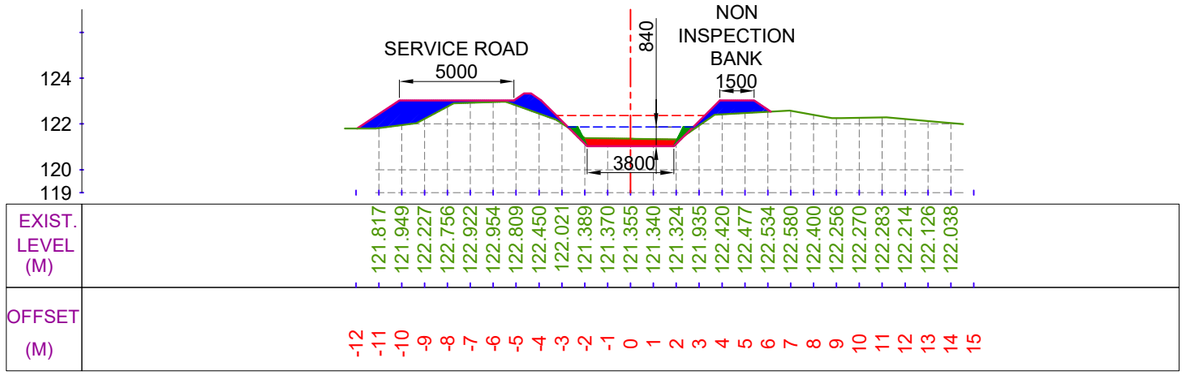
CUTTING AREA (SQ.M) = 1.030
FILLING AREA (SQ.M) = 3.927

CH. (KM):- 0+300
DESIGNED BED LEVEL = 121.048 M



CUTTING AREA (SQ.M) = 0.898
FILLING AREA (SQ.M) = 1.927

CH. (KM):- 0+200
DESIGNED BED LEVEL = 121.068 M



CUTTING AREA (SQ.M) = 1.299
FILLING AREA (SQ.M) = 5.446

CH. (KM):- 0+400
DESIGNED BED LEVEL = 121.028 M

LEGEND

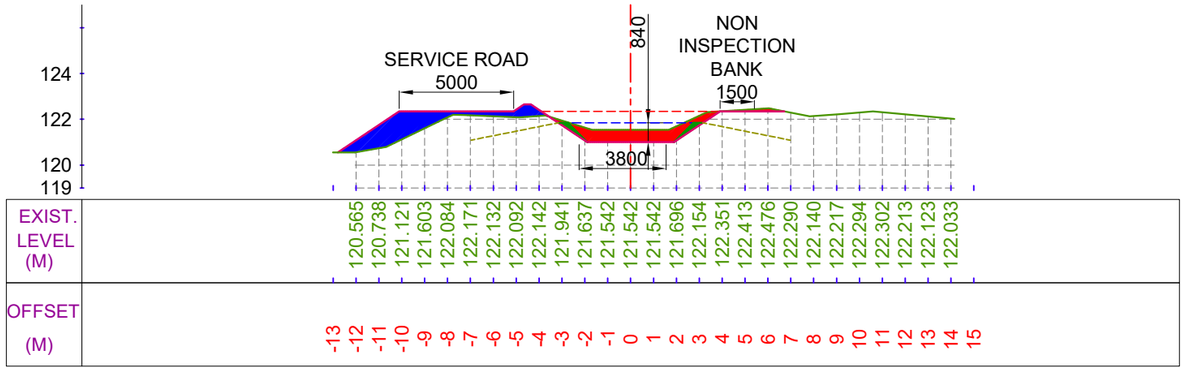
CUT AREA	EXISTING BED LINE	
	F.S.L.	
FILL AREA	DESIGNED BED LINE	
	H.G. LINE	

Prepared by :-

WAPCOS LTD.

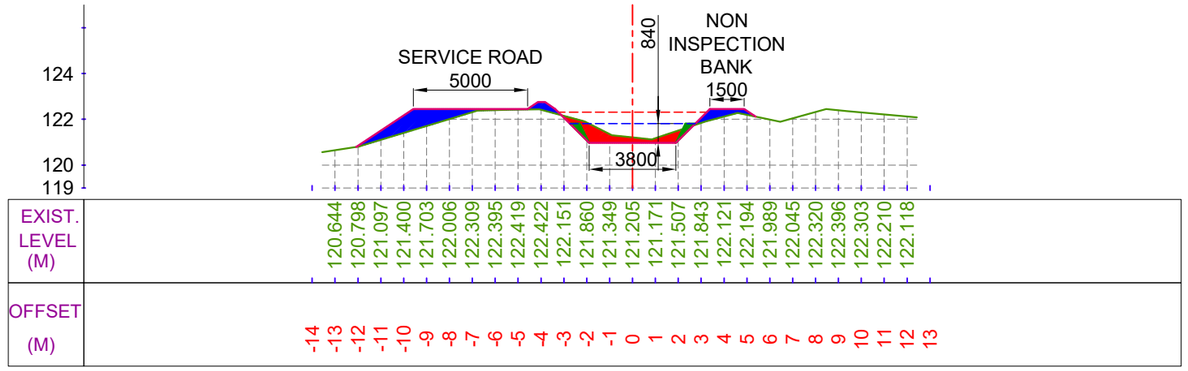
Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
Drawing Title :-	X SEC OF DHAMANI SUB-DY. (OFFTAKE FROM RD - 13+800 KM. (L), CHAIN NAWADA SUB-DISTRIBUTARY CANAL)
Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34-03/ XSEC- 1 of 12

X SECTION OF DHAMANI SUB-DY.



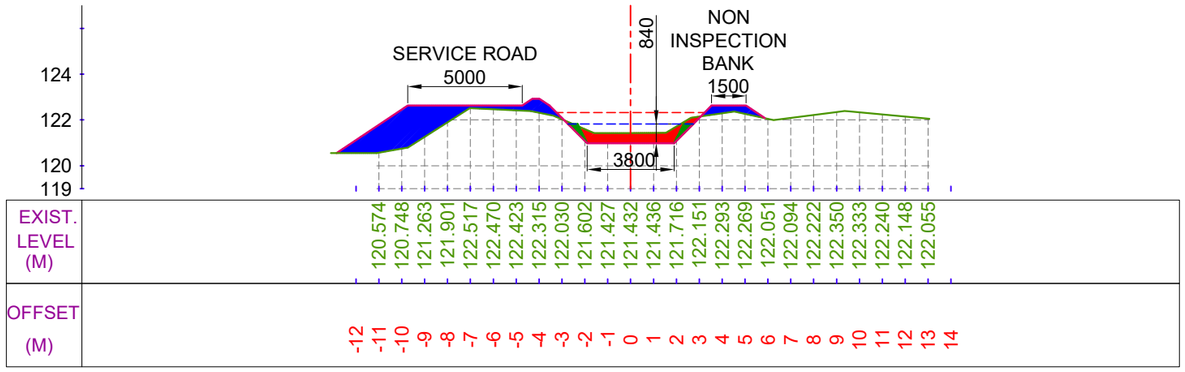
CUTTING AREA (SQ.M) = 3.174
FILLING AREA (SQ.M) = 4.776

CH. (KM):- 0+500
DESIGNED BED LEVEL = 121.008 M



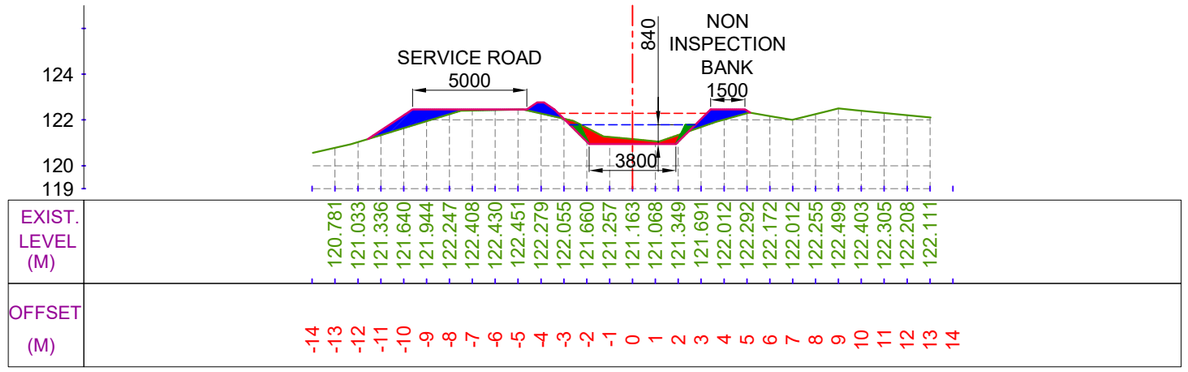
CUTTING AREA (SQ.M) = 1.784
FILLING AREA (SQ.M) = 3.665

CH. (KM):- 0+700
DESIGNED BED LEVEL = 120.968 M



CUTTING AREA (SQ.M) = 2.156
FILLING AREA (SQ.M) = 7.492

CH. (KM):- 0+600
DESIGNED BED LEVEL = 120.988 M



CUTTING AREA (SQ.M) = 1.298
FILLING AREA (SQ.M) = 3.058

CH. (KM):- 0+800
DESIGNED BED LEVEL = 120.948 M

LEGEND

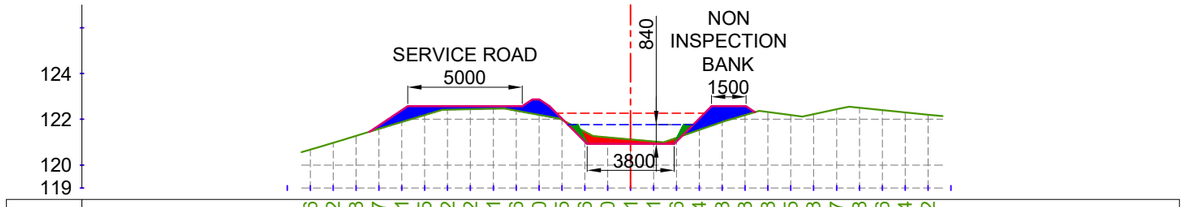
CUT AREA	EXISTING BED LINE	
	F.S.L.	
FILL AREA	DESIGNED BED LINE	
	H.G. LINE	

Prepared by :-

WAPCOS LTD.

Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
Drawing Title :-	X SEC OF DHAMANI SUB-DY. (OFFTAKE FROM RD - 13+800 KM. (L), CHAIN NAWADA SUB-DISTRIBUTARY CANAL)
Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34-03/ XSEC- 2 of 12

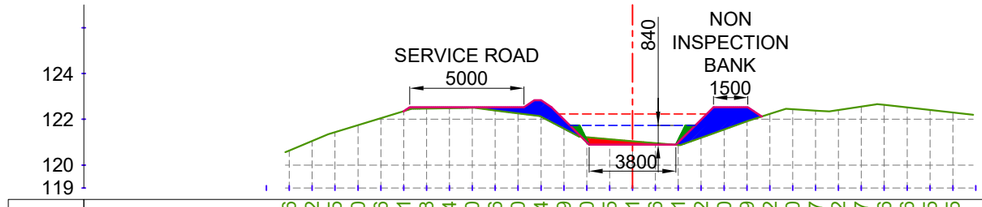
X SECTION OF DHAMANI SUB-DY.



EXIST. LEVEL (M)	120.676	120.972	121.273	121.577	121.881	122.185	122.422	122.442	122.461	122.376	122.190	121.975	121.456	121.210	121.121	121.031	121.186	121.534	121.883	122.183	122.318	122.185	122.223	122.437	122.508	122.406	122.304	122.202
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

CUTTING AREA (SQ.M) = 0.895
FILLING AREA (SQ.M) = 3.852

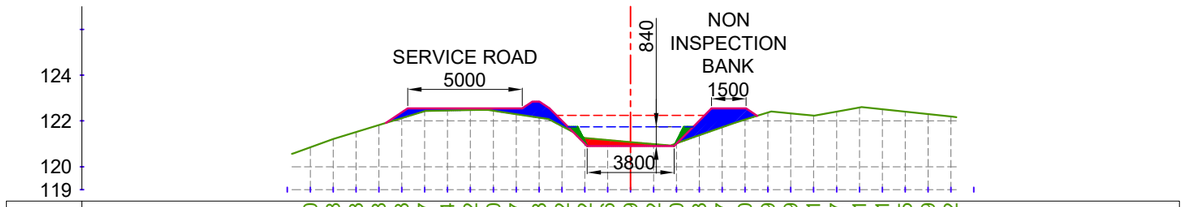
CH. (KM):- 0+900
DESIGNED BED LEVEL = 120.928 M



EXIST. LEVEL (M)	120.636	121.052	121.435	121.740	122.046	122.351	122.468	122.484	122.500	122.386	122.260	122.114	121.589	121.210	121.125	121.041	120.956	120.871	121.192	121.550	121.909	122.232	122.440	122.377	122.402	122.557	122.626	122.516	122.405	122.295
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

CUTTING AREA (SQ.M) = 0.606
FILLING AREA (SQ.M) = 4.187

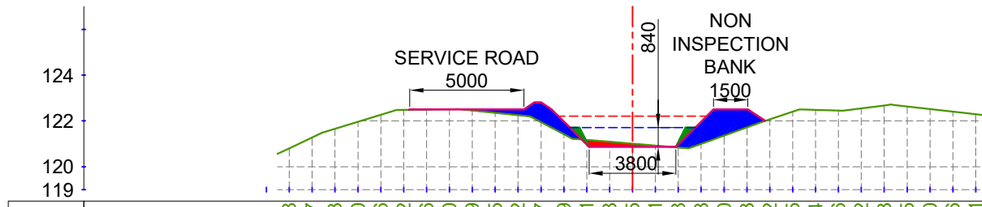
CH. (KM):- 1+100
DESIGNED BED LEVEL = 120.888 M



EXIST. LEVEL (M)	120.850	121.208	121.513	121.818	122.123	122.427	122.454	122.472	122.450	122.297	122.143	121.772	121.252	121.166	121.079	120.992	121.020	121.373	121.727	122.060	122.369	122.329	122.231	122.407	122.591	122.511	122.405	122.299	122.192
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

CUTTING AREA (SQ.M) = 0.687
FILLING AREA (SQ.M) = 3.732

CH. (KM):- 1+000
DESIGNED BED LEVEL = 120.908 M



EXIST. LEVEL (M)	120.808	121.277	121.653	121.960	122.266	122.482	122.496	122.510	122.459	122.355	122.252	121.947	121.419	121.171	121.088	121.005	120.921	120.838	120.998	121.360	121.723	122.072	122.405	122.484	122.456	122.552	122.678	122.635	122.520	122.406	122.291
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) = 0.545
FILLING AREA (SQ.M) = 4.929

CH. (KM):- 1+200
DESIGNED BED LEVEL = 120.868 M

LEGEND

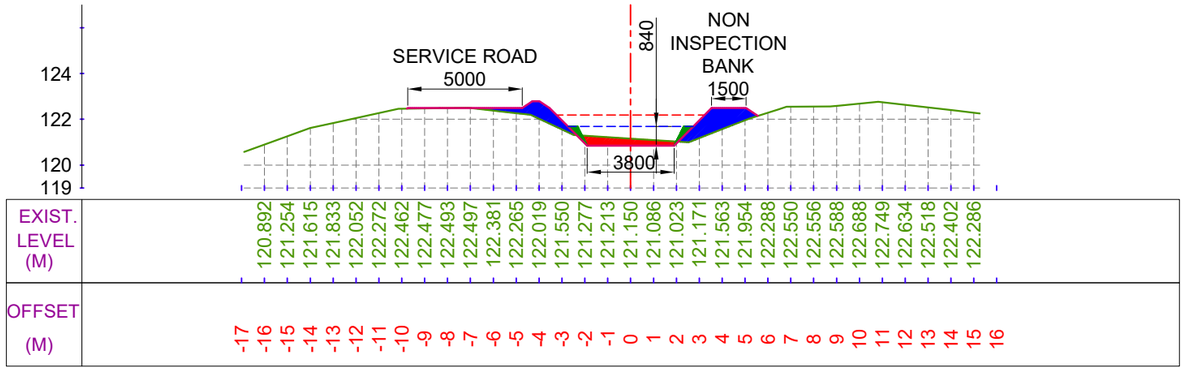
CUT AREA		EXISTING BED LINE	
		F.S.L.	
FILL AREA		DESIGNED BED LINE	
		H.G. LINE	

Prepared by :-

WAPCOS LTD.

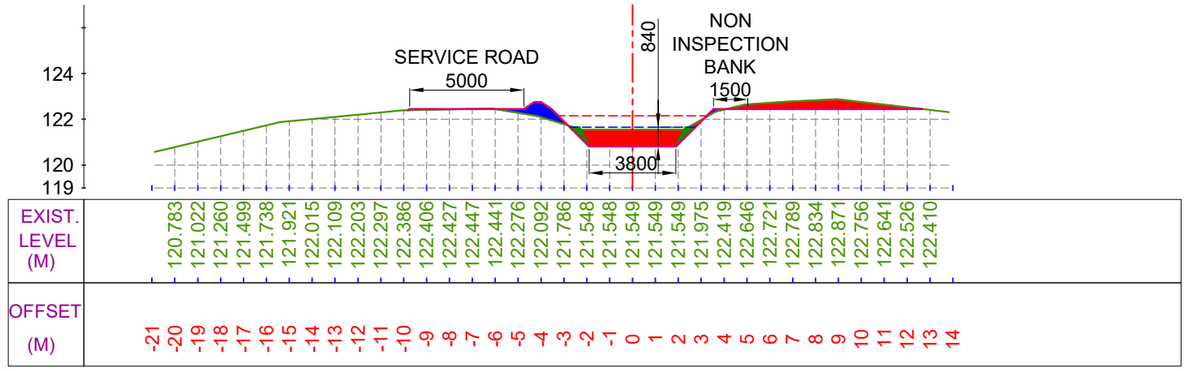
Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
Drawing Title :-	X SEC OF DHAMANI SUB-DY. (OFFTAKE FROM RD - 13+800 KM. (L), CHAIN NAWADA SUB-DISTRIBUTARY CANAL)
Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34-03/ XSEC- 3 of 12

X SECTION OF DHAMANI SUB-DY.



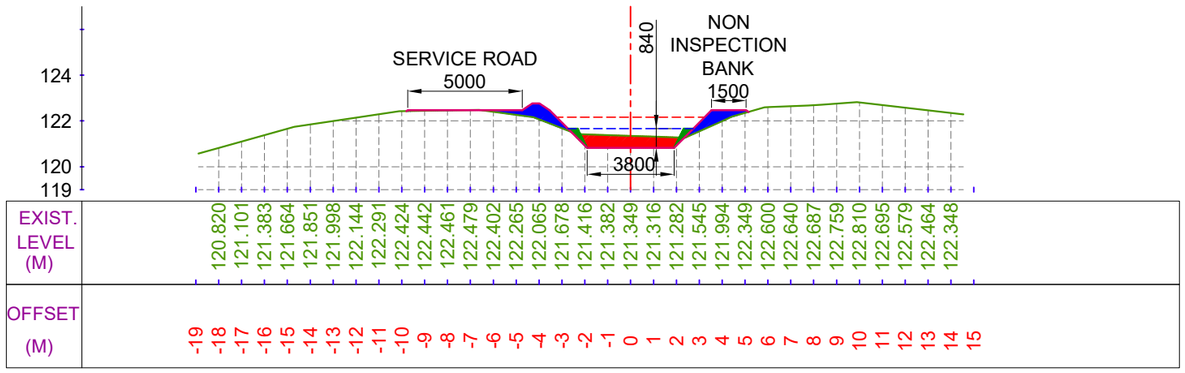
CUTTING AREA (SQ.M) = 1.215
FILLING AREA (SQ.M) = 3.727

CH. (KM):- 1+300
DESIGNED BED LEVEL = 120.848 M



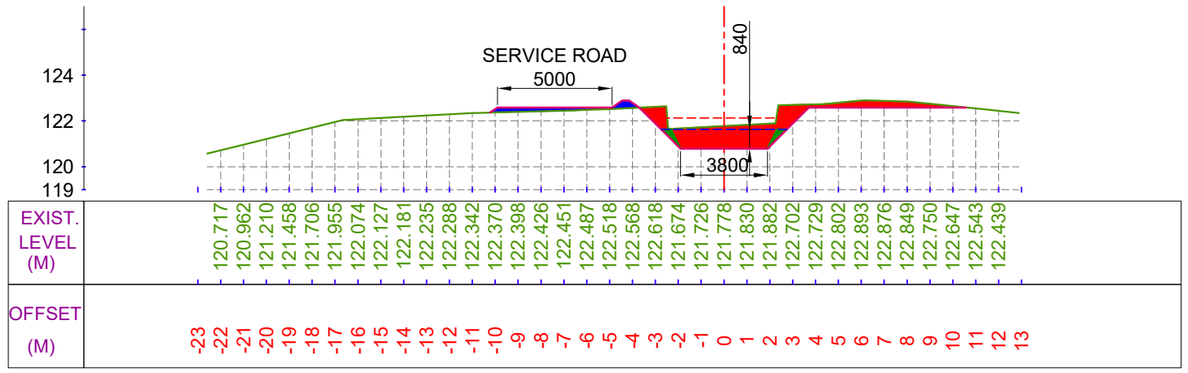
CUTTING AREA (SQ.M) = 5.361
FILLING AREA (SQ.M) = 1.101

CH. (KM):- 1+500
DESIGNED BED LEVEL = 120.808 M



CUTTING AREA (SQ.M) = 2.128
FILLING AREA (SQ.M) = 2.172

CH. (KM):- 1+400
DESIGNED BED LEVEL = 120.828 M



CUTTING AREA (SQ.M) = 7.398
FILLING AREA (SQ.M) = 1.026

CH. (KM):- 1+600
DESIGNED BED LEVEL = 120.788 M

LEGEND

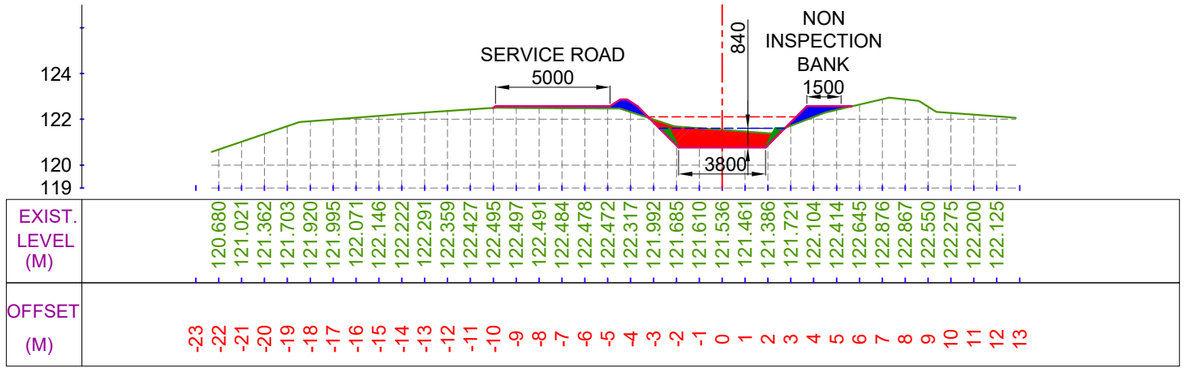
CUT AREA	EXISTING BED LINE	
	F.S.L.	
FILL AREA	DESIGNED BED LINE	
	H.G. LINE	

Prepared by :-

WAPCOS LTD.

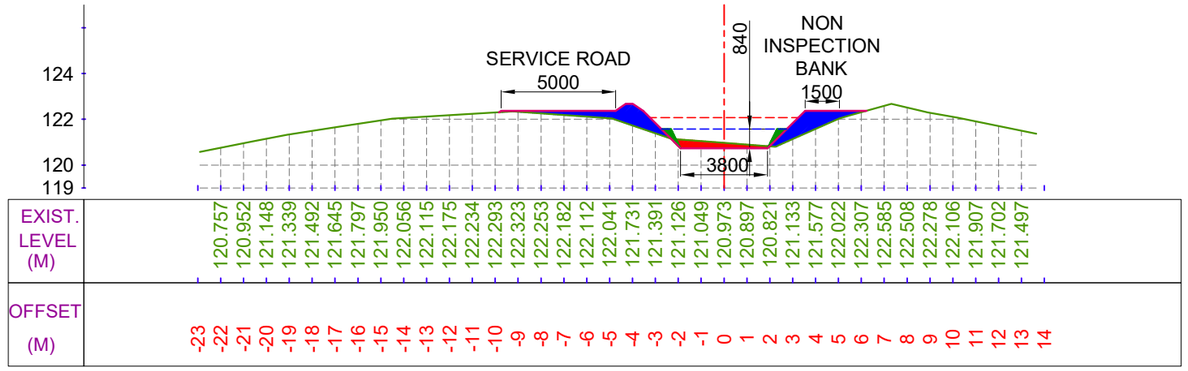
Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
Drawing Title :-	X SEC OF DHAMANI SUB-DY. (OFFTAKE FROM RD - 13+800 KM. (L), CHAIN NAWADA SUB-DISTRIBUTARY CANAL)
Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34-03/ XSEC- 4 of 12

X SECTION OF DHAMANI SUB-DY.



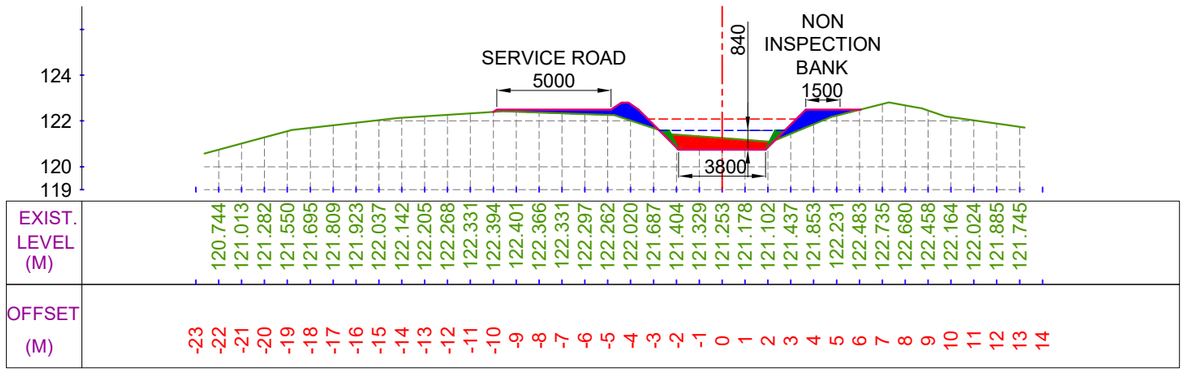
CUTTING AREA (SQ.M) = 3.397
FILLING AREA (SQ.M) = 1.707

CH. (KM):- 1+700
DESIGNED BED LEVEL = 120.768 M



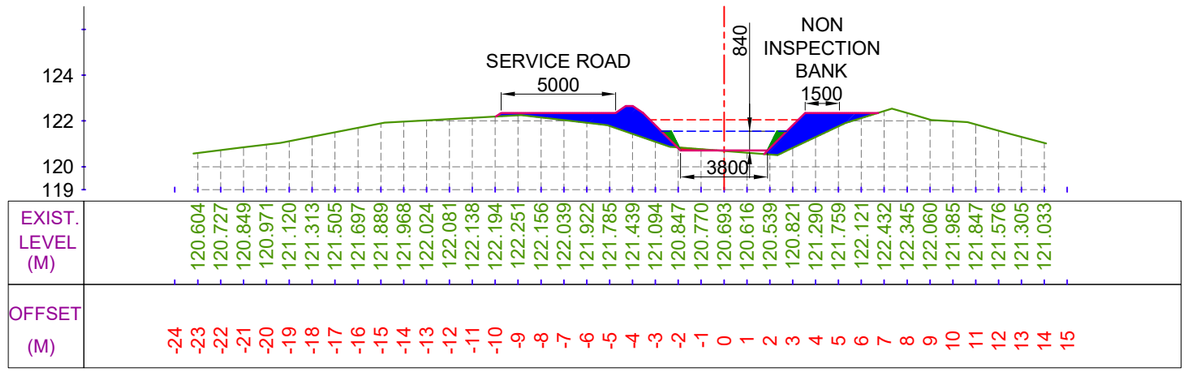
CUTTING AREA (SQ.M) = 0.974
FILLING AREA (SQ.M) = 4.318

CH. (KM):- 1+900
DESIGNED BED LEVEL = 120.728 M



CUTTING AREA (SQ.M) = 2.061
FILLING AREA (SQ.M) = 3.118

CH. (KM):- 1+800
DESIGNED BED LEVEL = 120.748 M



CUTTING AREA (SQ.M) = 0.117
FILLING AREA (SQ.M) = 6.773

CH. (KM):- 2+000
DESIGNED BED LEVEL = 120.708 M

LEGEND

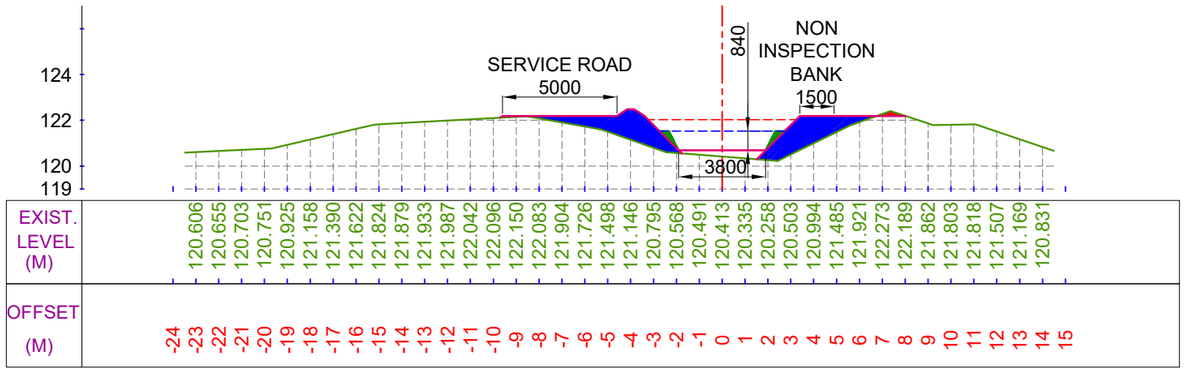
	CUT AREA		EXISTING BED LINE
			F.S.L.
	FILL AREA		DESIGNED BED LINE
			H.G. LINE

Prepared by :-

WAPCOS LTD.

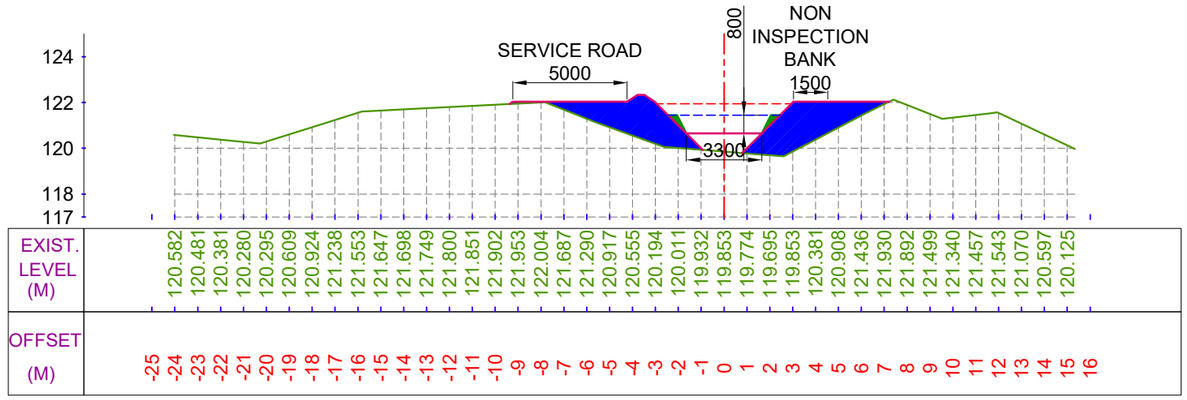
Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
Drawing Title :-	X SEC OF DHAMANI SUB-DY. (OFFTAKE FROM RD - 13+800 KM. (L), CHAIN NAWADA SUB-DISTRIBUTARY CANAL)
Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34-03/ XSEC- 5 of 12

X SECTION OF DHAMANI SUB-DY.



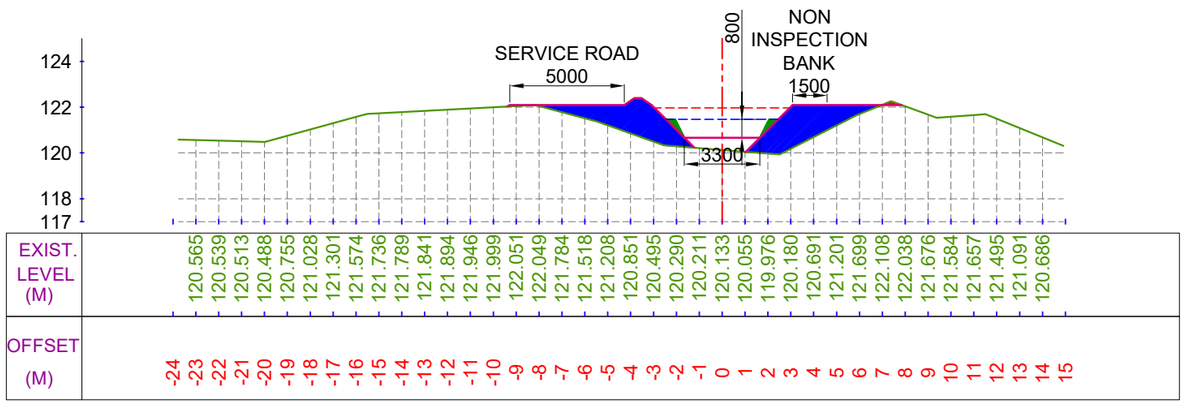
CUTTING AREA (SQ.M) = 0.136
FILLING AREA (SQ.M) = 8.050

CH. (KM):- 2+100
DESIGNED BED LEVEL = 120.688 M



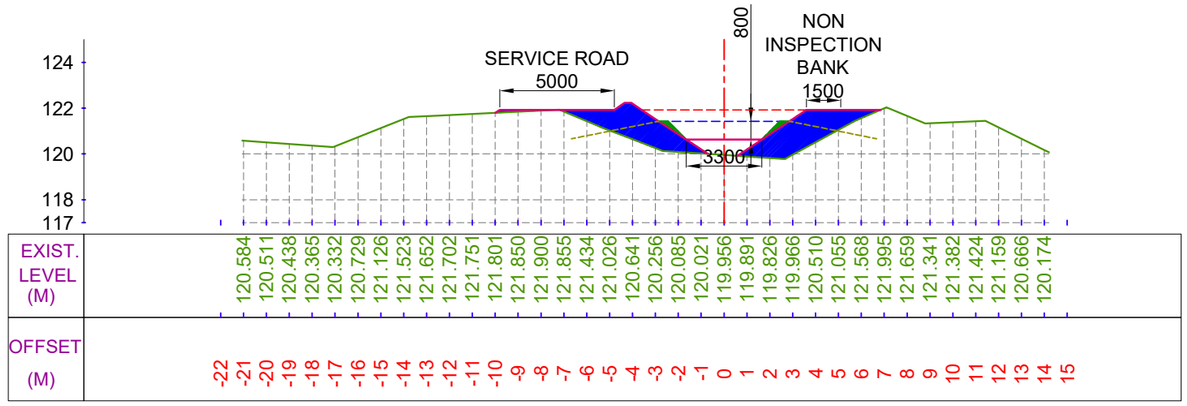
CUTTING AREA (SQ.M) = 0.000
FILLING AREA (SQ.M) = 13.940

CH. (KM):- 2+300
DESIGNED BED LEVEL = 120.648 M



CUTTING AREA (SQ.M) = 0.070
FILLING AREA (SQ.M) = 11.229

CH. (KM):- 2+200
DESIGNED BED LEVEL = 120.668 M



CUTTING AREA (SQ.M) = 0.000
FILLING AREA (SQ.M) = 10.953

CH. (KM):- 2+400
DESIGNED BED LEVEL = 120.628 M

LEGEND

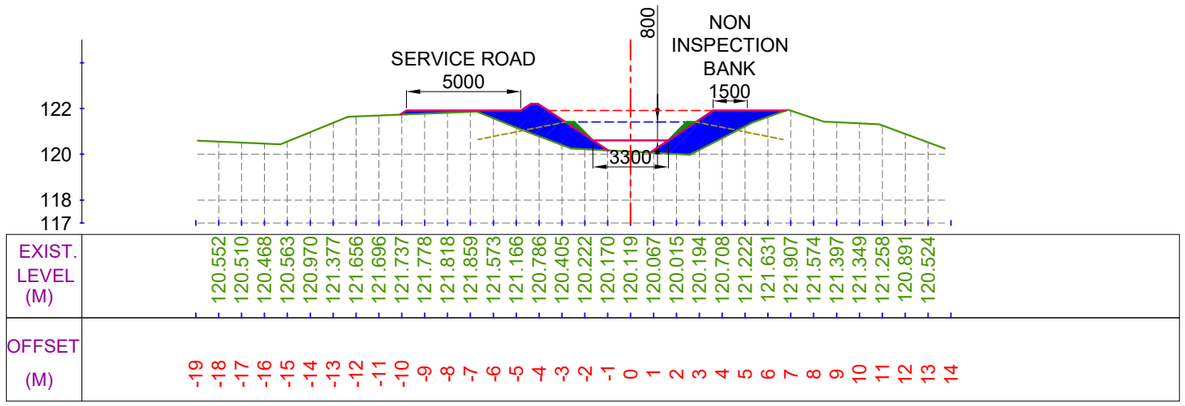
CUT AREA		EXISTING BED LINE	
		F.S.L.	
FILL AREA		DESIGNED BED LINE	
		H.G. LINE	

Prepared by :-

WAPCOS LTD.

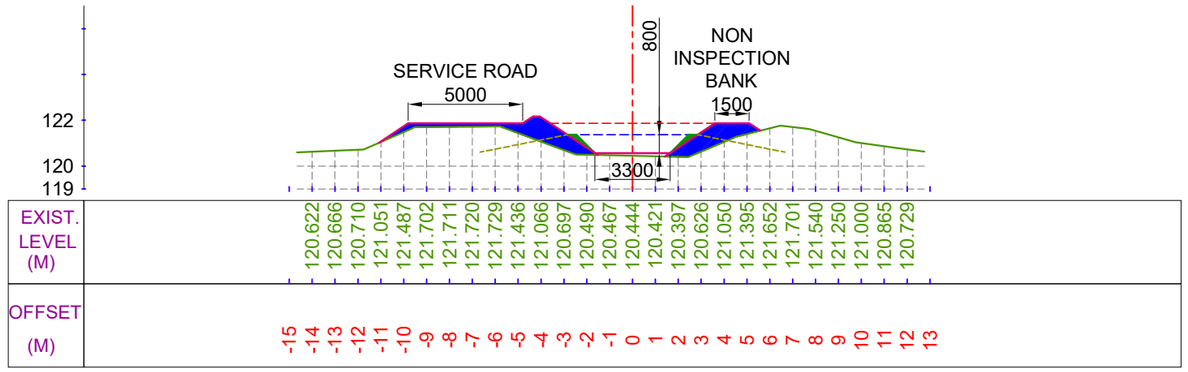
Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
Drawing Title :-	X SEC OF DHAMANI SUB-DY. (OFFTAKE FROM RD - 13+800 KM. (L), CHAIN NAWADA SUB-DISTRIBUTARY CANAL)
Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34-03/ XSEC- 6 of 12

X SECTION OF DHAMANI SUB-DY.



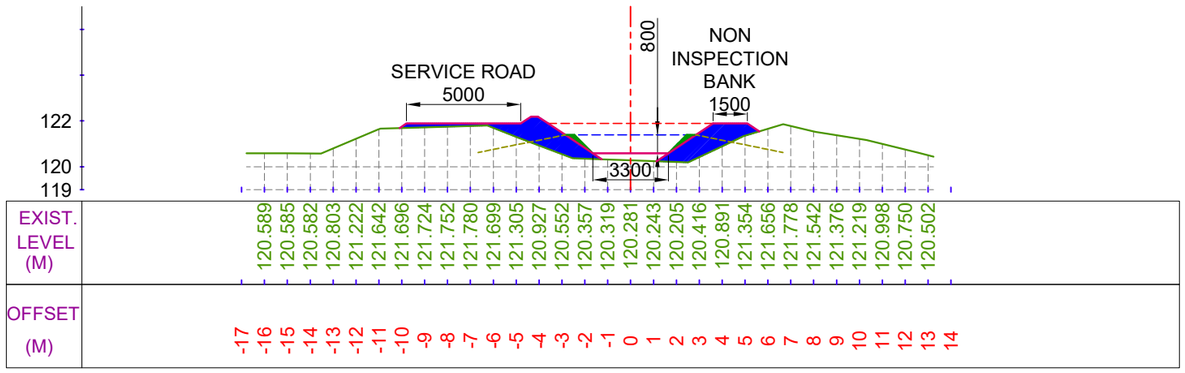
CUTTING AREA (SQ.M) = 0.000
FILLING AREA (SQ.M) = 9.034

CH. (KM):- 2+500
DESIGNED BED LEVEL = 120.608 M



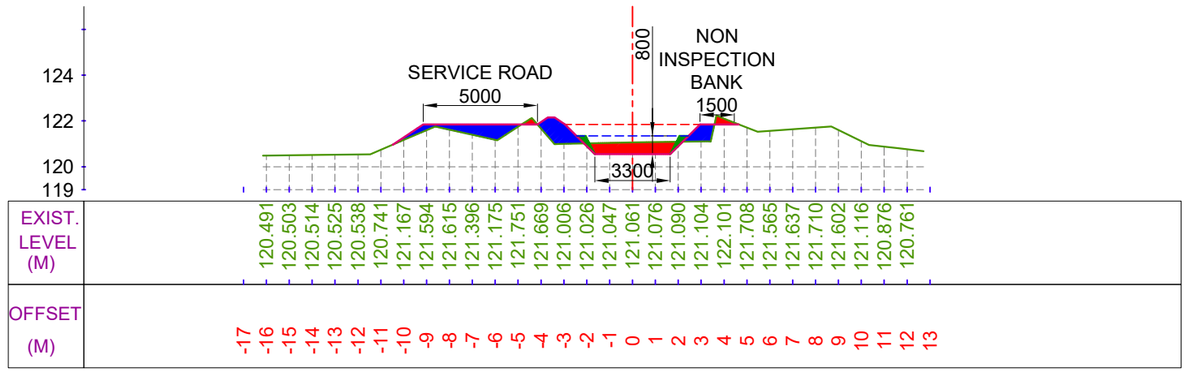
CUTTING AREA (SQ.M) = 0.000
FILLING AREA (SQ.M) = 5.904

CH. (KM):- 2+700
DESIGNED BED LEVEL = 120.568 M



CUTTING AREA (SQ.M) = 0.000
FILLING AREA (SQ.M) = 7.110

CH. (KM):- 2+600
DESIGNED BED LEVEL = 120.588 M



CUTTING AREA (SQ.M) = 2.127
FILLING AREA (SQ.M) = 3.723

CH. (KM):- 2+800
DESIGNED BED LEVEL = 120.548 M

LEGEND

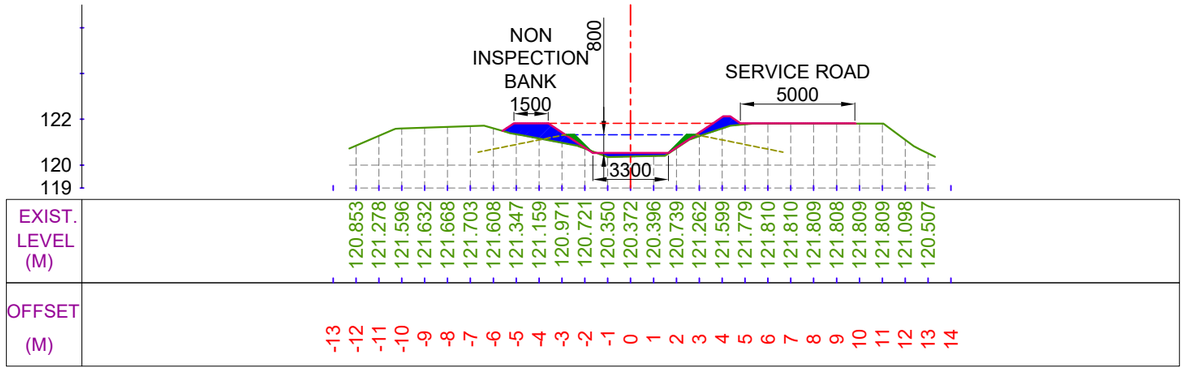
CUT AREA	EXISTING BED LINE	
	F.S.L.	
FILL AREA	DESIGNED BED LINE	
	H.G. LINE	

Prepared by :-

WAPCOS LTD.

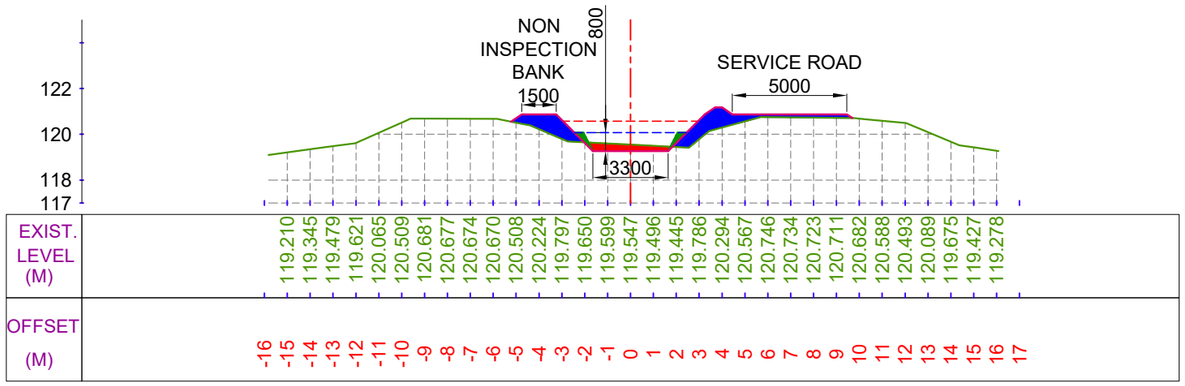
Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
Drawing Title :-	X SEC OF DHAMANI SUB-DY. (OFFTAKE FROM RD - 13+800 KM. (L), CHAIN NAWADA SUB-DISTRIBUTARY CANAL)
Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34-03/ XSEC- 7 of 12

X SECTION OF DHAMANI SUB-DY.



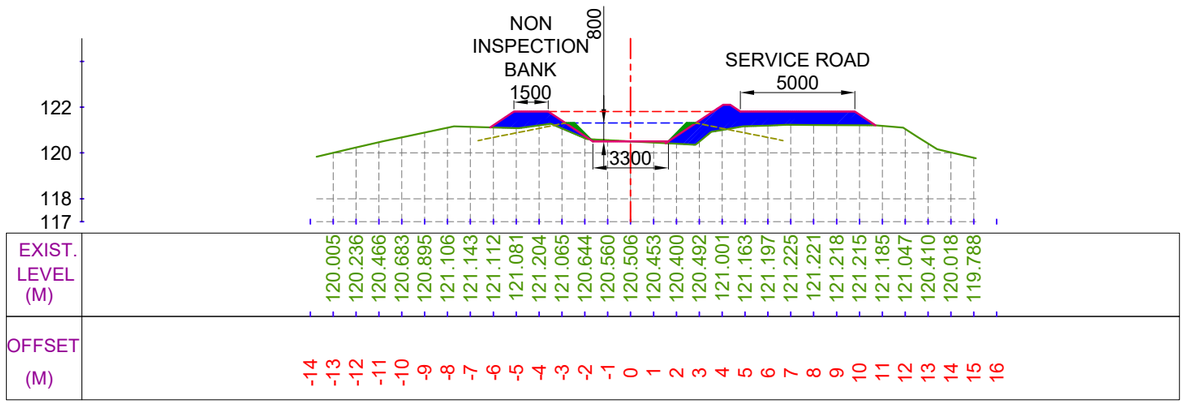
CUTTING AREA (SQ.M) = 0.009
FILLING AREA (SQ.M) = 2.814

CH. (KM):- 2+900
DESIGNED BED LEVEL = 120.528 M



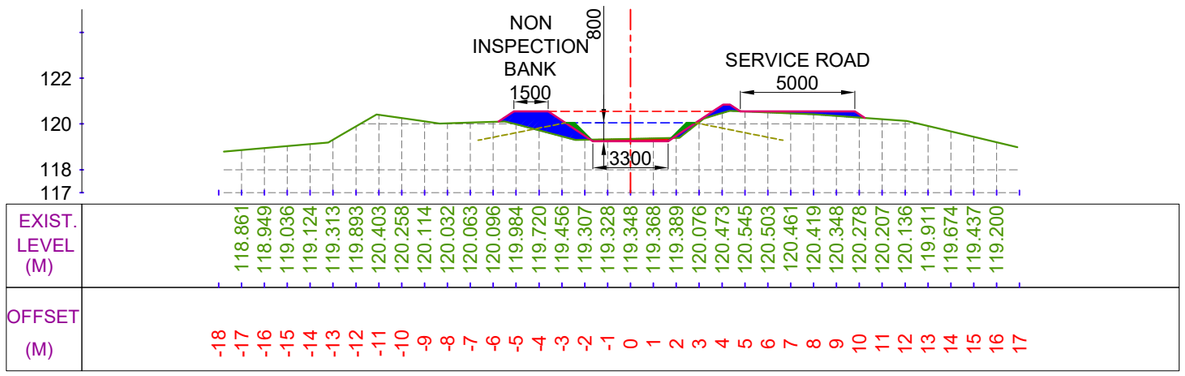
CUTTING AREA (SQ.M) = 0.965
FILLING AREA (SQ.M) = 4.438

CH. (KM):- 3+100
DESIGNED BED LEVEL = 119.268 M



CUTTING AREA (SQ.M) = 0.076
FILLING AREA (SQ.M) = 7.527

CH. (KM):- 3+000
DESIGNED BED LEVEL = 120.508 M



CUTTING AREA (SQ.M) = 0.341
FILLING AREA (SQ.M) = 3.318

CH. (KM):- 3+200
DESIGNED BED LEVEL = 119.248 M

LEGEND

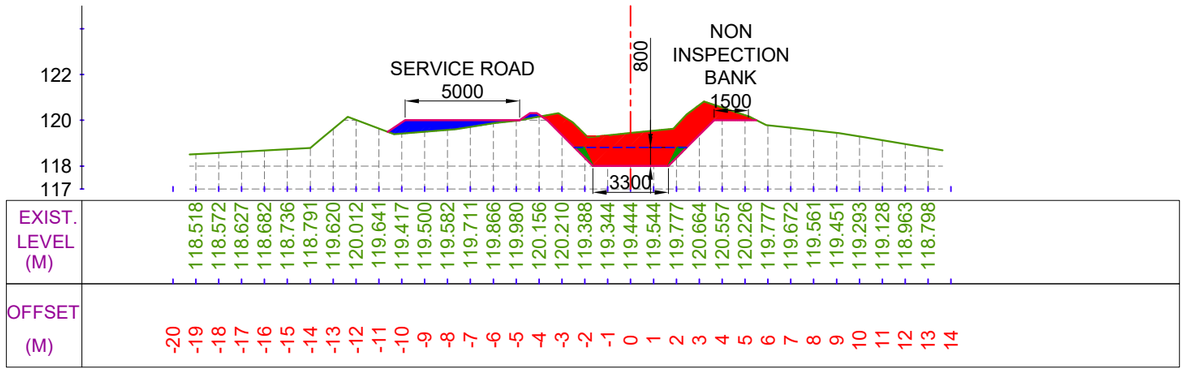
CUT AREA	EXISTING BED LINE	
	F.S.L.	
FILL AREA	DESIGNED BED LINE	
	H.G. LINE	

Prepared by :-

WAPCOS LTD.

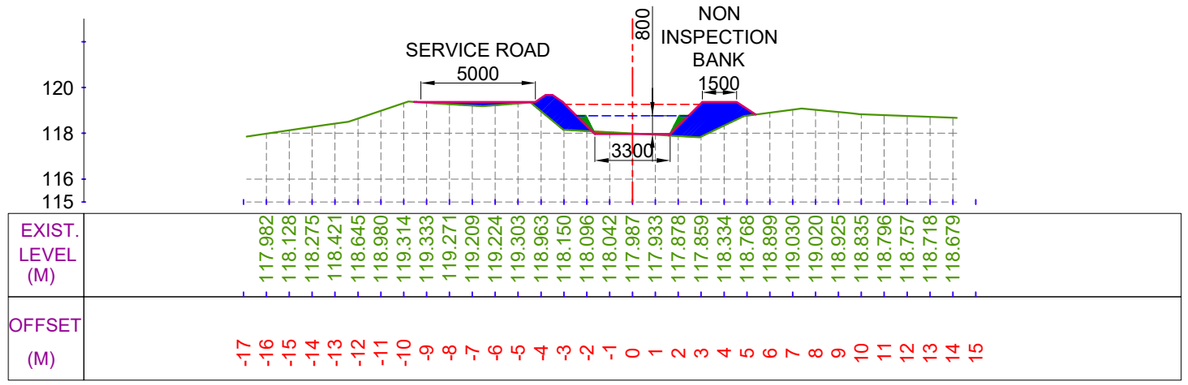
Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
Drawing Title :-	X SEC OF DHAMANI SUB-DY. (OFFTAKE FROM RD - 13+800 KM. (L), CHAIN NAWADA SUB-DISTRIBUTARY CANAL)
Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34-03/ XSEC- 8 of 12

X SECTION OF DHAMANI SUB-DY.



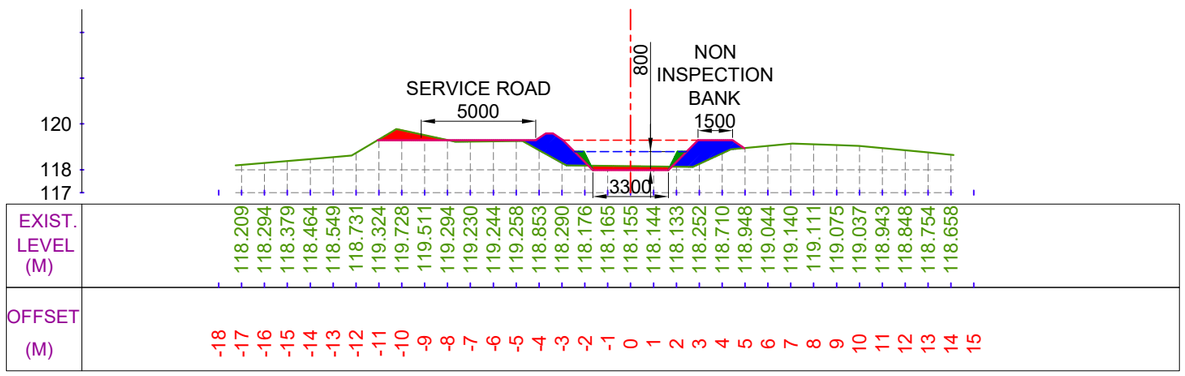
CUTTING AREA (SQ.M) = 9.460
FILLING AREA (SQ.M) = 1.984

CH. (KM):- 3+300
DESIGNED BED LEVEL = 118.008 M



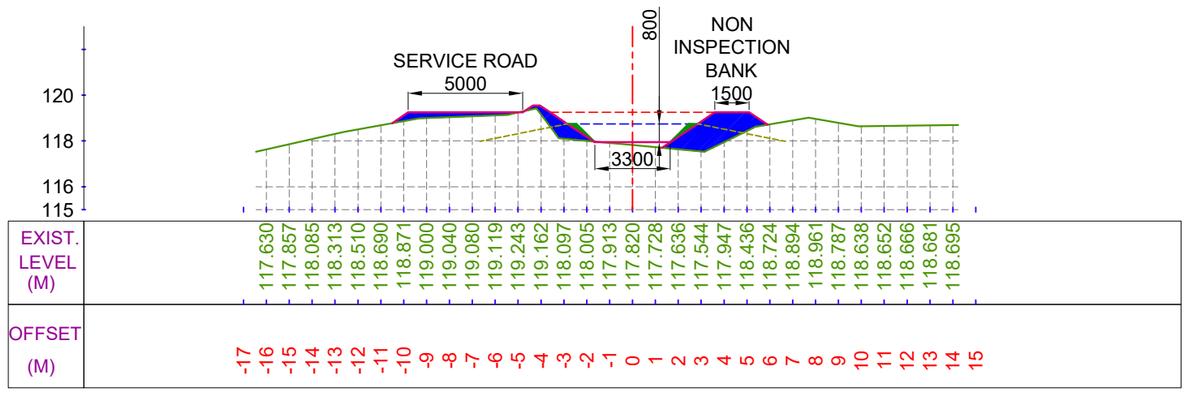
CUTTING AREA (SQ.M) = 0.112
FILLING AREA (SQ.M) = 5.466

CH. (KM):- 3+500
DESIGNED BED LEVEL = 117.968 M



CUTTING AREA (SQ.M) = 1.323
FILLING AREA (SQ.M) = 3.750

CH. (KM):- 3+400
DESIGNED BED LEVEL = 117.988 M



CUTTING AREA (SQ.M) = 0.009
FILLING AREA (SQ.M) = 6.208

CH. (KM):- 3+600
DESIGNED BED LEVEL = 117.948 M

LEGEND

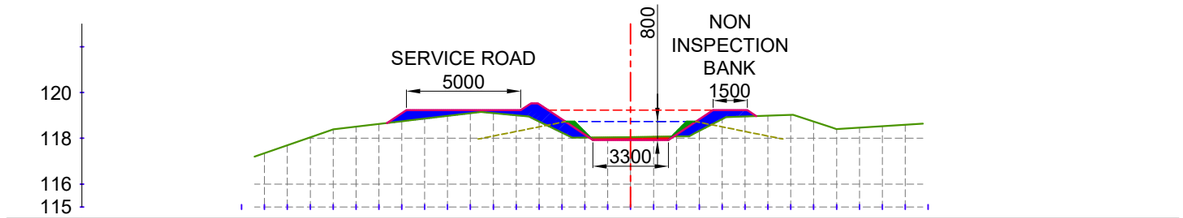
CUT AREA	EXISTING BED LINE	
	F.S.L.	
FILL AREA	DESIGNED BED LINE	
	H.G. LINE	

Prepared by :-

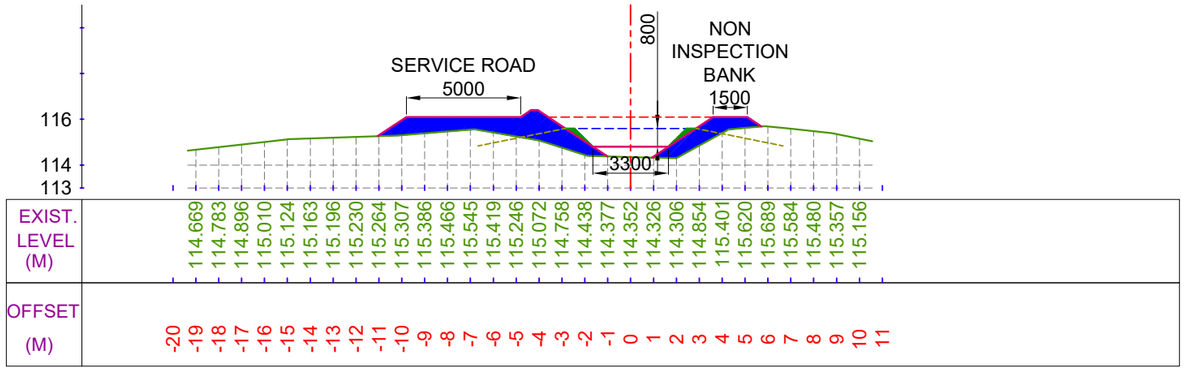
WAPCOS LTD.

Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
Drawing Title :-	X SEC OF DHAMANI SUB-DY. (OFFTAKE FROM RD - 13+800 KM. (L), CHAIN NAWADA SUB-DISTRIBUTARY CANAL)
Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34-03/ XSEC- 9 of 12

X SECTION OF DHAMANI SUB-DY.

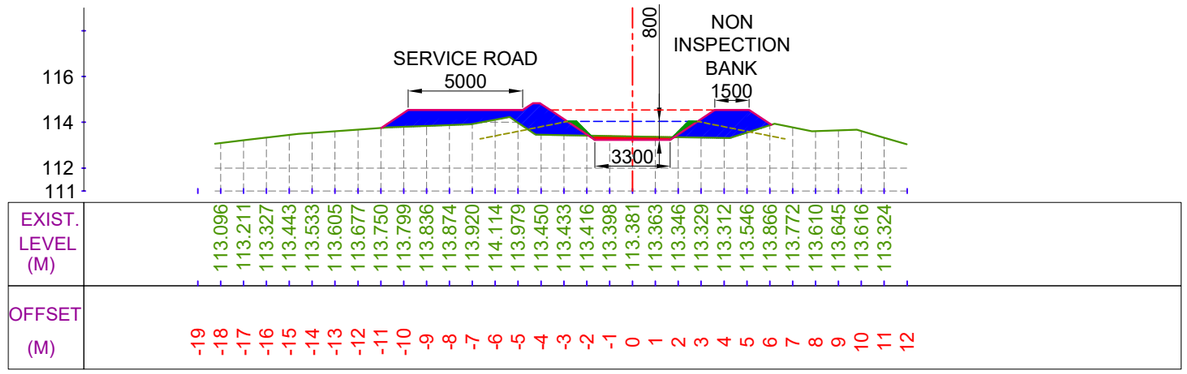


| | | |



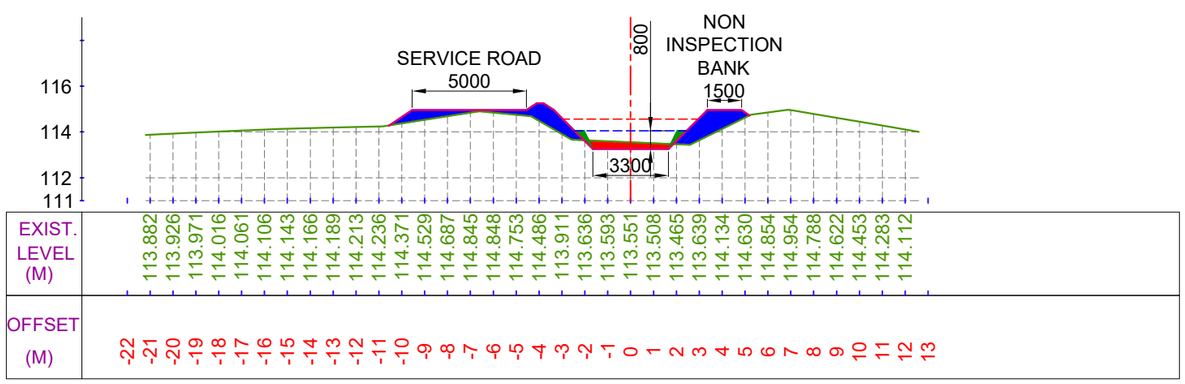
CUTTING AREA (SQ.M) = 0.000
FILLING AREA (SQ.M) = 9.798

CH. (KM):- 4+100
DESIGNED BED LEVEL = 114.800 M



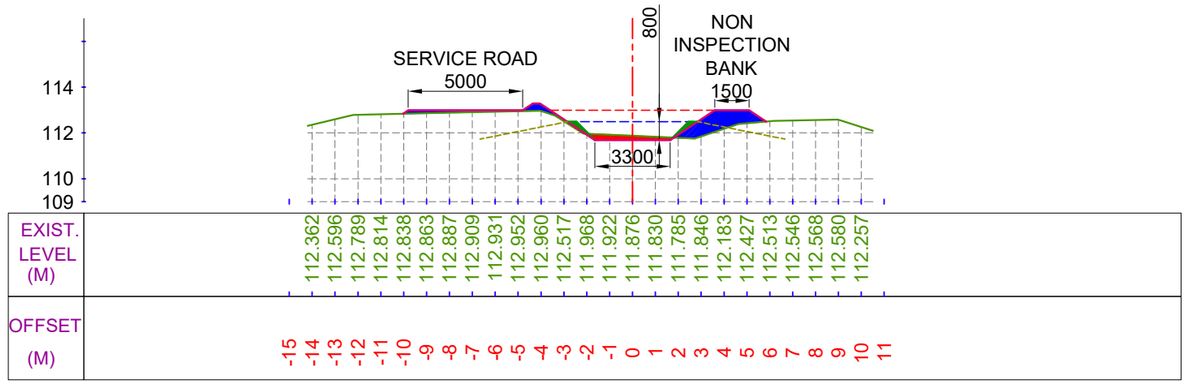
CUTTING AREA (SQ.M) = 0.499
FILLING AREA (SQ.M) = 8.962

CH. (KM):- 4+300
DESIGNED BED LEVEL = 113.236 M



CUTTING AREA (SQ.M) = 1.018
FILLING AREA (SQ.M) = 5.117

CH. (KM):- 4+200
DESIGNED BED LEVEL = 113.256 M



CUTTING AREA (SQ.M) = 0.648
FILLING AREA (SQ.M) = 3.139

CH. (KM):- 4+400
DESIGNED BED LEVEL = 111.692 M

LEGEND

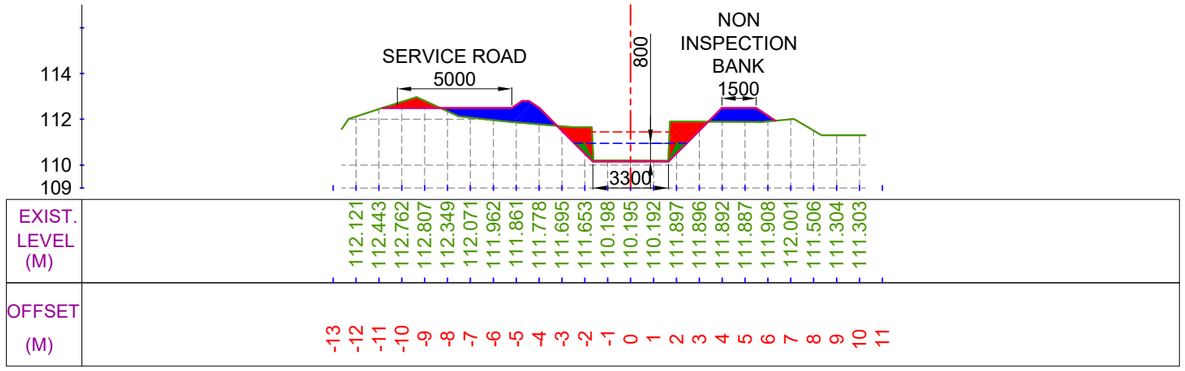
CUT AREA		EXISTING BED LINE	
		F.S.L.	
FILL AREA		DESIGNED BED LINE	
		H.G. LINE	

Prepared by :-

WAPCOS LTD.

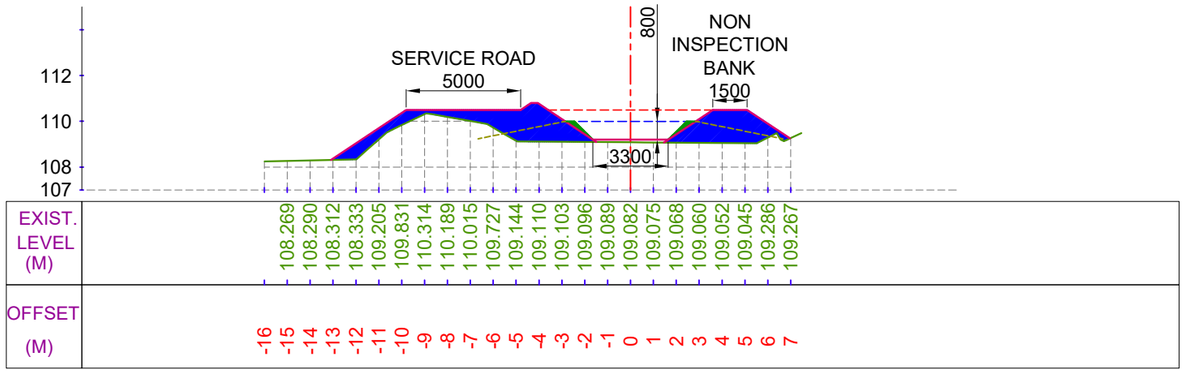
Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
Drawing Title :-	X SEC OF DHAMANI SUB-DY. (OFFTAKE FROM RD - 13+800 KM. (L), CHAIN NAWADA SUB-DISTRIBUTARY CANAL)
Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34-03/ XSEC- 11 of 12

X SECTION OF DHAMANI SUB-DY.



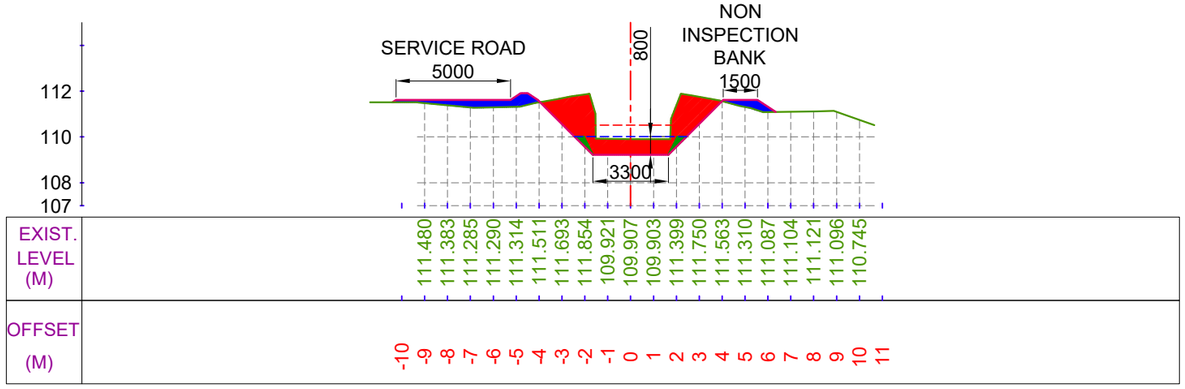
CUTTING AREA (SQ.M) = 3.025
FILLING AREA (SQ.M) = 3.953

CH. (KM):- 4+500
DESIGNED BED LEVEL = 110.152 M



CUTTING AREA (SQ.M) = 0.000
FILLING AREA (SQ.M) = 12.715

CH. (KM):- 4+700
DESIGNED BED LEVEL = 109.197 M



CUTTING AREA (SQ.M) = 7.994
FILLING AREA (SQ.M) = 2.297

CH. (KM):- 4+600
DESIGNED BED LEVEL = 109.217 M

LEGEND

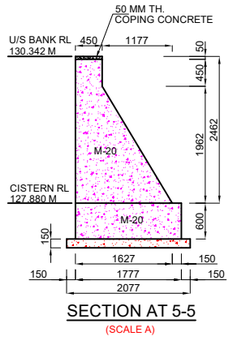
	CUT AREA		EXISTING BED LINE
			F.S.L.
	FILL AREA		DESIGNED BED LINE
			H.G. LINE

Prepared by :-

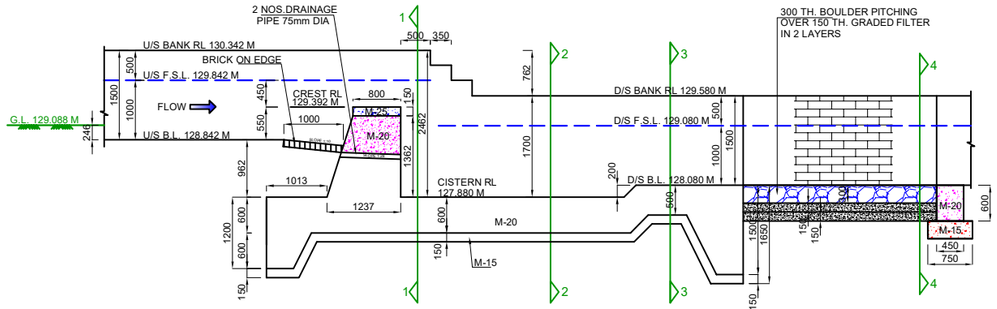
WAPCOS LTD.

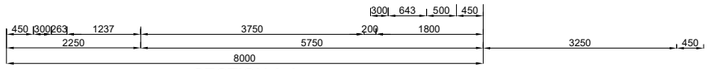
Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
Drawing Title :-	X SEC OF DHAMANI SUB-DY. (OFFTAKE FROM RD - 13+800 KM. (L), CHAIN NAWADA SUB-DISTRIBUTARY CANAL)
Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34-03/ XSEC- 12 of 12

DRAWING OF STRUCTURES

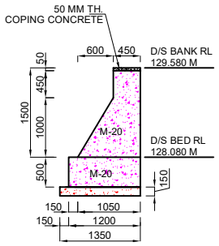


SECTION AT 5-5
(SCALE A)





SECTION A-A
(SCALE A)



SECTION AT 6-6
(SCALE A)

NOTES:-

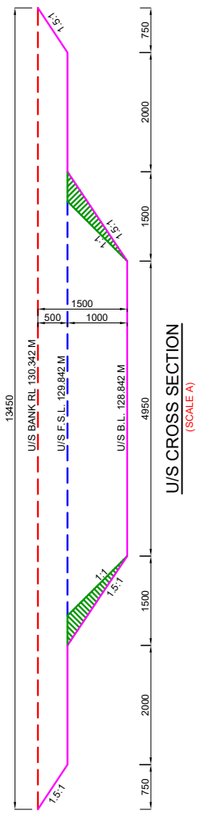
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3. ALL CONCRETE WORK SHALL CONFORM TO IS: 456 -2000. GRADE OF CONCRETE IN DIFFERENT COMPONENTS SHALL BE AS FOLLOWS,

FLOOR	M 20
FOUNDATION OF ABUTMENTS & WING WALL	M 20
PCC UNDER FLOOR	M 15
ABUTMENTS / WING WALLS	M 20

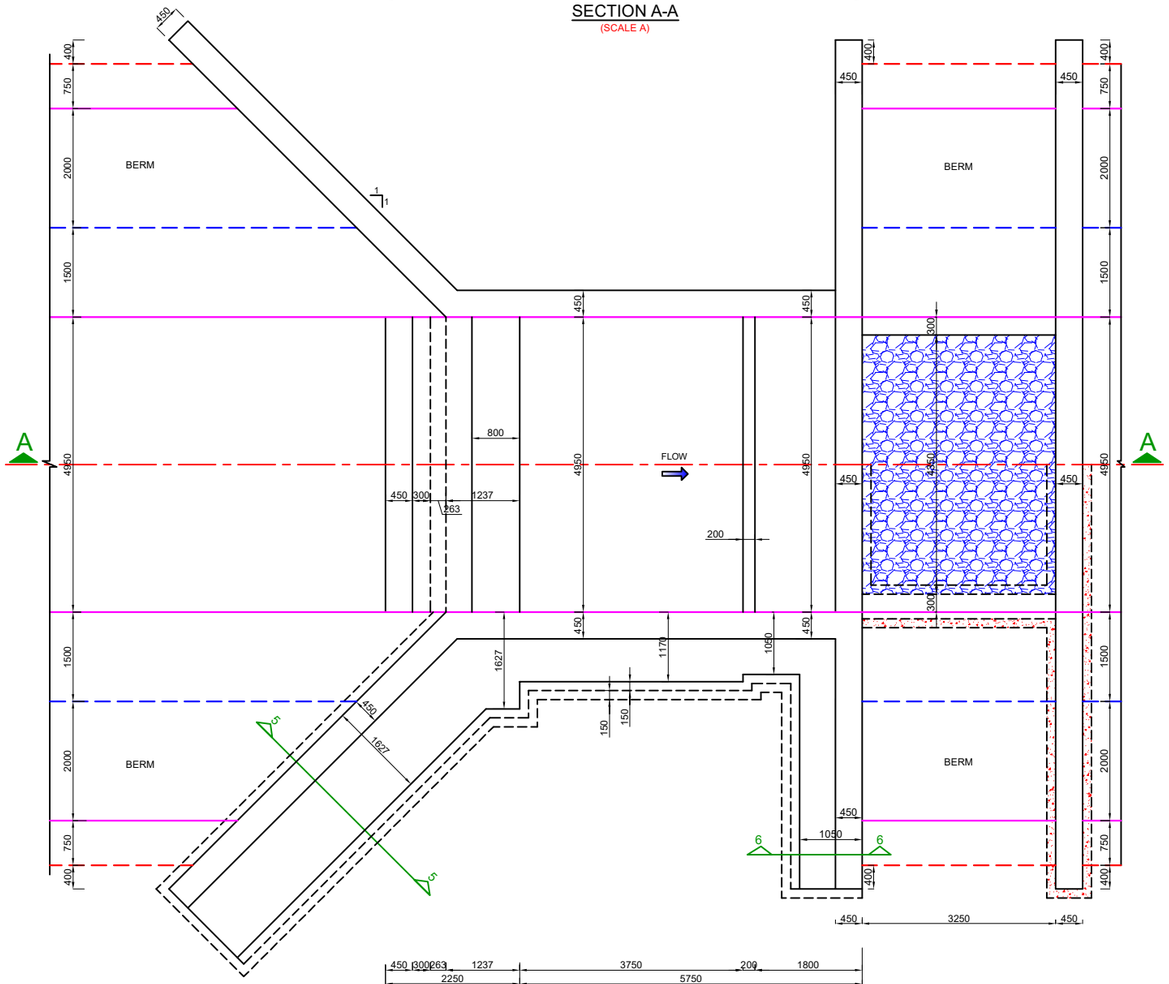
4. ANY OVER DIGGING SHALL BE FILLED BY CONCRETE 1:3:6 GRADE.
5. SKIN REINFORCEMENT SHALL BE PROVIDED IN FLOOR AND ABUTMENT OF 12 MM DIA BARS @ 250 MM.

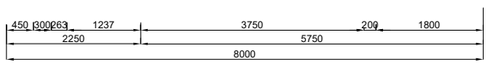
HYDRAULIC:- DATA

	U/S	D/S	UNIT
FULL SUPPLY DISCHARGE	2.660	2.660	CUMEC
VERTICAL DROP	0.762	0.762	METRE
FULL SUPPLY DEPTH	1.000	1.000	METRE
BED WIDTH	4.950	4.950	METRE
BED SLOPE	1 : 5000	1 : 5000	

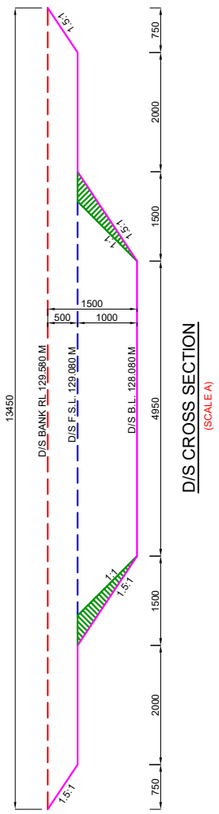


U/S CROSS SECTION
(SCALE A)

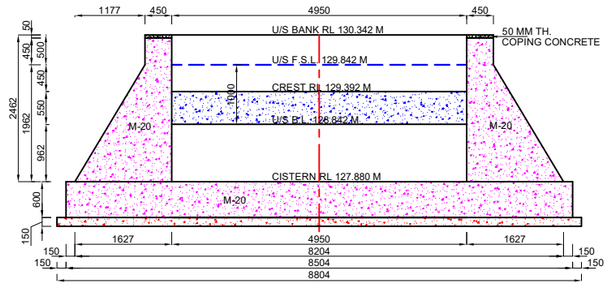




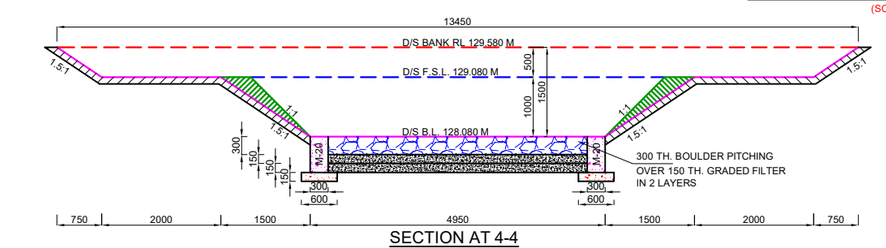
HALF TOP / HALF FOUNDATION PLAN
(SCALE A)



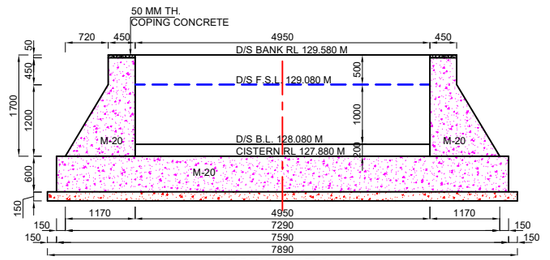
D/S CROSS SECTION
(SCALE A)



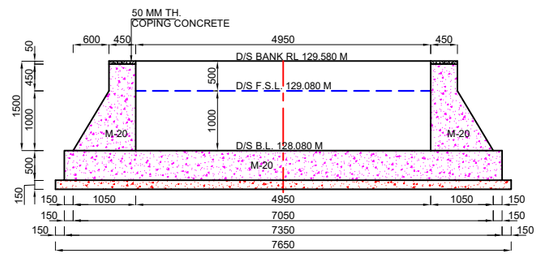
SECTION AT 1-1
(SCALE A)



SECTION AT 4-4
(SCALE A)

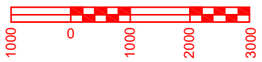


SECTION AT 2-2
(SCALE A)

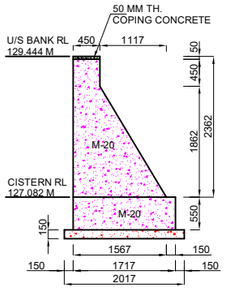


SECTION AT 3-3
(SCALE A)

SCALE A:-

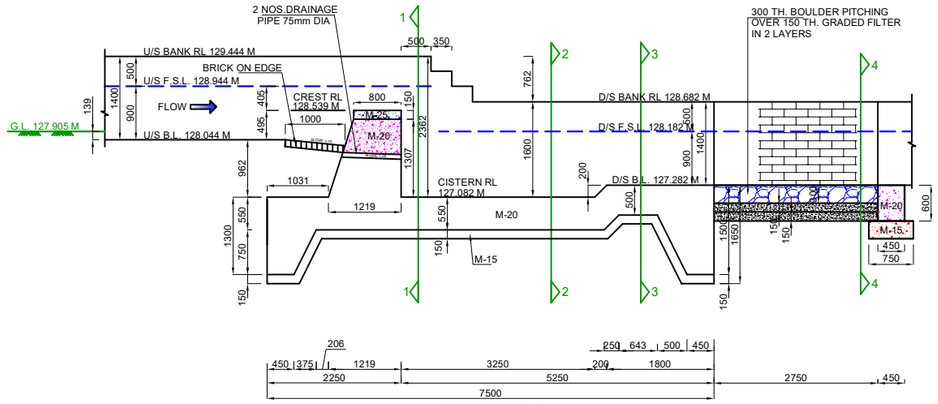


Prepared by :- WAPCOS LTD.	Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
	Drawing Title :-	SHARDA TYPE 0.762 M HT. FALL AT KM. 9.150 OF CHAIN NAWADA SUB-DY. (OFFTAKE FROM RD - 94+494 KM. (L), NORTH KOEL RIGHT MAIN CANAL)
	Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34/ FALL 1 of 1



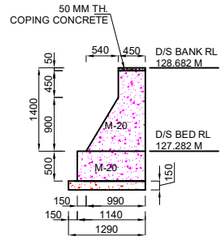
SECTION AT 5-5

(SCALE A)



SECTION A-A

(SCALE A)



SECTION AT 6-6

(SCALE A)

NOTES:-

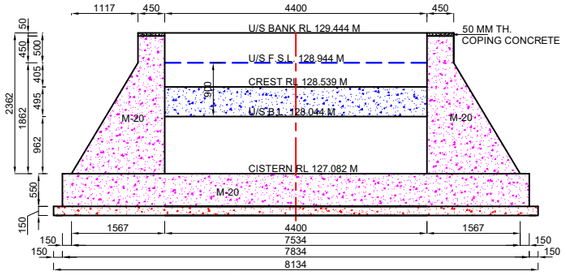
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3. ALL CONCRETE WORK SHALL CONFORM TO IS: 456 -2000. GRADE OF CONCRETE IN DIFFERENT COMPONENTS SHALL BE AS FOLLOWS,

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.

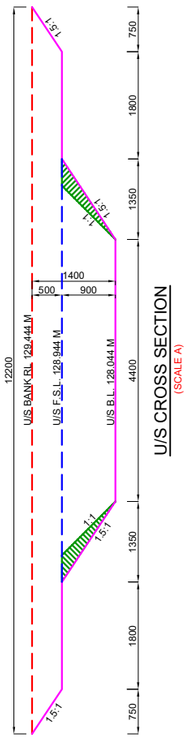
HYDRAULIC:- DATA

	U/S	D/S	UNIT
FULL SUPPLY DISCHARGE	1.980	1.980	CUMEC
VERTICAL DROP	0.762	0.762	METRE
FULL SUPPLY DEPTH	0.900	0.900	METRE
BED WIDTH	4.400	4.400	METRE
BED SLOPE	1 : 5000	1 : 5000	



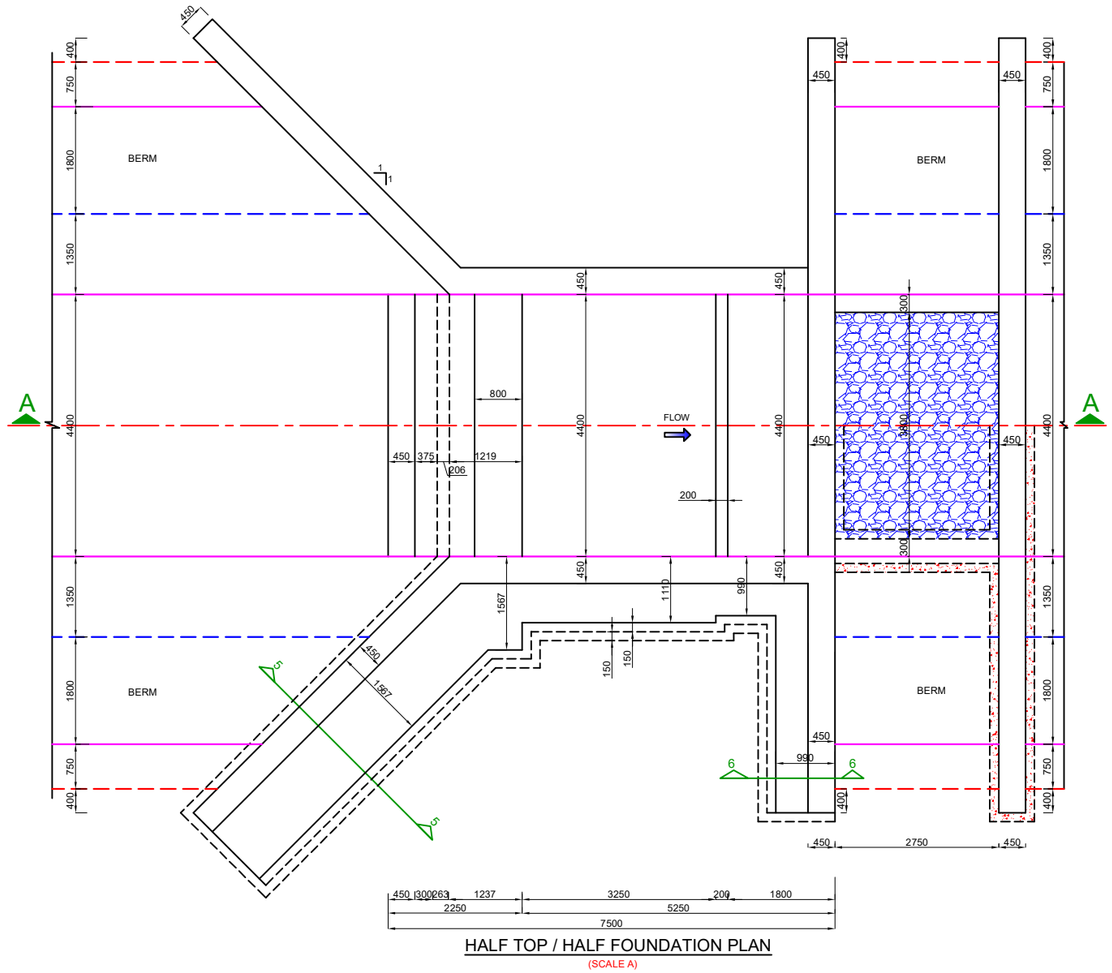
SECTION AT 1-1

(SCALE A)



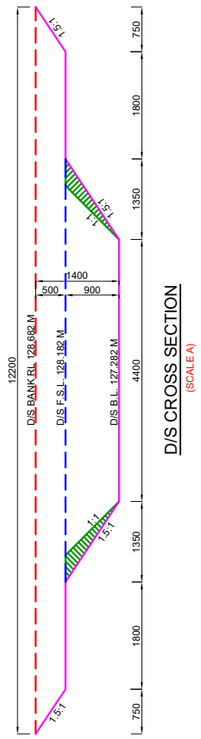
U/S CROSS SECTION

(SCALE A)



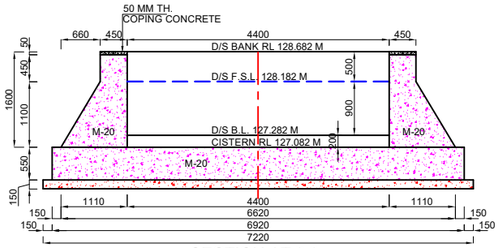
HALF TOP / HALF FOUNDATION PLAN

(SCALE A)



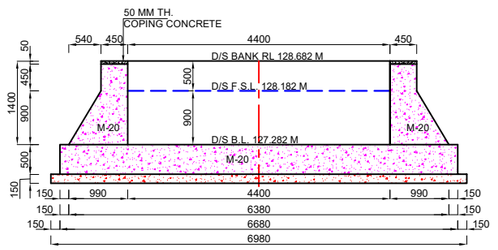
D/S CROSS SECTION

(SCALE A)



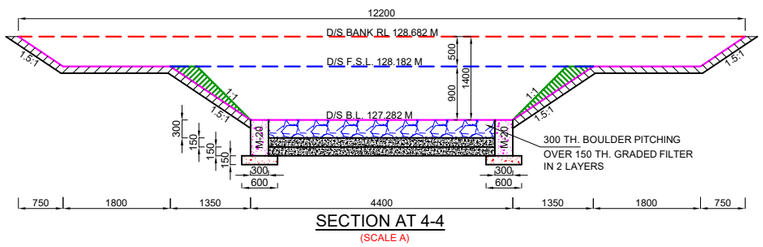
SECTION AT 2-2

(SCALE A)



SECTION AT 3-3

(SCALE A)



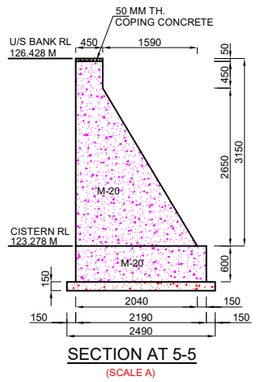
SECTION AT 4-4

(SCALE A)

SCALE A:-

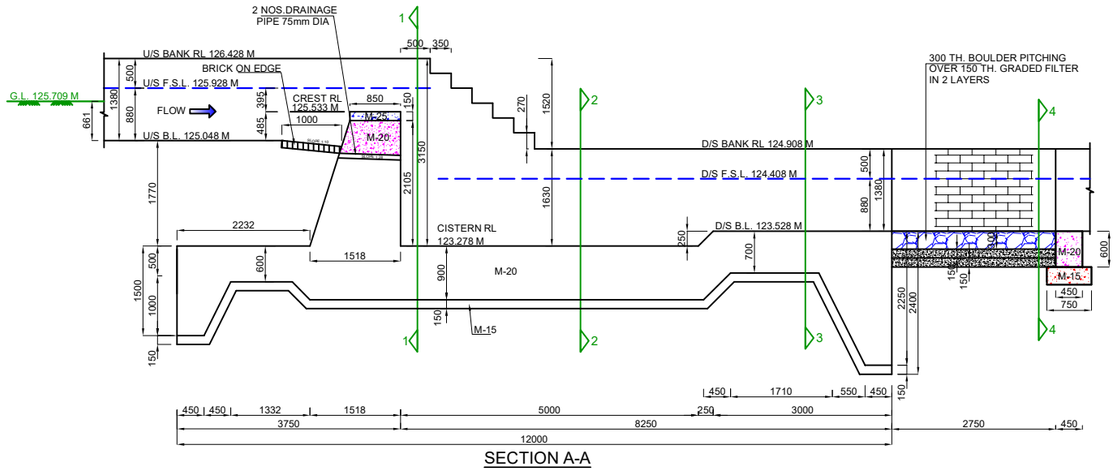
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Prepared by :- WAPCOS LTD.	Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
	Drawing Title :-	SHARDA TYPE 0.762 M HT. FALL AT KM. 9.330 OF CHAIN NAWADA SUB-DY. (OFFTAKE FROM RD - 94+494 KM. (L), NORTH KOEL RIGHT MAIN CANAL)
	Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34/ FALL 1 of 1



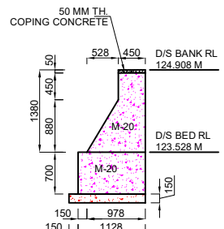
SECTION AT 5-5

(SCALE A)



SECTION A-A

(SCALE A)



SECTION AT 6-6

(SCALE A)

NOTES:-

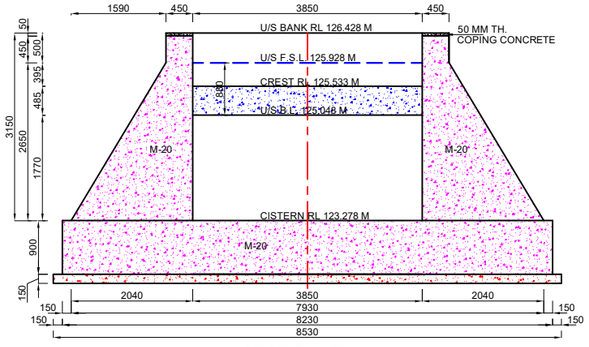
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PCC UNDER FLOOR	M 15
ABUTMENTS / WING WALLS	M 20

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5. SKIN REINFORCEMENT SHALL BE PROVIDED IN FLOOR AND ABUTMENT OF 12 MM DIA BARS @ 250 MM.

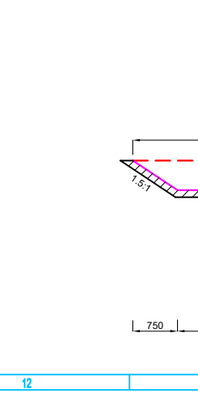
HYDRAULIC:- DATA

	U/S	D/S	UNIT
FULL SUPPLY DISCHARGE	1.660	1.660	CUMEC
VERTICAL DROP	1.520	1.520	METRE
FULL SUPPLY DEPTH	0.880	0.880	METRE
BED WIDTH	3.850	3.850	METRE
BED SLOPE	1 : 5000	1 : 5000	



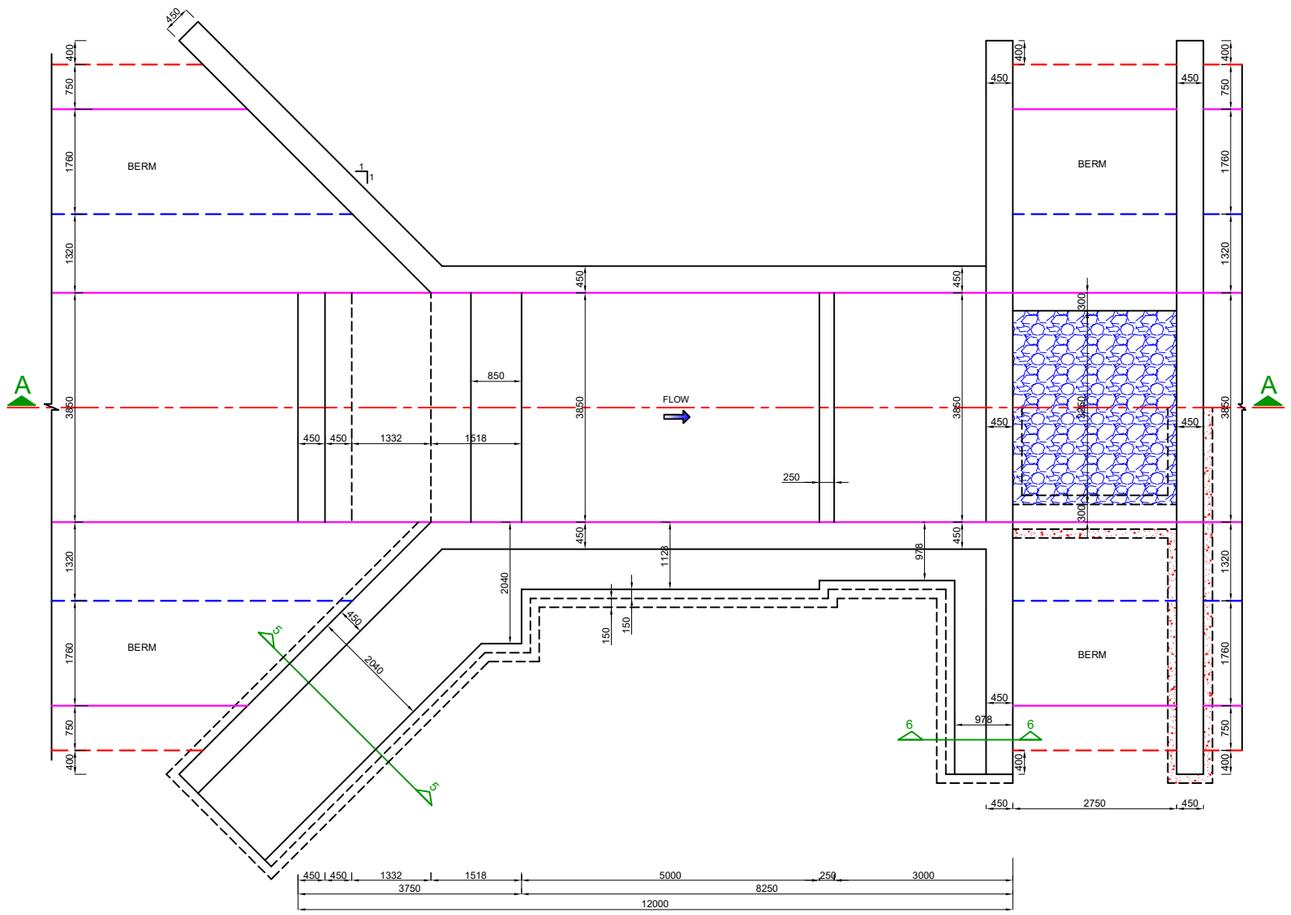
SECTION AT 1-1

(SCALE A)



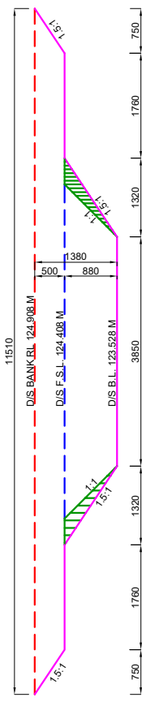
U/S CROSS SECTION

(SCALE A)



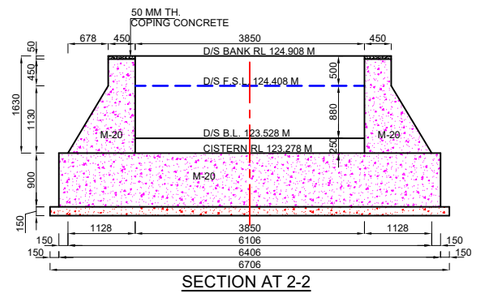
HALF TOP / HALF FOUNDATION PLAN

(SCALE A)



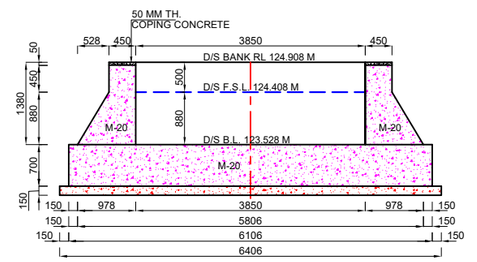
D/S CROSS SECTION

(SCALE A)



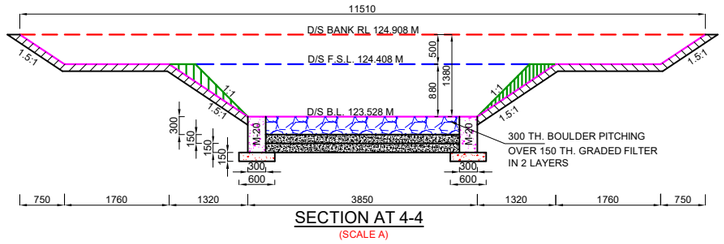
SECTION AT 2-2

(SCALE A)



SECTION AT 3-3

(SCALE A)



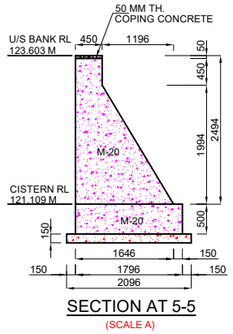
SECTION AT 4-4

(SCALE A)

SCALE A:-

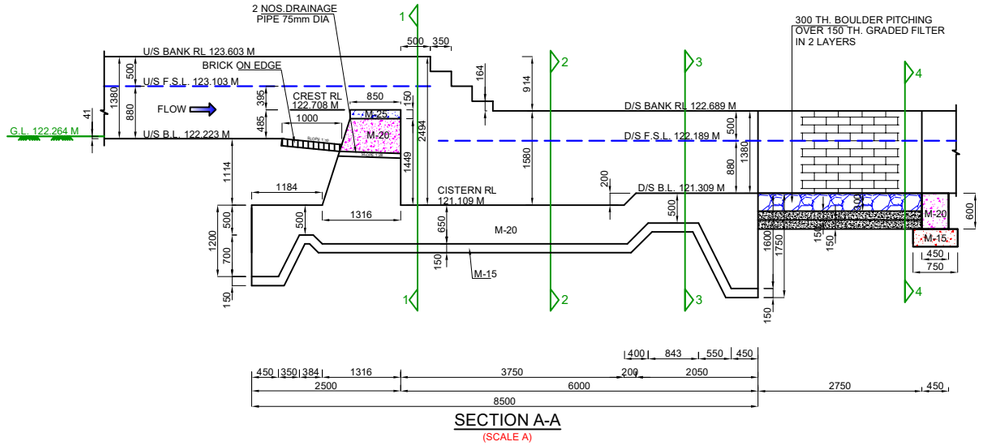
1000 0 1000 2000 3000

Prepared by :- WAPCOS LTD.	Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
	Drawing Title :-	SHARDA TYPE 1.520 M HT. FALL AT KM. 12.900 OF CHAIN NAWADA SUB-DY (OFFTAKE FROM RD - 94+494 KM. (L), NORTH KOEL RIGHT MAIN CANAL)
	Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34/ FALL 1 of 1



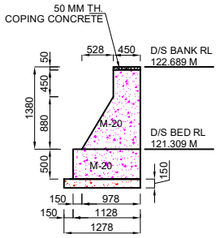
SECTION AT 5-5

(SCALE A)



SECTION A-A

(SCALE A)



SECTION AT 6-6

(SCALE A)

NOTES:-

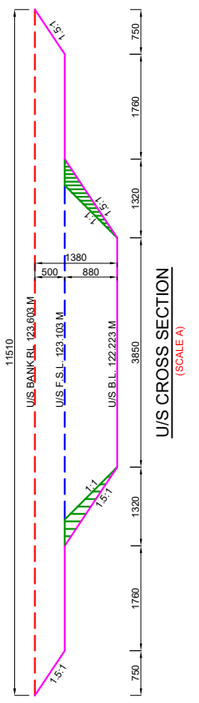
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3. ALL CONCRETE WORK SHALL CONFORM TO IS: 456 -2000. GRADE OF CONCRETE IN DIFFERENT COMPONENTS SHALL BE AS FOLLOWS,

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.

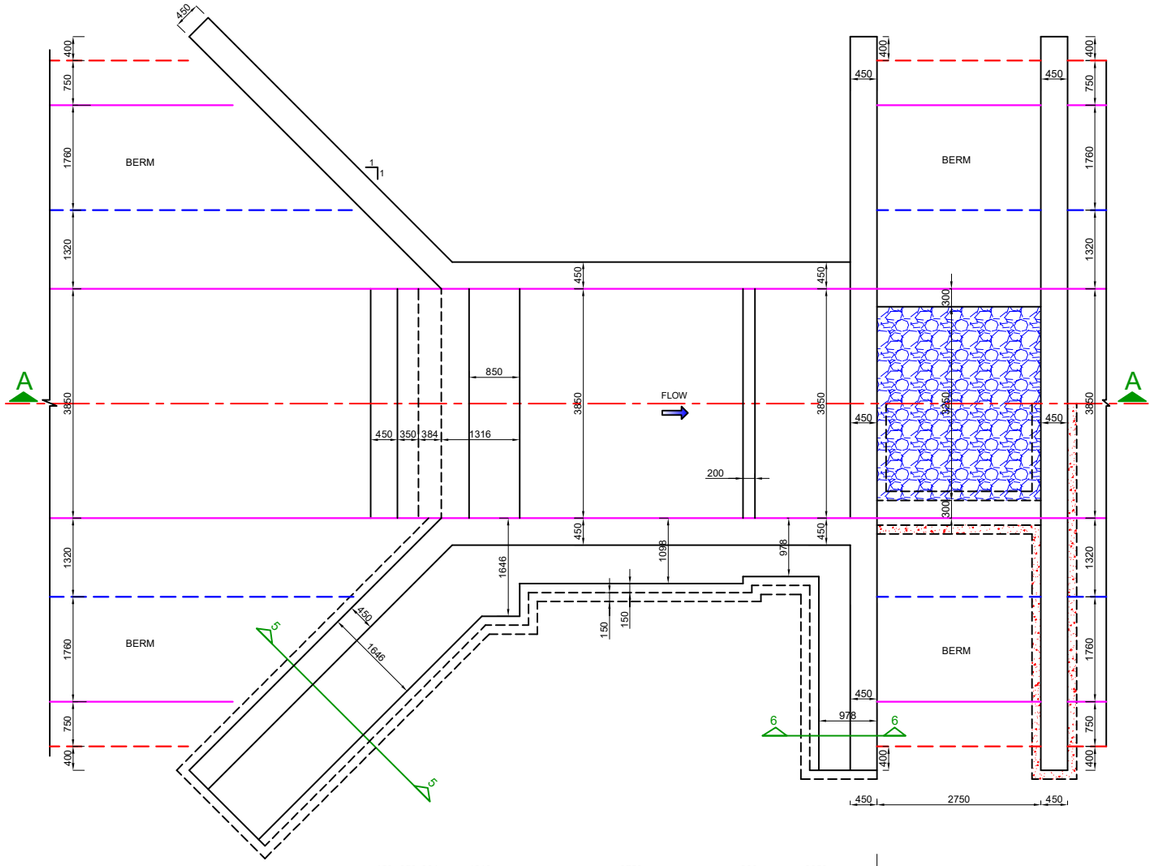
HYDRAULIC:- DATA

	U/S	D/S	UNIT
FULL SUPPLY DISCHARGE	1.660	1.660	CUMEC
VERTICAL DROP	0.914	0.914	METRE
FULL SUPPLY DEPTH	0.880	0.880	METRE
BED WIDTH	3.850	3.850	METRE
BED SLOPE	1 : 5000	1 : 5000	



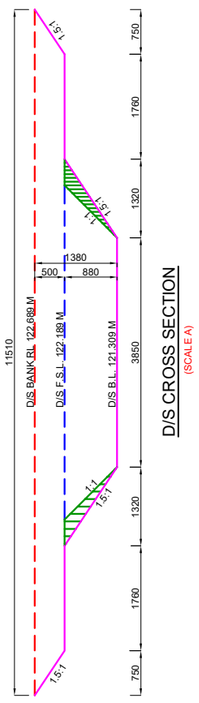
U/S CROSS SECTION

(SCALE A)



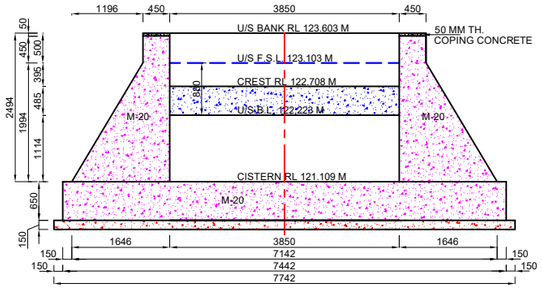
HALF TOP / HALF FOUNDATION PLAN

(SCALE A)



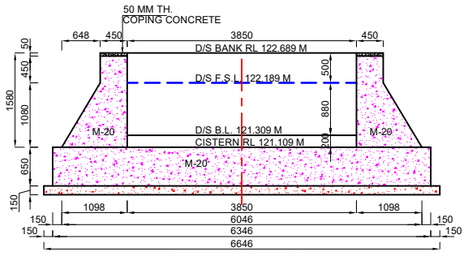
D/S CROSS SECTION

(SCALE A)



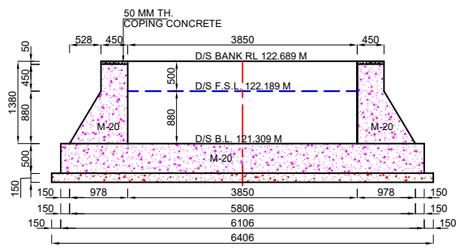
SECTION AT 1-1

(SCALE A)



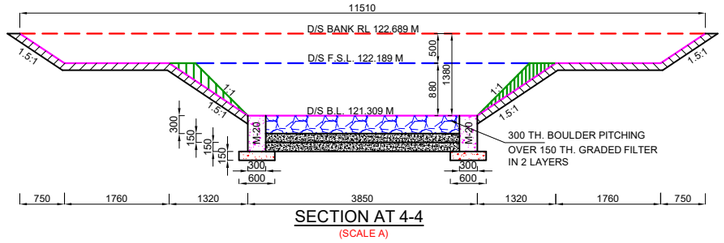
SECTION AT 2-2

(SCALE A)



SECTION AT 3-3

(SCALE A)



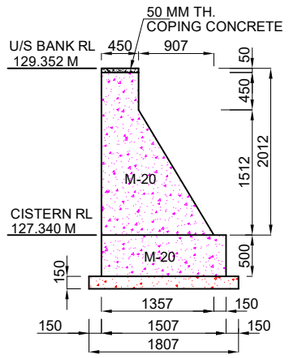
SECTION AT 4-4

(SCALE A)

SCALE A:-

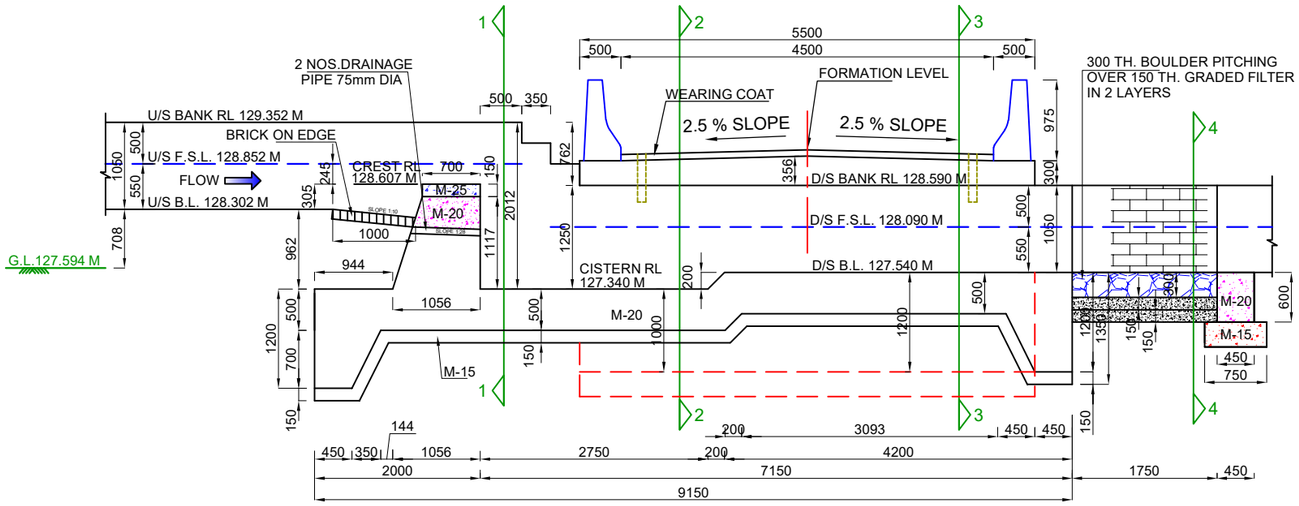
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Prepared by :- WAPCOS LTD.	Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
	Drawing Title :-	SHARDA TYPE 0.914 M HT. FALL AT KM. 13.325 OF CHAIN NAWADA SUB-DY (OFFTAKE FROM RD - 94+494 KM. (L), NORTH KOEL RIGHT MAIN CANAL)
	Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34/ FALL 1 of 1



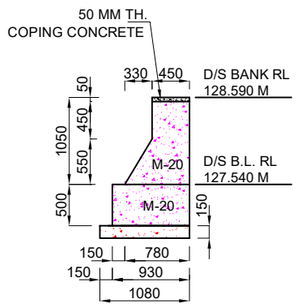
SECTION AT 5-5

(SCALE A)



SECTION A-A

(SCALE A)



SECTION AT 6-6

(SCALE A)

NOTES:-

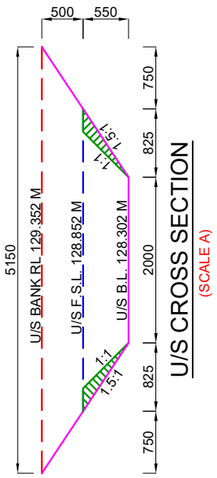
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PCC UNDER FLOOR	M 15
FOUNDATION OF ABUTMENTS & WING WALL	M 20
FLOOR	M 20
ABUTMENTS / WING WALLS	M 20
SLAB & DIRT WALL	M 25

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.

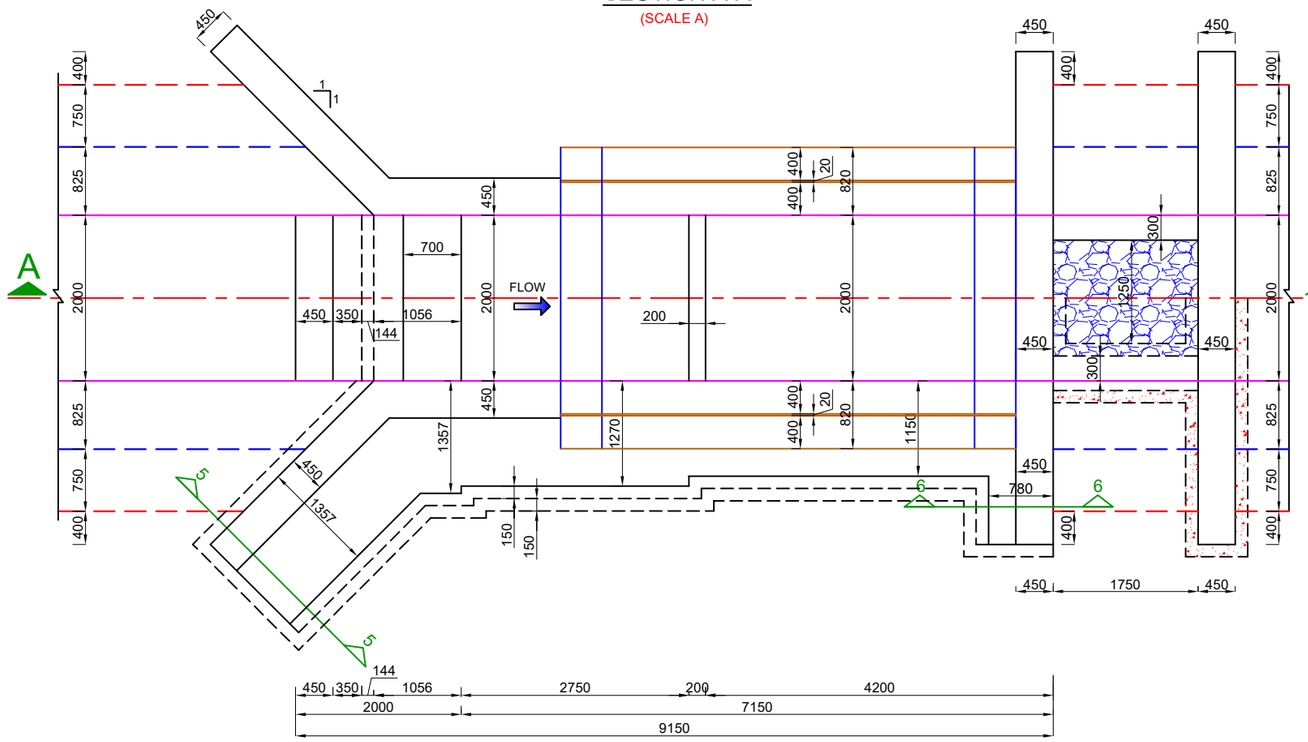
HYDRAULIC:- DATA

	U/S	D/S	UNIT
FULL SUPPLY DISCHARGE	0.400	0.400	CUMEC
VERTICAL DROP	0.762	0.762	METRE
FULL SUPPLY DEPTH	0.550	0.550	METRE
BED WIDTH	2.000	2.000	METRE
BED SLOPE	1 : 4500	1 : 4500	



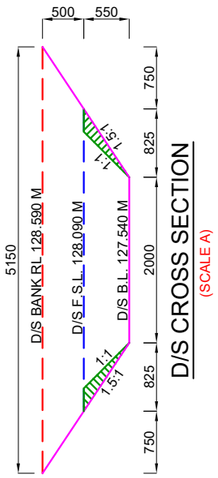
U/S CROSS SECTION

(SCALE A)



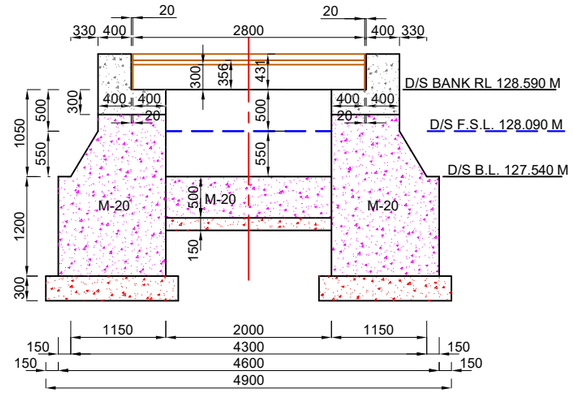
HALF TOP / HALF FOUNDATION PLAN

(SCALE A)



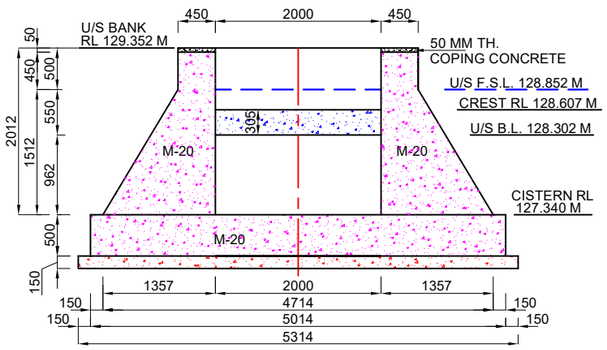
D/S CROSS SECTION

(SCALE A)



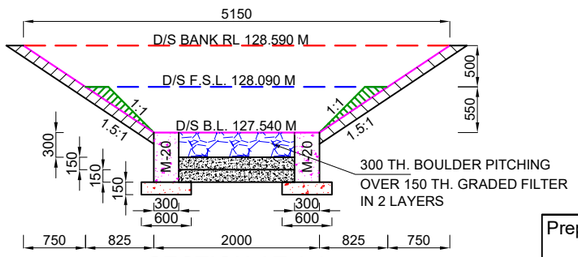
SECTION AT 3-3

(SCALE A)



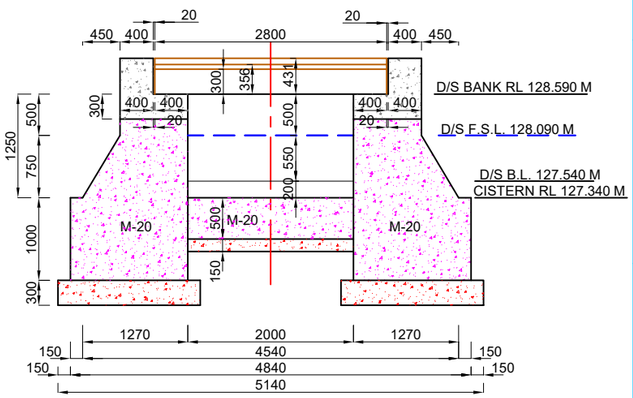
SECTION AT 1-1

(SCALE A)



SECTION AT 4-4

(SCALE A)



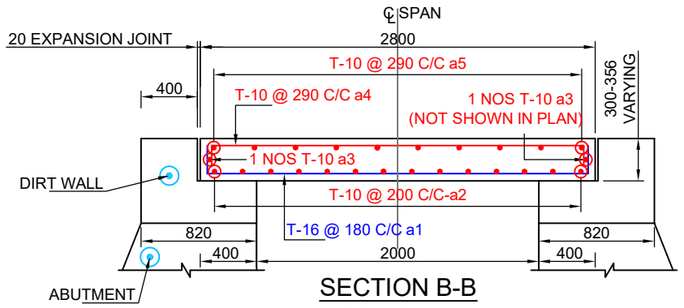
SECTION AT 2-2

(SCALE A)

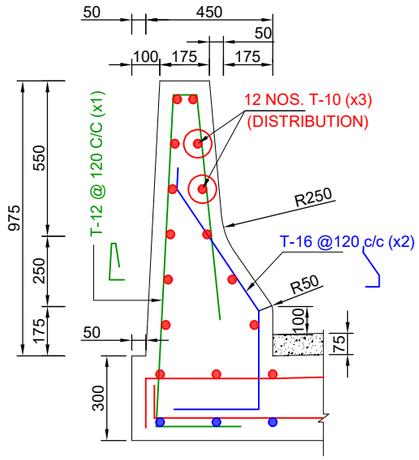
SCALE A:-

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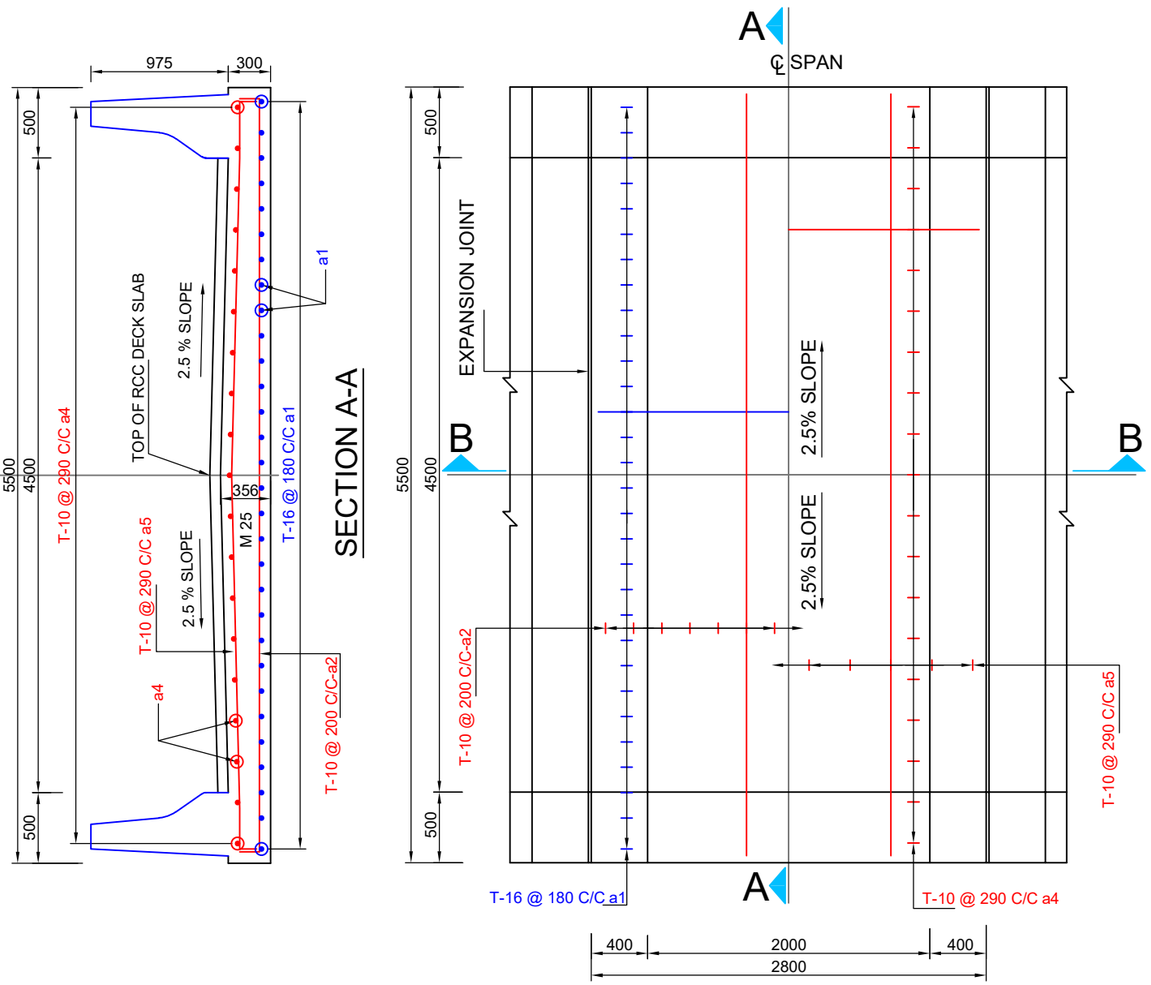
Prepared by :- WAPCOS LTD.	Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
	Drawing Title :-	SHARDA TYPE 0.762 M HT. FALL AT KM. 0.200 OF PARANPUR MR. (OFFTAKE FROM RD - 9+325 KM. (L), CHAIN NAWADA SUB-DY.)
	Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34-01/ FALL 1 of 2



SECTION B-B
(SCALE A)



REINF. DETAILS OF CRASH BARRIER IN MAIN SLAB
(SCALE B)



BOTTOM REINFORCEMENT TOP REINFORCEMENT

PLAN SHOWING REINFORCEMENT DETAILS OF DECK SLAB
(SCALE A)

BAR BENDING SCHEDULE

S. No.	Type of bars	Shape of bars (not to scale) (Dimensions are in millimetres)	Dia of Bars (mm)	Spacing (mm)	Nos. of Bars
SLAB PER SPAN					
1	a1	200, R=80, 2700, 200	16	180	31
2	a2	200, R=50, 5400, 200	10	200	14
3	a3	5400	10	-	2
4	a4	2700, 200, R=40, 200	10	290	19
5	a5	200, 450, 2250, 2250, 450, 200	10	290	10
CRASH BARRIER					
1	x1	75, 1176, 950, 300	12	120	24X2
2	x2	75, 540, 350, 300	16	120	24X2
3	x3	2700	10	-	12X2

NOTES:-

1 ALL DIMENSIONS ARE IN mm AND LEVELS IN METRES EXCEPT OTHERWISE MENTIONED.
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3 ALL CONCRETE WORK SHALL CONFORM TO IS:456 - 2000. GRADE OF CONCRETE IN DIFFERENT COMPONENTS SHALL BE AS FOLLOWS,
BRIDGE SLAB & PARAPET M-25
4. ALL REINFORCEMENT BARS SHALL BE OF HIGH YIELD STRENGTH DEFORMED BARS (Fe 415) COMFORMING I.S. 1786.
5. MIN. CLEAR COVER TO ANY REINF. INCLUDING STIRRUPS SHALL BE 40 MM OR UNLESS OTHERWISE SPECIFIED.
6. THE COVER INDICATED IN THIS DRAWINGS IS CLEAR COVER TO MAIN REINFORCEMENT BARS NEAREST TO THE CONCRETE SURFACE INCLUDING STIRRUPS AND BINDERS UNLESS MENTIONED OTHERWISE.
7. BENDING OF REINF. BARS SHALL CONFORM TO I.S. 2502.
8. REINF. BARS SHALL BE CUT AND ADJUSTED TO ACCOMODATE DRAINAGE SPOUT.
9. 75 MM THK. WEARING COAT IN M-25 CC SHALL BE PROVIDED.
10. APPROACH SLAB & APPROACH SLAB SUPPORT SHALL BE DECIDED BY FIELD ENGINEERS ACCORDING TO THE SITE CONDITIONS.
11. TARFELT BEARING SHALL BE PROVIDED UNDER SLAB AT SUPPORT.
12. THE REINFORCEMENT OF CRASH BARRIER SHALL BE INCORPORATED BEFORE CASTING OF THE DECK SLAB.
13. 8 MM DIA BAR @ 200 C/C IN BOTH DIRECTION SHALL BE PROVIDED IN WEARING COAT AT MIDDLE DEPTH.
14. WHEN BARS OF TWO DIFFERENT DIAMETERS ARE TO BE SPLICED, THE LAP LENGTH SHALL BE CALCULATED ON THE BASIS OF DIAMETER OF SMALLER BAR.
15. THE DEVELOPMENT LENGTH OF BARS ARE GIVEN BELOW:

DEVELOPMENT LENGTH FULLY STRESSED DEFORMED BARS (fy=500N/mm²) (IS 456 CLAUSE 26.2.1)

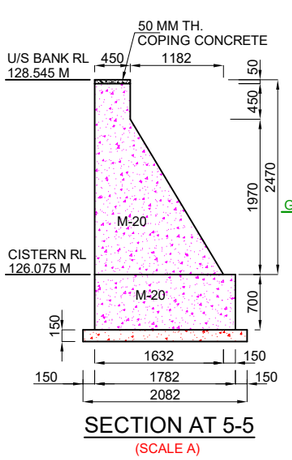
TENSION BARS GRADE OF CONCRETE				COMPRESSION BARS GRADE OF CONCRETE			
M15	M20	M25	M30	M15	M20	M25	M30
68.00	56.60	48.50	45.30	54.40	45.30	38.80	36.30
81.60	68.00	58.30	54.40	65.30	54.40	46.60	43.50
108.80	90.60	77.70	72.50	87.00	87.00	62.10	58.00
135.90	113.30	97.10	90.60	108.80	108.80	77.70	72.50
169.90	141.60	121.40	113.30	135.90	135.90	97.10	90.60
217.50	181.30	155.40	145.00	174.00	174.00	124.30	116.00

1. THE DEVELOPMENT LENGTHS GIVEN ABOVE ARE FOR A STRESS OF 0.87 fy IN THE BAR
2. THE DEVELOPMENT LENGTH INCLUDES ANCHORAGE VALUES OF HOOKS IN TENSION REINFORCEMENT.

16. LAPPING OF REINFORCEMENT SHALL BE AVOIDED AS FAR IS POSSIBLE IN CASE LAPPING OF BARS BECOMES UNAVOIDABLE, MINIMUM LAP LENGTH OF REINFORCEMENT BARS SHALL BE CALCULATED AS FOLLOW WITH MAXIMUM ALLOWABLE LAPPING (p) OF 50 % ONLY (IRC:112 - 2011) CLAUSE: 15.2.5.1)
LAP LENGTH = α1. lbnet
WHERE, α1 = 1.0 for p%≤25%
α1 = 1.15 for 25%≤p%≤33%
α1 = 1.4 for 33%≤p%≤50%
17. THE STRAIGHT LENGTH OF THE LAP SHOULD NOT BE LESS THAN 15Ø OR 200 MM (WHICH EVER IS MORE)
18. THE LAP LENGTH MUST BE AT LEAST EQUAL TO DEVELOPMENT LENGTH IN NO CASE, THE LAP LENGTH SHOULD BE LESS THAN 30Ø FOR FLEXURAL AND DIRECT TENSION AND 24Ø FOR COMPRESSION.
19. LAP SPLICES SHALL BE CONSIDERED AS STAGGERED IF THE C/C DISTANCE OF SPLICES IS NOT LESS THAN 1.3 TIMES THE LAP LENGTH CALCULATED.
20. WHEN BARS OF TWO DIFFERENT DIAMETERS ARE TO BE SPLICED, THE LAP LENGTH SHALL BE CALCULATED ON THE BASIS OF DIAMETER OF SMALLER BAR.

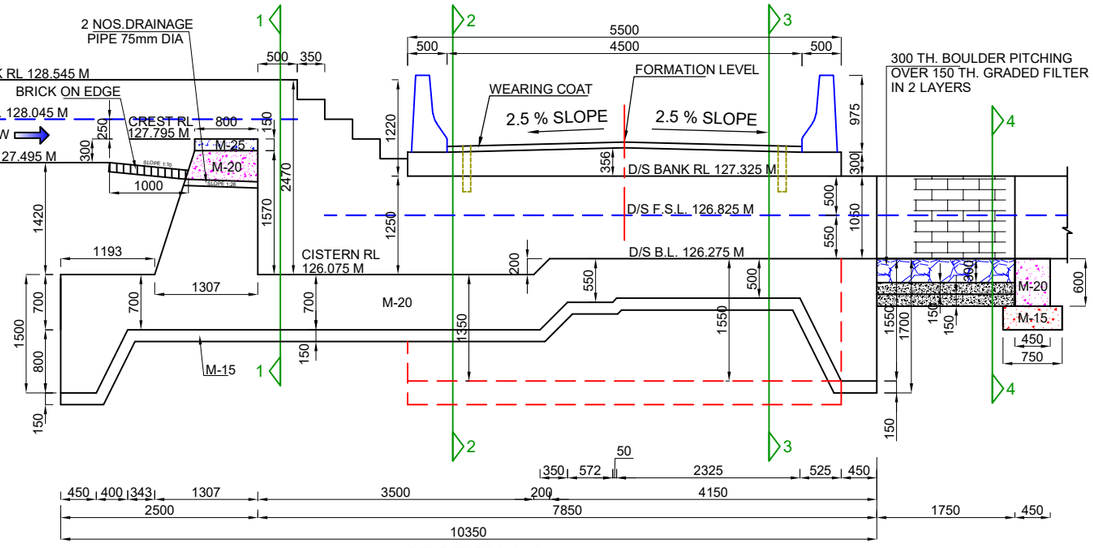
SCALE A:- 400 0 400 800 1200
SCALE B:- 200 0 200 400 600

Prepared by :- WAPCOS LTD.	Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
	Drawing Title :-	REINFORCEMENT DETAILS OF SLAB FOR FALL CUM BRG. AT KM. 0.300 OF PARANPUR MR. OFFTAKE FROM RD - 9+325 KM. (L), CHAIN NAWADA SUB-DY.)
	Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34-01/ FALL 2 of 2



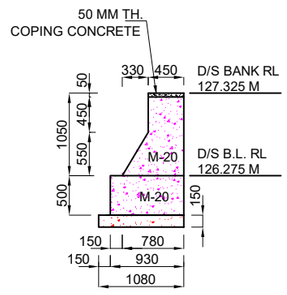
SECTION AT 5-5

(SCALE A)



SECTION A-A

(SCALE A)



SECTION AT 6-6

(SCALE A)

NOTES:-

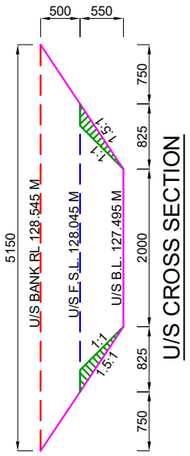
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PCC UNDER FLOOR	M 15
FOUNDATION OF ABUTMENTS & WING WALL	M 20
FLOOR	M 20
ABUTMENTS / WING WALLS	M 20
SLAB & DIRT WALL	M 25

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.

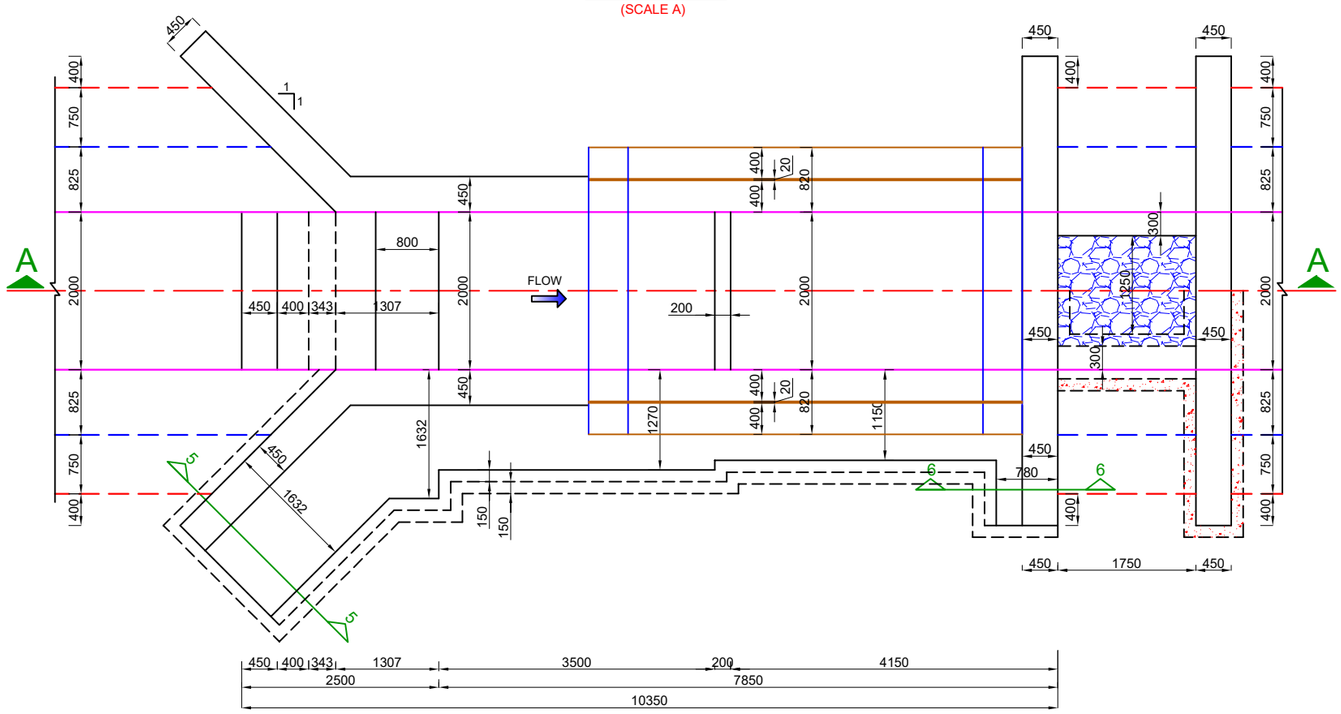
HYDRAULIC:- DATA

	U/S	D/S	UNIT
FULL SUPPLY DISCHARGE	0.400	0.400	CUMEC
VERTICAL DROP	1.220	1.220	METRE
FULL SUPPLY DEPTH	0.550	0.550	METRE
BED WIDTH	2.000	2.000	METRE
BED SLOPE	1 : 4500	1 : 4500	



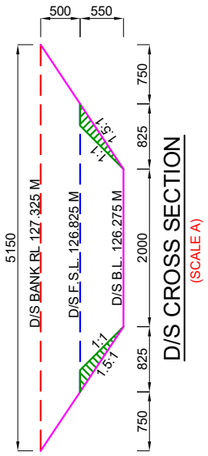
U/S CROSS SECTION

(SCALE A)



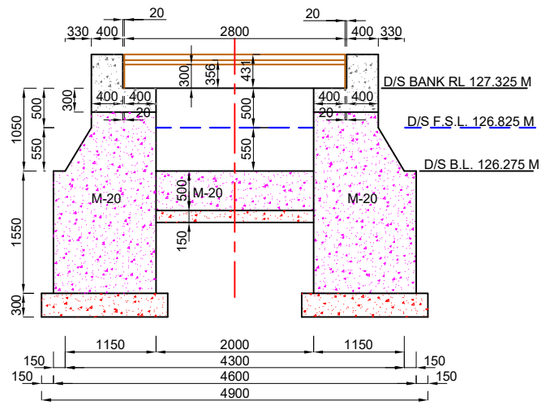
HALF TOP / HALF FOUNDATION PLAN

(SCALE A)



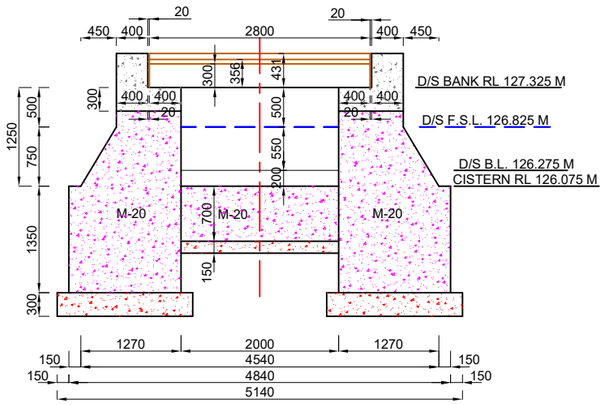
D/S CROSS SECTION

(SCALE A)



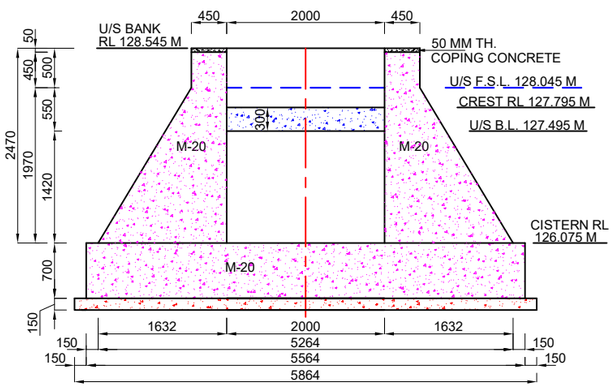
SECTION AT 3-3

(SCALE A)



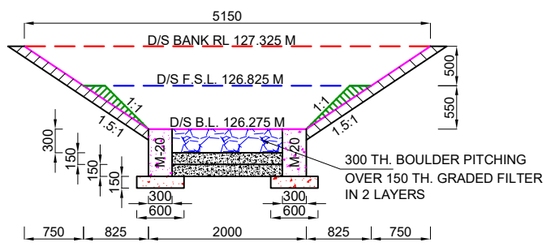
SECTION AT 2-2

(SCALE A)



SECTION AT 1-1

(SCALE A)



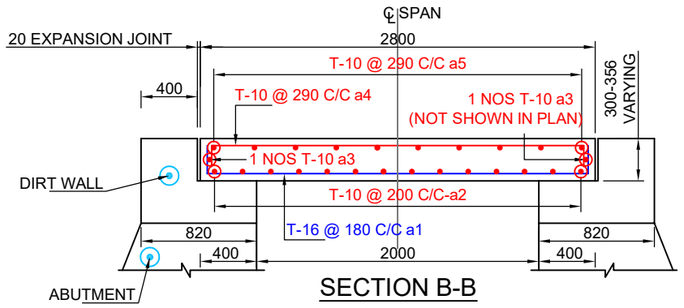
SECTION AT 4-4

(SCALE A)

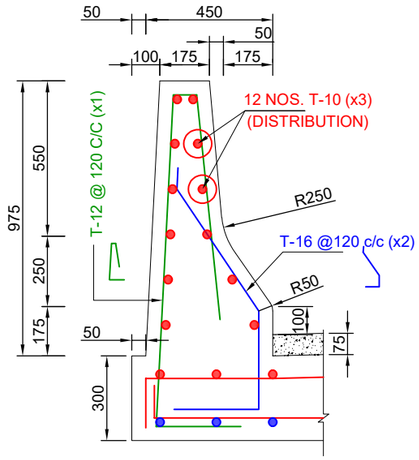
SCALE A:-

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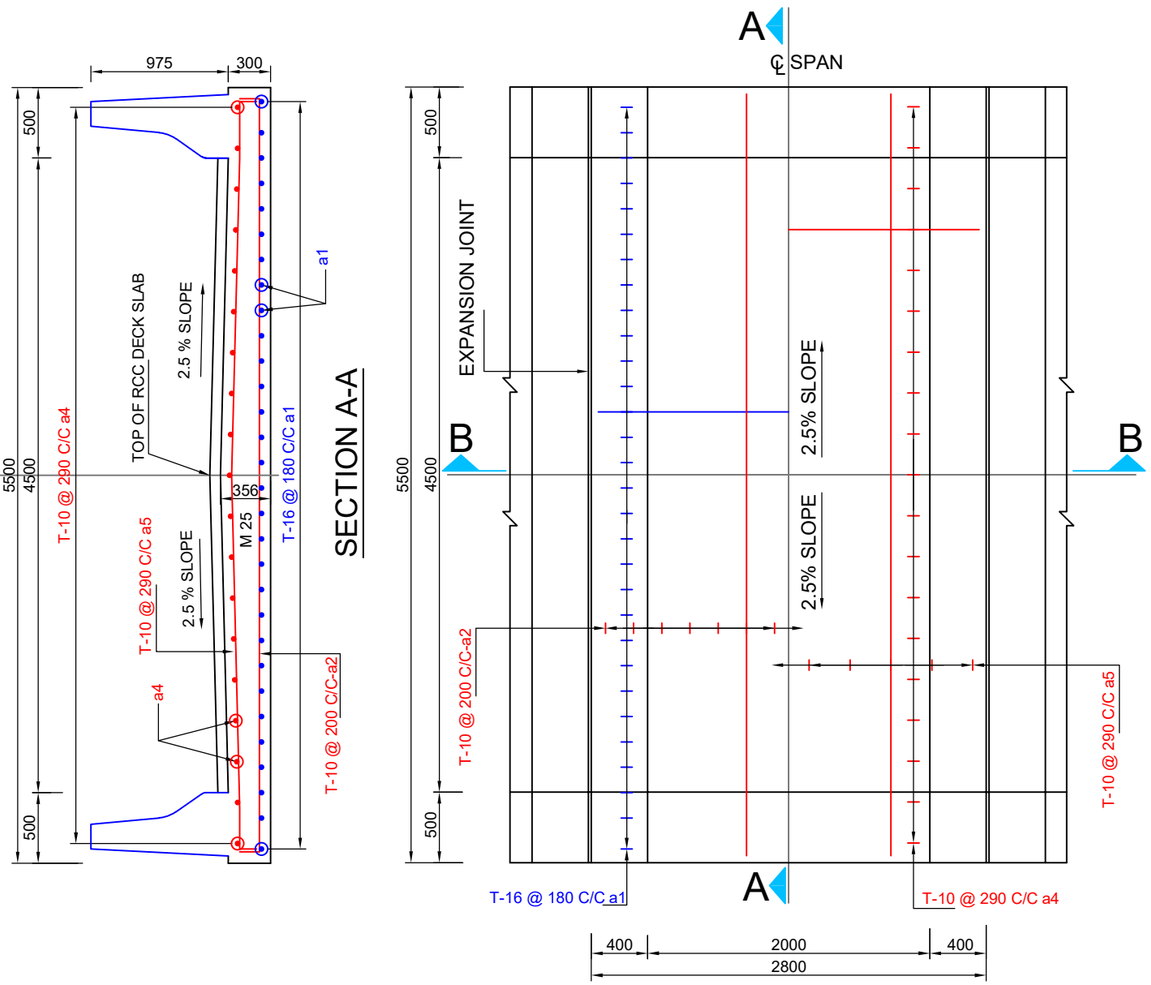
Prepared by :- WAPCOS LTD.	Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
	Drawing Title :-	SHARDA TYPE 1.220 M HT. FALL AT KM. 0.400 OF PARANPUR MR. (OFFTAKE FROM RD - 9+325 KM. (L), CHAIN NAWADA SUB-DY.)
	Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34-01/ FALL 1 of 2



SECTION B-B
(SCALE A)



REINF. DETAILS OF CRASH BARRIER IN MAIN SLAB
(SCALE B)



BOTTOM REINFORCEMENT TOP REINFORCEMENT

PLAN SHOWING REINFORCEMENT DETAILS OF DECK SLAB
(SCALE A)

BAR BENDING SCHEDULE

S. No.	Type of bars	Shape of bars (not to scale) (Dimensions are in millimetres)	Dia of Bars (mm)	Spacing (mm)	Nos. of Bars
SLAB PER SPAN					
1	a1	200, R=80, 2700, 200	16	180	31
2	a2	200, R=50, 5400, 200	10	200	14
3	a3	5400	10	-	2
4	a4	2700, 200, R=40, 200	10	290	19
5	a5	200, 450, 2250, 2250, 450, 200	10	290	10
CRASH BARRIER					
1	x1	75, 1176, 950, 300	12	120	24X2
2	x2	75, 540, 350, 300	16	120	24X2
3	x3	2700	10	-	12X2

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,
BRIDGE SLAB & PARAPET M-25
4. ALL REINFORCEMENT BARS SHALL BE OF HIGH YIELD STRENGTH DEFORMED BARS (Fe 415) COMFORMING I.S. 1786.
5. MIN. CLEAR COVER TO ANY REINF. INCLUDING STIRRUPS SHALL BE 40 MM OR UNLESS OTHERWISE SPECIFIED.
6. THE COVER INDICATED IN THIS DRAWINGS IS CLEAR COVER TO MAIN REINFORCEMENT BARS NEAREST TO THE CONCRETE SURFACE INCLUDING STIRRUPS AND BINDERS UNLESS MENTIONED OTHERWISE.
7. BENDING OF REINF. BARS SHALL CONFORM TO I.S. 2502.
8. REINF. BARS SHALL BE CUT AND ADJUSTED TO ACCOMODATE DRAINAGE SPOUT.
9. 75 MM THK. WEARING COAT IN M-25 CC SHALL BE PROVIDED.
10. APPROACH SLAB & APPROACH SLAB SUPPORT SHALL BE DECIDED BY FIELD ENGINEERS ACCORDING TO THE SITE CONDITIONS.
11. TARFELT BEARING SHALL BE PROVIDED UNDER SLAB AT SUPPORT.
12. THE REINFORCEMENT OF CRASH BARRIER SHALL BE INCORPORATED BEFORE CASTING OF THE DECK SLAB.
13. 8 MM DIA BAR @ 200 C/C IN BOTH DIRECTION SHALL BE PROVIDED IN WEARING COAT AT MIDDLE DEPTH.
14. WHEN BARS OF TWO DIFFERENT DIAMETERS ARE TO BE SPLICED, THE LAP LENGTH SHALL BE CALCULATED ON THE BASIS OF DIAMETER OF SMALLER BAR.
15. THE DEVELOPMENT LENGTH OF BARS ARE GIVEN BELOW:

DEVELOPMENT LENGTH FULLY STRESSED DEFORMED BARS (fy=500N/mm²) (IS 456 CLAUSE 26.2.1)

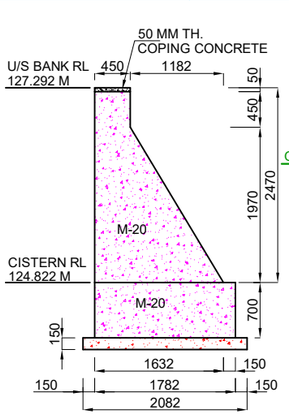
TENSION BARS GRADE OF CONCRETE				COMPRESSION BARS GRADE OF CONCRETE			
M15	M20	M25	M30	M15	M20	M25	M30
68.00	56.60	48.50	45.30	54.40	45.30	38.80	36.30
81.60	68.00	58.30	54.40	65.30	54.40	46.60	43.50
108.80	90.60	77.70	72.50	87.00	87.00	62.10	58.00
135.90	113.30	97.10	90.60	108.80	108.80	77.70	72.50
169.90	141.60	121.40	113.30	135.90	135.90	97.10	90.60
217.50	181.30	155.40	145.00	174.00	174.00	124.30	116.00

1. THE DEVELOPMENT LENGTHS GIVEN ABOVE ARE FOR A STRESS OF 0.87 fy IN THE BAR
2. THE DEVELOPMENT LENGTH INCLUDES ANCHORAGE VALUES OF HOOKS IN TENSION REINFORCEMENT.

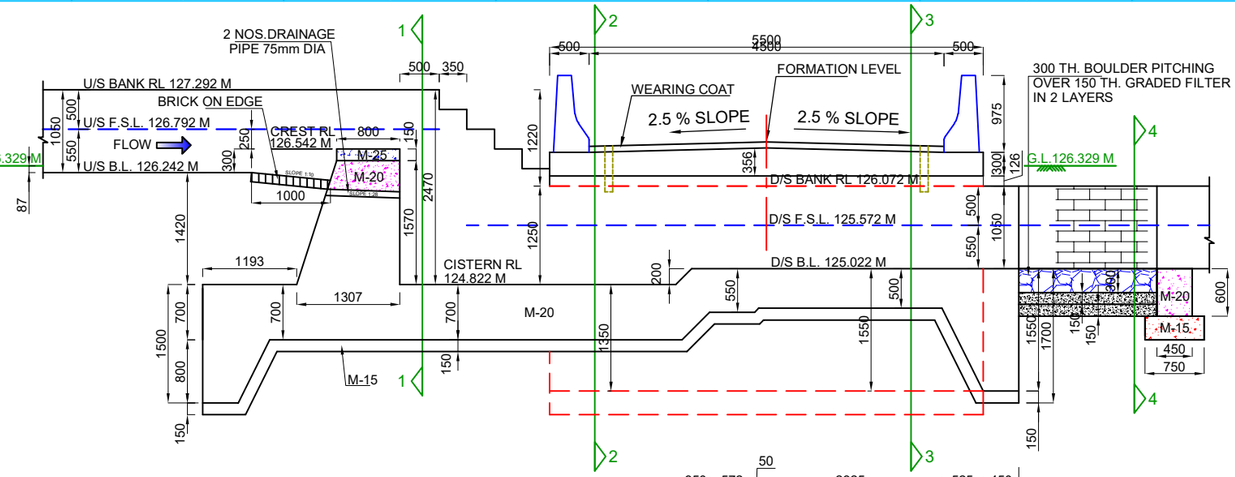
16. LAPPING OF REINFORCEMENT SHALL BE AVOIDED AS FAR IS POSSIBLE IN CASE LAPPING OF BARS BECOMES UNAVOIDABLE, MINIMUM LAP LENGTH OF REINFORCEMENT BARS SHALL BE CALCULATED AS FOLLOW WITH MAXIMUM ALLOWABLE LAPPING (p) OF 50 % ONLY (IRC:112 - 2011) CLAUSE: 15.2.5.1)
LAP LENGTH = α1. lbnet
WHERE, α1 = 1.0 for p%≤25%
α1 = 1.15 for 25%≤p%≤33%
α1 = 1.4 for 33%≤p%≤50%
17. THE STRAIGHT LENGTH OF THE LAP SHOULD NOT BE LESS THAN 15Ø OR 200 MM (WHICH EVER IS MORE)
18. THE LAP LENGTH MUST BE AT LEAST EQUAL TO DEVELOPMENT LENGTH IN NO CASE, THE LAP LENGTH SHOULD BE LESS THAN 30Ø FOR FLEXURAL AND DIRECT TENSION AND 24Ø FOR COMPRESSION.
19. LAP SPLICES SHALL BE CONSIDERED AS STAGGERED IF THE C/C DISTANCE OF SPLICES IS NOT LESS THAN 1.3 TIMES THE LAP LENGTH CALCULATED.
20. WHEN BARS OF TWO DIFFERENT DIAMETERS ARE TO BE SPLICED, THE LAP LENGTH SHALL BE CALCULATED ON THE BASIS OF DIAMETER OF SMALLER BAR.

SCALE A:- 400 0 400 800 1200
SCALE B:- 200 0 200 400 600

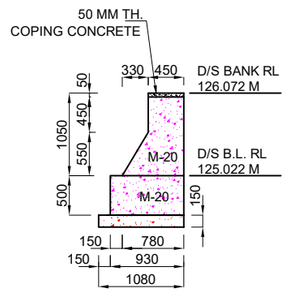
Prepared by :- WAPCOS LTD.	
Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
Drawing Title :-	REINFORCEMENT DETAILS OF SLAB FOR FALL CUM BRG. AT KM. 0.400 OF PARANPUR MR. OFFTAKE FROM RD - 9+325 KM. (L), CHAIN NAWADA SUB-DY.)
Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34-01/ FALL 2 of 2



SECTION AT 5-5
(SCALE A)



SECTION A-A
(SCALE A)



SECTION AT 6-6
(SCALE A)

NOTES:-

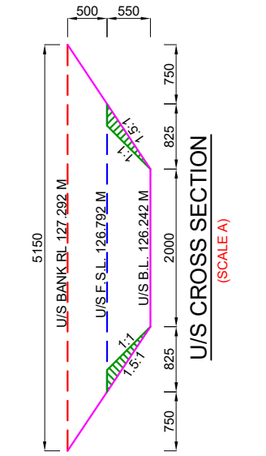
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3. ALL CONCRETE WORK SHALL CONFORM TO IS: 456 -2000. GRADE OF CONCRETE IN DIFFERENT COMPONENTS SHALL BE AS FOLLOWS,

PCC UNDER FLOOR	M 15
FOUNDATION OF ABUTMENTS & WING WALL	M 20
FLOOR	M 20
ABUTMENTS / WING WALLS	M 20
SLAB & DIRT WALL	M 25

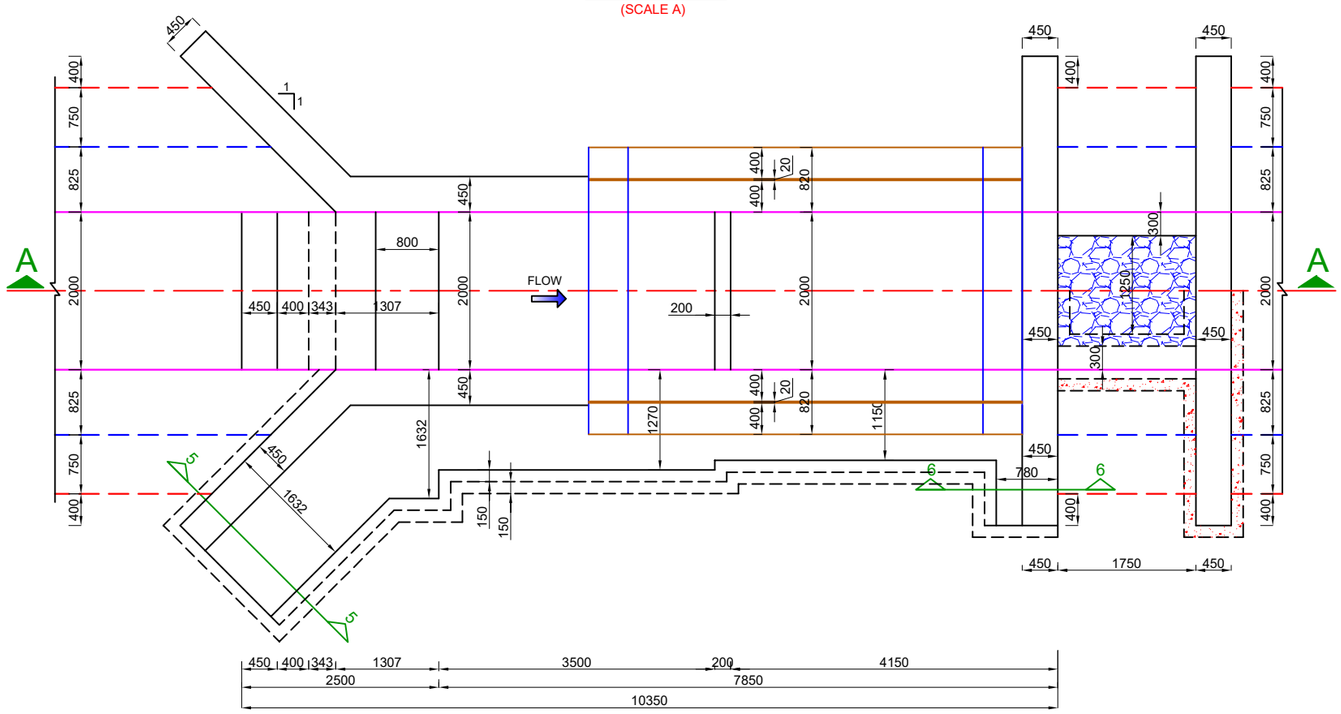
4. ANY OVER DIGGING SHALL BE FILLED BY CONCRETE 1:3:6 GRADE.
5. SKIN REINFORCEMENT SHALL BE PROVIDED IN FLOOR AND ABUTMENT OF 12 MM DIA BARS @ 250 MM.

HYDRAULIC:- DATA

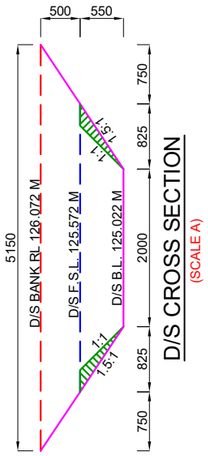
	U/S	D/S	UNIT
FULL SUPPLY DISCHARGE	0.400	0.400	CUMEC
VERTICAL DROP	1.220	1.220	METRE
FULL SUPPLY DEPTH	0.550	0.550	METRE
BED WIDTH	2.000	2.000	METRE
BED SLOPE	1 : 4500	1 : 4500	



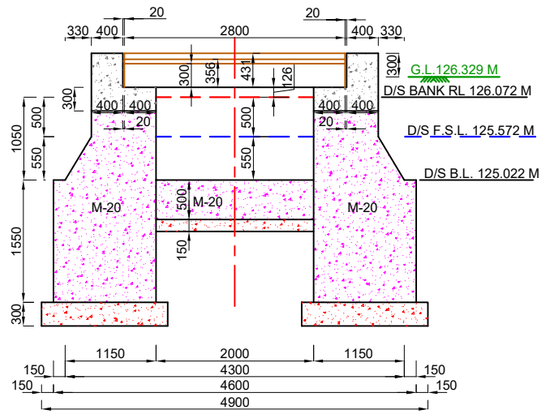
U/S CROSS SECTION
(SCALE A)



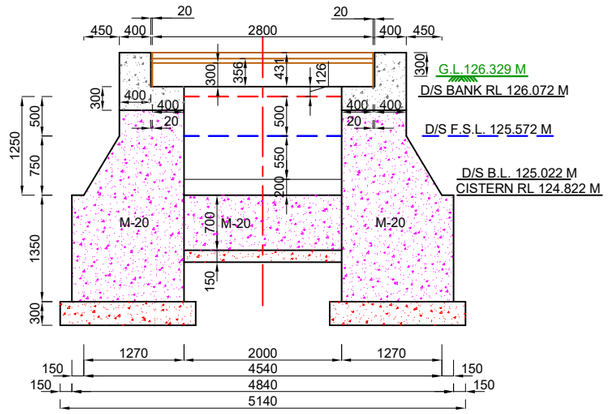
HALF TOP / HALF FOUNDATION PLAN
(SCALE A)



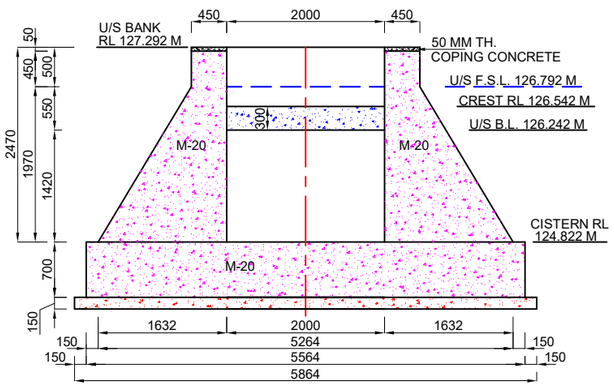
D/S CROSS SECTION
(SCALE A)



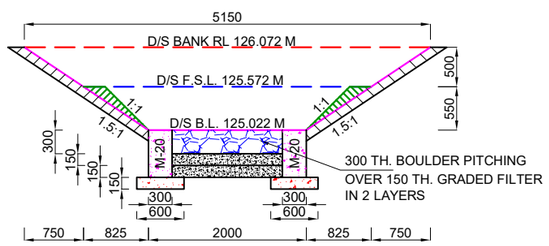
SECTION AT 3-3
(SCALE A)



SECTION AT 2-2
(SCALE A)



SECTION AT 1-1
(SCALE A)

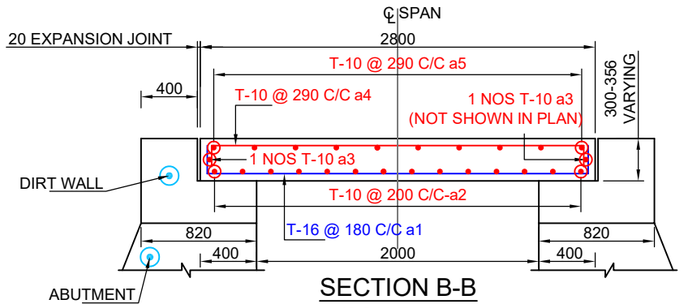


SECTION AT 4-4
(SCALE A)

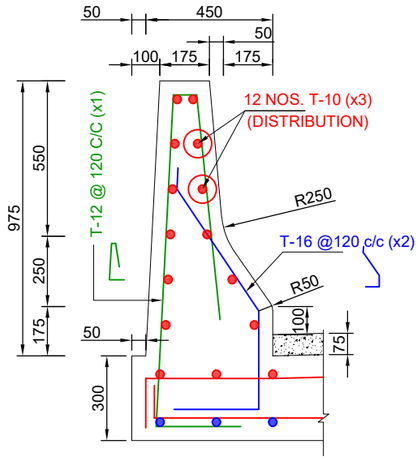
SCALE A:-

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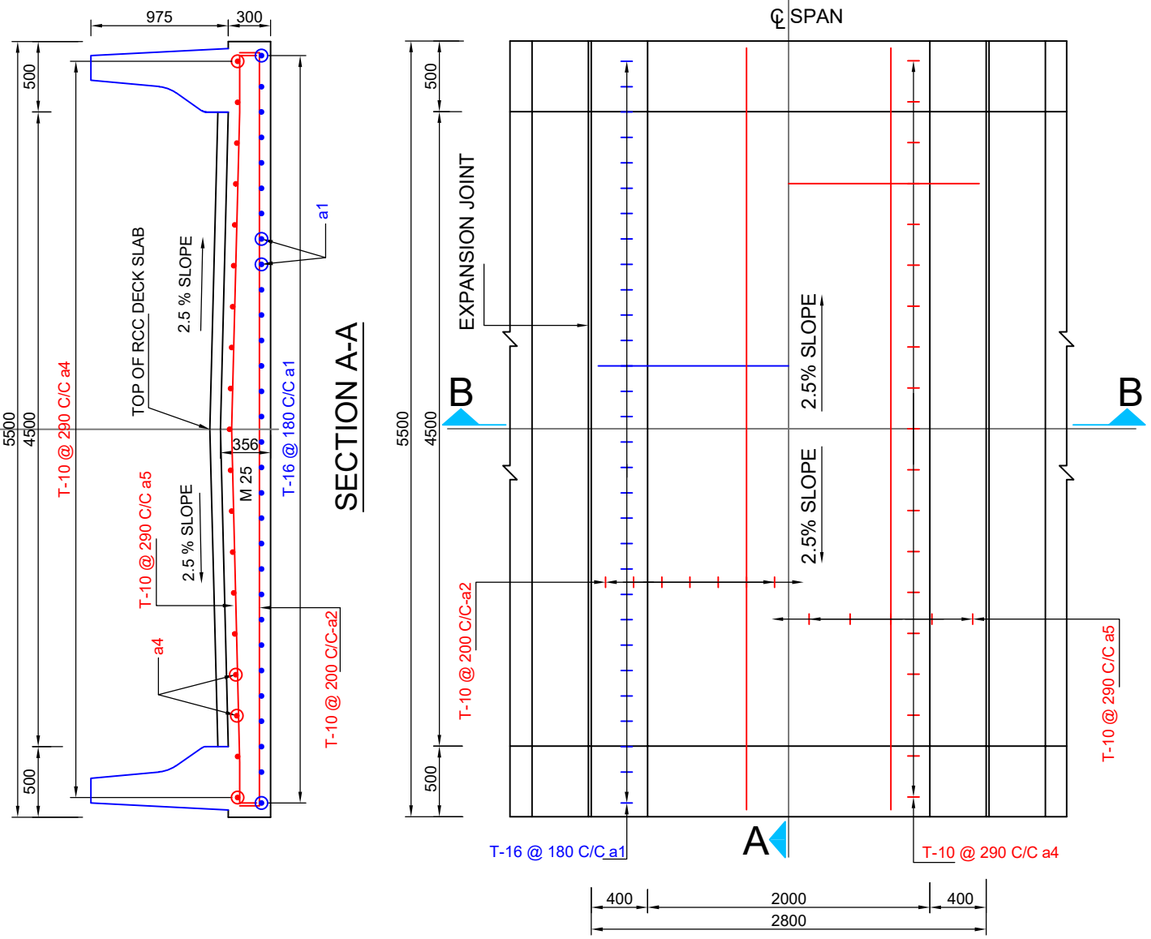
Prepared by :- WAPCOS LTD.	Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
	Drawing Title :-	SHARDA TYPE 1.220 M HT. FALL AT KM. 0.550 OF PARANPUR MR. (OFFTAKE FROM RD - 9+325 KM. (L), CHAIN NAWADA SUB-DY.)
	Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34-01/ FALL 1 of 2



SECTION B-B
(SCALE A)



REINF. DETAILS OF CRASH BARRIER IN MAIN SLAB
(SCALE B)



BOTTOM REINFORCEMENT TOP REINFORCEMENT

PLAN SHOWING REINFORCEMENT DETAILS OF DECK SLAB
(SCALE A)

BAR BENDING SCHEDULE

S. No.	Type of bars	Shape of bars (not to scale) (Dimensions are in millimetres)	Dia of Bars (mm)	Spacing (mm)	Nos. of Bars
SLAB PER SPAN					
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2	a2	200, R=50, 5400, 200	10	200	14
3	a3	5400	10	-	2
4	a4	2700, 200, R=40, 200	10	290	19
5	a5	200, 450, 2250, 2250, 450, 200	10	290	10
CRASH BARRIER					
1	x1	75, 1176, 950, 300	12	120	24X2
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9. 75 MM THK. WEARING COAT IN M-25 CC SHALL BE PROVIDED.
10. APPROACH SLAB & APPROACH SLAB SUPPORT SHALL BE DECIDED BY FIELD ENGINEERS ACCORDING TO THE SITE CONDITIONS.
11. TARFELT BEARING SHALL BE PROVIDED UNDER SLAB AT SUPPORT.
12. THE REINFORCEMENT OF CRASH BARRIER SHALL BE INCORPORATED BEFORE CASTING OF THE DECK SLAB.
13. 8 MM DIA BAR @ 200 C/C IN BOTH DIRECTION SHALL BE PROVIDED IN WEARING COAT AT MIDDLE DEPTH.
14. WHEN BARS OF TWO DIFFERENT DIAMETERS ARE TO BE SPLICED, THE LAP LENGTH SHALL BE CALCULATED ON THE BASIS OF DIAMETER OF SMALLER BAR.
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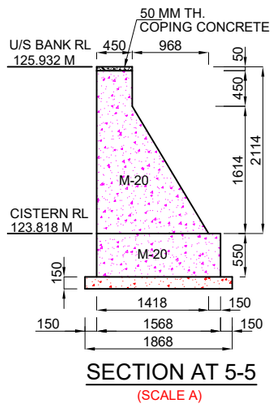
TENSION BARS GRADE OF CONCRETE				COMPRESSION BARS GRADE OF CONCRETE			
M15	M20	M25	M30	M15	M20	M25	M30
68.00	56.60	48.50	45.30	54.40	45.30	38.80	36.30
81.60	68.00	58.30	54.40	65.30	54.40	46.60	43.50
108.80	90.60	77.70	72.50	87.00	87.00	62.10	58.00
135.90	113.30	97.10	90.60	108.80	108.80	77.70	72.50
169.90	141.60	121.40	113.30	135.90	135.90	97.10	90.60
217.50	181.30	155.40	145.00	174.00	174.00	124.30	116.00

1. THE DEVELOPMENT LENGTHS GIVEN ABOVE ARE FOR A STRESS OF 0.87 fy IN THE BAR
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LAP LENGTH = α1. lbnet
WHERE, α1 = 1.0 for p%≤25%
α1 = 1.15 for 25%≤p%≤33%
α1 = 1.4 for 33%≤p%≤50%
17. THE STRAIGHT LENGTH OF THE LAP SHOULD NOT BE LESS THAN 15Ø OR 200 MM (WHICH EVER IS MORE)
18. THE LAP LENGTH MUST BE AT LEAST EQUAL TO DEVELOPMENT LENGTH IN NO CASE, THE LAP LENGTH SHOULD BE LESS THAN 30Ø FOR FLEXURAL AND DIRECT TENSION AND 24Ø FOR COMPRESSION.
19. LAP SPLICES SHALL BE CONSIDERED AS STAGGERED IF THE C/C DISTANCE OF SPLICES IS NOT LESS THAN 1.3 TIMES THE LAP LENGTH CALCULATED.
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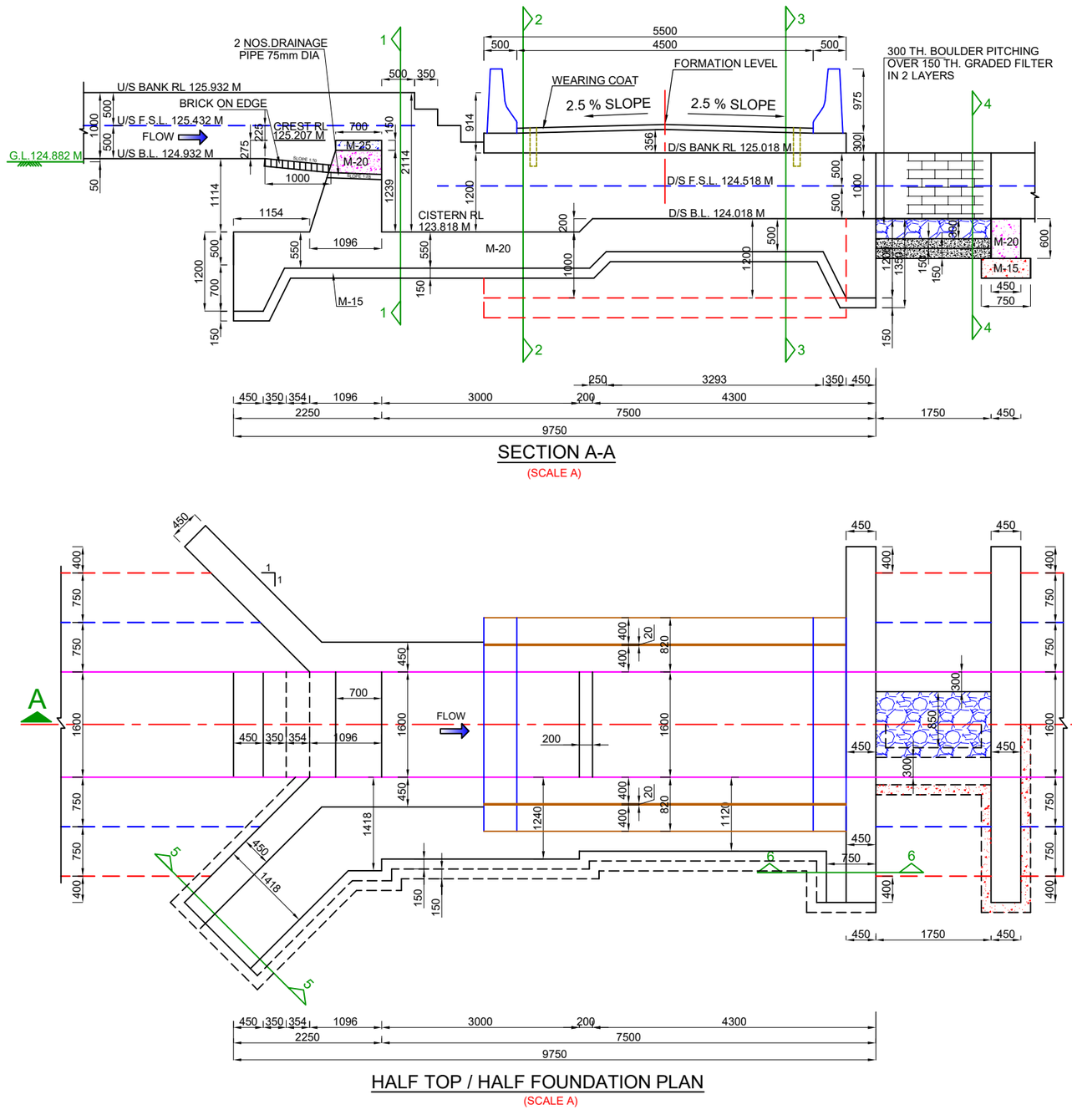
SCALE A:- 400 0 400 800 1200
SCALE B:- 200 0 200 400 600

Prepared by :- WAPCOS LTD.	
Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
Drawing Title :-	REINFORCEMENT DETAILS OF SLAB FOR FALL CUM BRG. AT KM. 0.550 OF PARANPUR MR. OFFTAKE FROM RD - 9+325 KM. (L), CHAIN NAWADA SUB-DY.)
Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34-01/ FALL 2 of 2



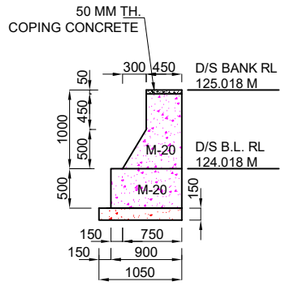
SECTION AT 5-5

(SCALE A)



SECTION A-A

(SCALE A)



SECTION AT 6-6

(SCALE A)

NOTES:-

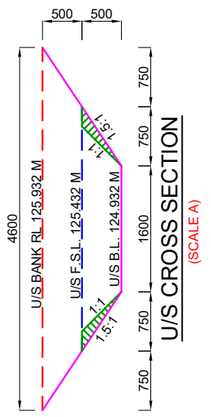
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3. ALL CONCRETE WORK SHALL CONFORM TO IS: 456 -2000. GRADE OF CONCRETE IN DIFFERENT COMPONENTS SHALL BE AS FOLLOWS,

PCC UNDER FLOOR	M 15
FOUNDATION OF ABUTMENTS & WING WALL	M 20
FLOOR	M 20
ABUTMENTS / WING WALLS	M 20
SLAB & DIRT WALL	M 25

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	0.280	0.280	CUMEC
VERTICAL DROP	0.914	0.914	METRE
FULL SUPPLY DEPTH	0.500	0.500	METRE
BED WIDTH	1.600	1.600	METRE
BED SLOPE	1 : 4400	1 : 4400	

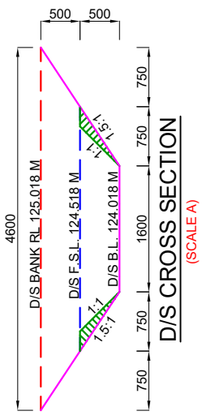


U/S CROSS SECTION

(SCALE A)

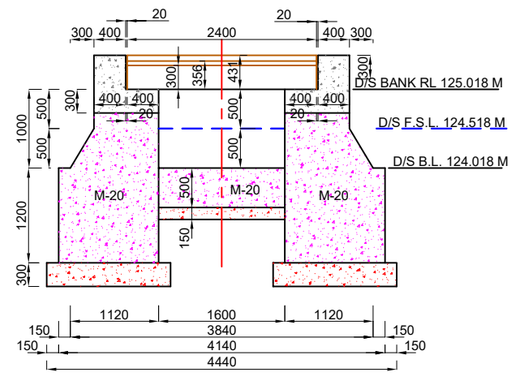
HALF TOP / HALF FOUNDATION PLAN

(SCALE A)



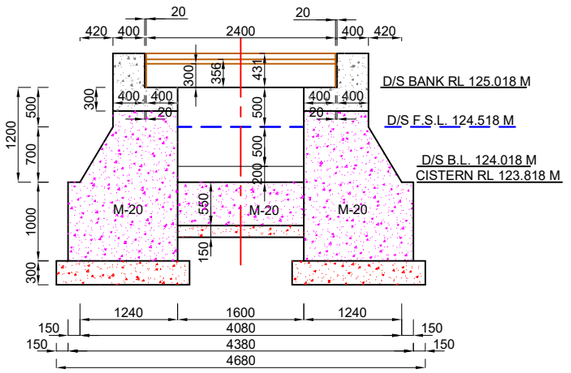
D/S CROSS SECTION

(SCALE A)



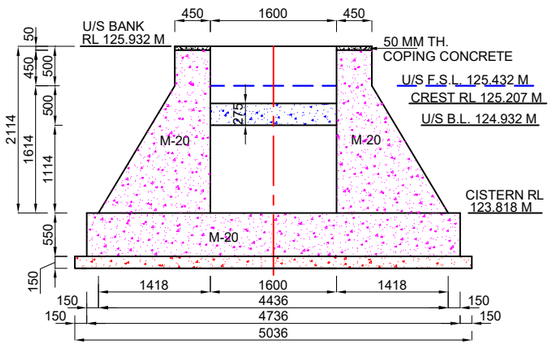
SECTION AT 3-3

(SCALE A)



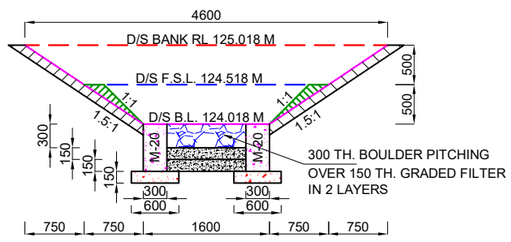
SECTION AT 2-2

(SCALE A)



SECTION AT 1-1

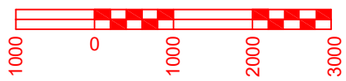
(SCALE A)



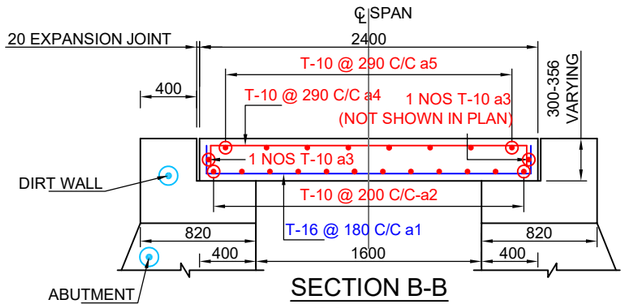
SECTION AT 4-4

(SCALE A)

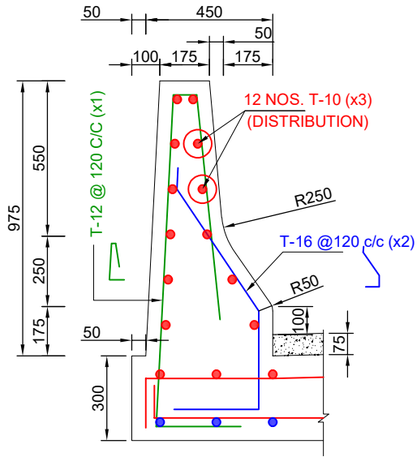
SCALE A:-



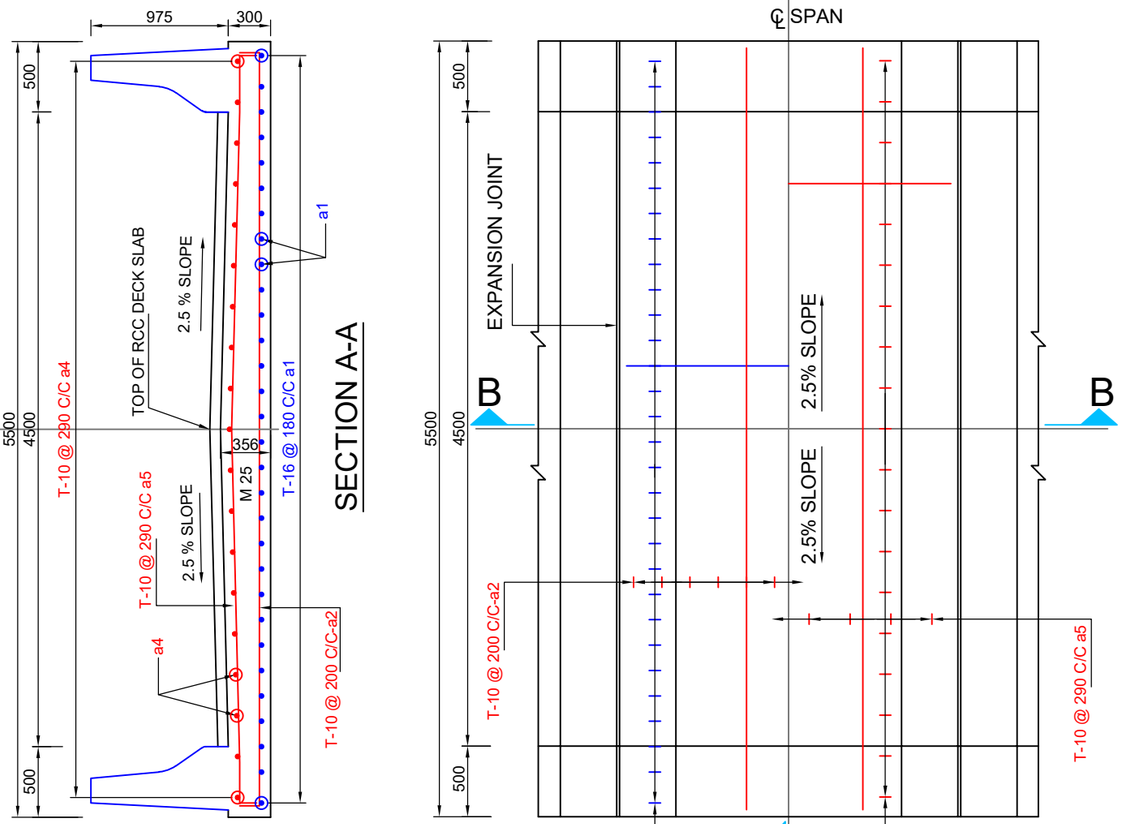
Prepared by :- WAPCOS LTD.	Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
	Drawing Title :-	SHARDA TYPE 0.914 M HT. FALL AT KM. 0.950 OF PARANPUR MR. (OFFTAKE FROM RD - 9+325 KM. (L), CHAIN NAWADA SUB-DY.)
	Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34-01/ FALL 1 of 2



SECTION B-B
(SCALE A)



REINF. DETAILS OF CRASH BARRIER IN MAIN SLAB
(SCALE B)



SECTION A-A

BOTTOM REINFORCEMENT TOP REINFORCEMENT

PLAN SHOWING REINFORCEMENT DETAILS OF DECK SLAB
(SCALE A)

BAR BENDING SCHEDULE

S. No.	Type of bars	Shape of bars (not to scale) (Dimensions are in millimetres)	Dia of Bars (mm)	Spacing (mm)	Nos. of Bars
SLAB PER SPAN					
1	a1	200, R=80, 2300, 200	16	180	31
2	a2	200, R=50, 5400, 200	10	200	12
3	a3	5400	10	-	2
4	a4	2300, 200, R=40, 200	10	290	19
5	a5	200, 450, 2250, 2250, 450, 200	10	290	8
CRASH BARRIER					
1	x1	75, 1176, 950, 300	12	120	21X2
2	x2	75, 540, 350, 300	16	120	21X2
3	x3	2300	10	-	12X2

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,
BRIDGE SLAB & PARAPET M-25
4. ALL REINFORCEMENT BARS SHALL BE OF HIGH YIELD STRENGTH DEFORMED BARS (Fe 415) COMFORMING I.S. 1786.
5. MIN. CLEAR COVER TO ANY REINF. INCLUDING STIRRUPS SHALL BE 40 MM OR UNLESS OTHERWISE SPECIFIED.
6. THE COVER INDICATED IN THIS DRAWINGS IS CLEAR COVER TO MAIN REINFORCEMENT BARS NEAREST TO THE CONCRETE SURFACE INCLUDING STIRRUPS AND BINDERS UNLESS MENTIONED OTHERWISE.
7. BENDING OF REINF. BARS SHALL CONFORM TO I.S. 2502.
8. REINF. BARS SHALL BE CUT AND ADJUSTED TO ACCOMODATE DRAINAGE SPOUT.
9. 75 MM THK. WEARING COAT IN M-25 CC SHALL BE PROVIDED.
10. APPROACH SLAB & APPROACH SLAB SUPPORT SHALL BE DECIDED BY FIELD ENGINEERS ACCORDING TO THE SITE CONDITIONS.
11. TARFELT BEARING SHALL BE PROVIDED UNDER SLAB AT SUPPORT.
12. THE REINFORCEMENT OF CRASH BARRIER SHALL BE INCORPORATED BEFORE CASTING OF THE DECK SLAB.
13. 8 MM DIA BAR @ 200 C/C IN BOTH DIRECTION SHALL BE PROVIDED IN WEARING COAT AT MIDDLE DEPTH.
14. WHEN BARS OF TWO DIFFERENT DIAMETERS ARE TO BE SPLICED, THE LAP LENGTH SHALL BE CALCULATED ON THE BASIS OF DIAMETER OF SMALLER BAR.
15. THE DEVELOPMENT LENGTH OF BARS ARE GIVEN BELOW:

DEVELOPMENT LENGTH FULLY STRESSED DEFORMED BARS (fy=500N/mm^2) (IS 456 CLAUSE 26.2.1)

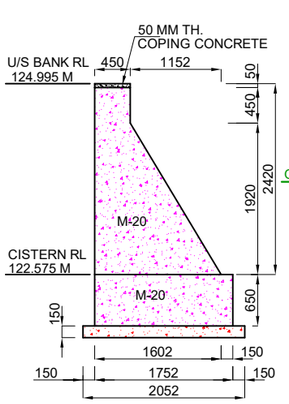
TENSION BARS GRADE OF CONCRETE				COMPRESSION BARS GRADE OF CONCRETE			
M15	M20	M25	M30	M15	M20	M25	M30
68.00	56.60	48.50	45.30	54.40	45.30	38.80	36.30
81.60	68.00	58.30	54.40	65.30	54.40	46.60	43.50
108.80	90.60	77.70	72.50	87.00	87.00	62.10	58.00
135.90	113.30	97.10	90.60	108.80	108.80	77.70	72.50
169.90	141.60	121.40	113.30	135.90	135.90	97.10	90.60
217.50	181.30	155.40	145.00	174.00	174.00	124.30	116.00

1. THE DEVELOPMENT LENGTHS GIVEN ABOVE ARE FOR A STRESS OF 0.87 fy IN THE BAR
2. THE DEVELOPMENT LENGTH INCLUDES ANCHORAGE VALUES OF HOOKS IN TENSION REINFORCEMENT.

16. LAPPING OF REINFORCEMENT SHALL BE AVOIDED AS FAR IS POSSIBLE IN CASE LAPPING OF BARS BECOMES UNAVOIDABLE, MINIMUM LAP LENGTH OF REINFORCEMENT BARS SHALL BE CALCULATED AS FOLLOW WITH MAXIMUM ALLOWABLE LAPPING (p) OF 50 % ONLY (IRC:112 - 2011) CLAUSE: 15.2.5.1)
LAP LENGTH = α1. lbnet
WHERE, α1 = 1.0 for p%≤25%
α1 = 1.15 for 25%≤p%≤33%
α1 = 1.4 for 33%≤p%≤50%
17. THE STRAIGHT LENGTH OF THE LAP SHOULD NOT BE LESS THAN 15Ø OR 200 MM (WHICH EVER IS MORE)
18. THE LAP LENGTH MUST BE AT LEAST EQUAL TO DEVELOPMENT LENGTH IN NO CASE, THE LAP LENGTH SHOULD BE LESS THAN 30Ø FOR FLEXURAL AND DIRECT TENSION AND 24Ø FOR COMPRESSION.
19. LAP SPLICES SHALL BE CONSIDERED AS STAGGERED IF THE C/C DISTANCE OF SPLICES IS NOT LESS THAN 1.3 TIMES THE LAP LENGTH CALCULATED.
20. WHEN BARS OF TWO DIFFERENT DIAMETERS ARE TO BE SPLICED, THE LAP LENGTH SHALL BE CALCULATED ON THE BASIS OF DIAMETER OF SMALLER BAR.

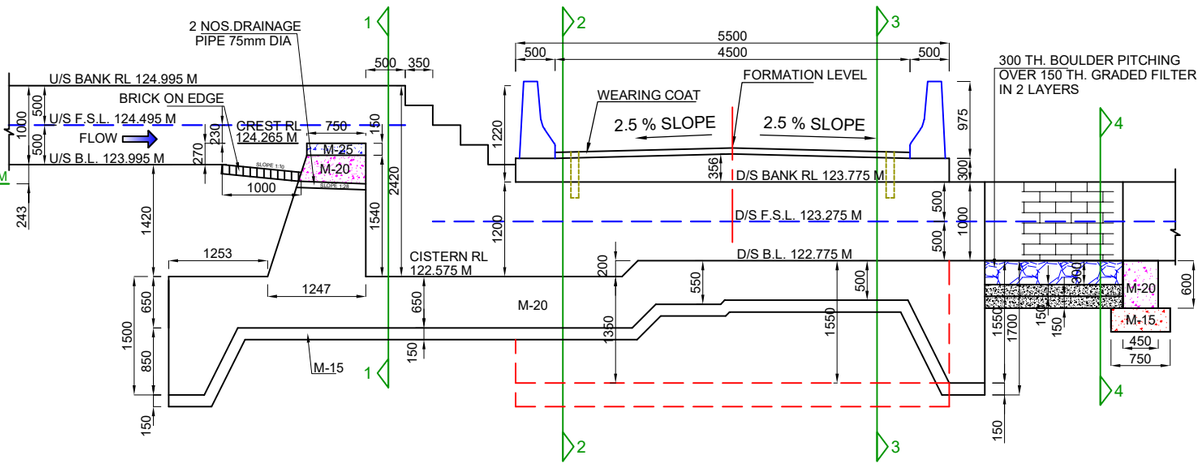
SCALE A:- 400 0 400 800 1200
SCALE B:- 200 0 200 400 600

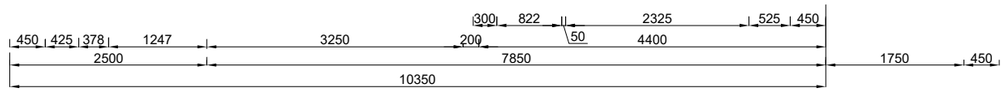
Prepared by :- WAPCOS LTD.	Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
	Drawing Title :-	REINFORCEMENT DETAILS OF SLAB FOR FALL CUM BRG. AT KM. 0.950 OF PARANPUR MR. OFFTAKE FROM RD - 9+325 KM. (L), CHAIN NAWADA SUB-DY.)
	Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34-01/ FALL 2 of 2



SECTION AT 5-5

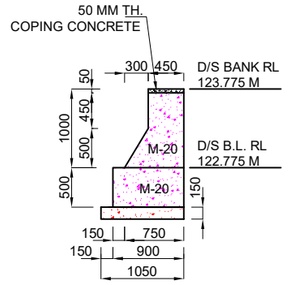
(SCALE A)





SECTION A-A

(SCALE A)



SECTION AT 6-6

(SCALE A)

NOTES:-

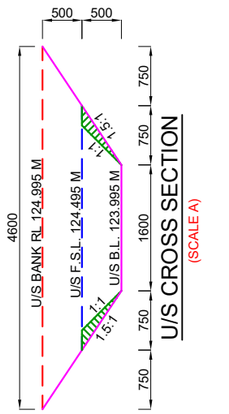
1. ALL DIMENSIONS ARE IN mm AND LEVELS IN METRES EXCEPT OTHERWISE MENTIONED.
2. THE DRAWING SHALL NOT BE SCALED OFF, ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED.
3. ALL CONCRETE WORK SHALL CONFORM TO IS: 456 -2000. GRADE OF CONCRETE IN DIFFERENT COMPONENTS SHALL BE AS FOLLOWS,

PCC UNDER FLOOR	M 15
FOUNDATION OF ABUTMENTS & WING WALL	M 20
FLOOR	M 20
ABUTMENTS / WING WALLS	M 20
SLAB & DIRT WALL	M 25

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.

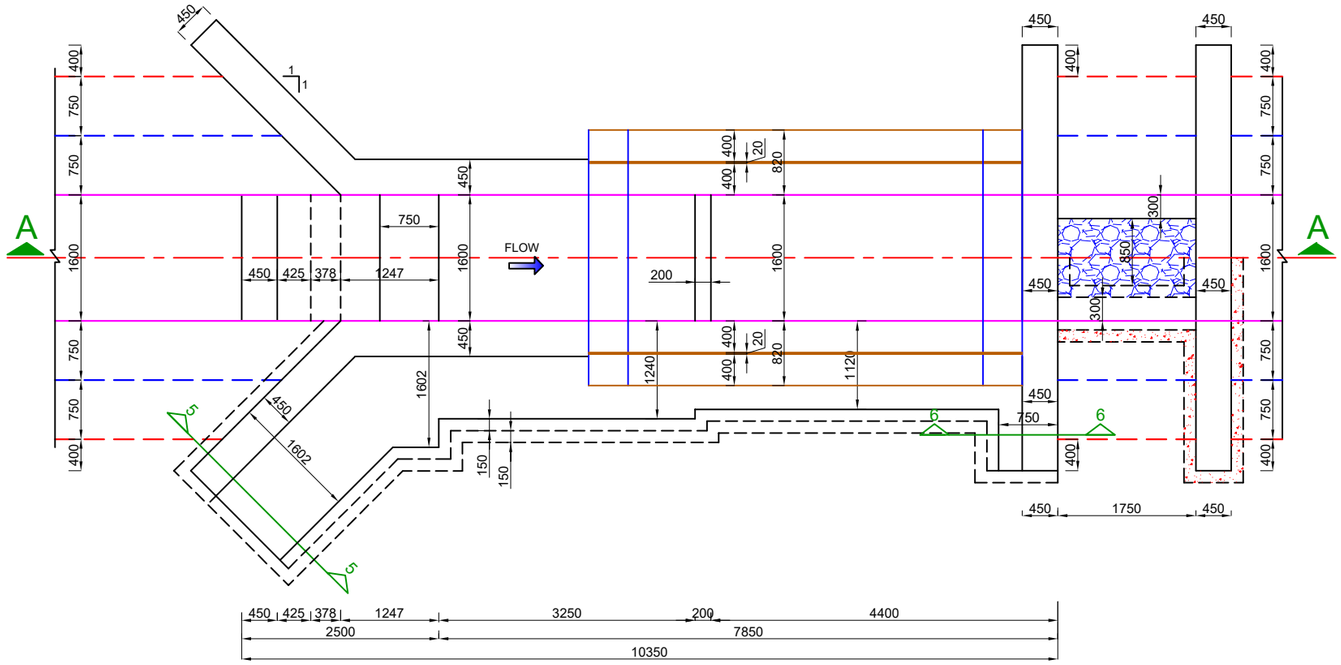
HYDRAULIC:- DATA

	U/S	D/S	UNIT
FULL SUPPLY DISCHARGE	0.280	0.280	CUMEC
VERTICAL DROP	1.220	1.220	METRE
FULL SUPPLY DEPTH	0.500	0.500	METRE
BED WIDTH	1.600	1.600	METRE
BED SLOPE	1 : 4400	1 : 4400	



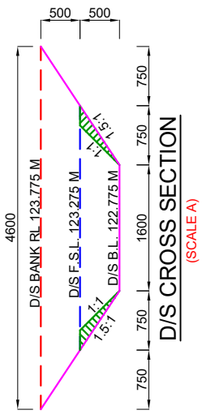
U/S CROSS SECTION

(SCALE A)



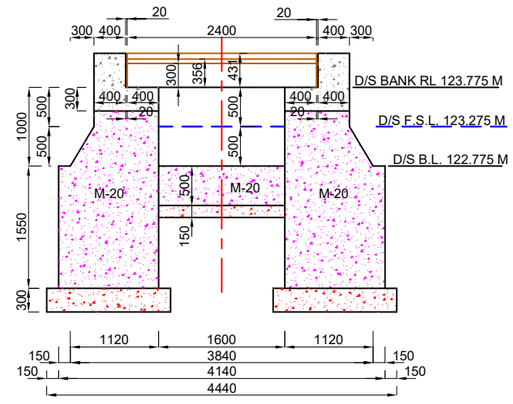
HALF TOP / HALF FOUNDATION PLAN

(SCALE A)



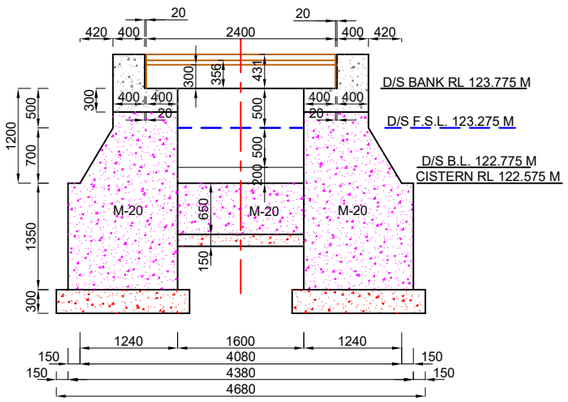
D/S CROSS SECTION

(SCALE A)



SECTION AT 3-3

(SCALE A)

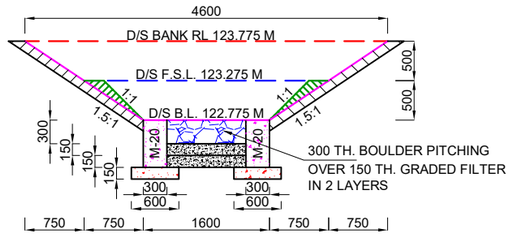


SECTION AT 2-2

(SCALE A)

SECTION AT 1-1

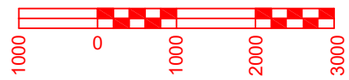
(SCALE A)



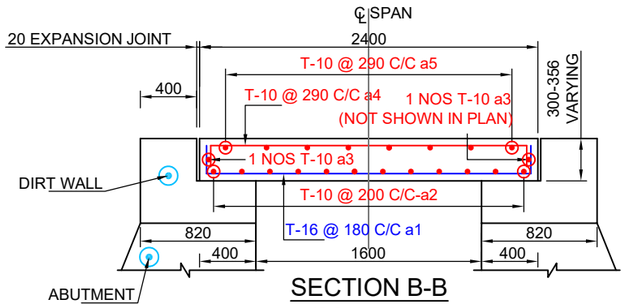
SECTION AT 4-4

(SCALE A)

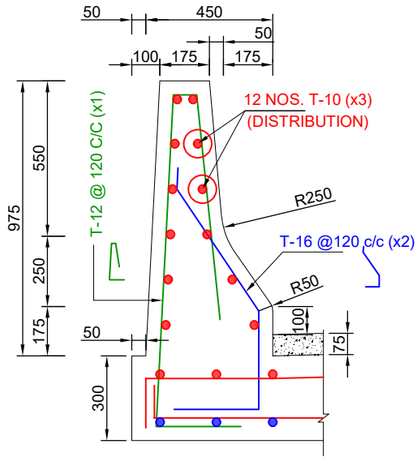
SCALE A:-



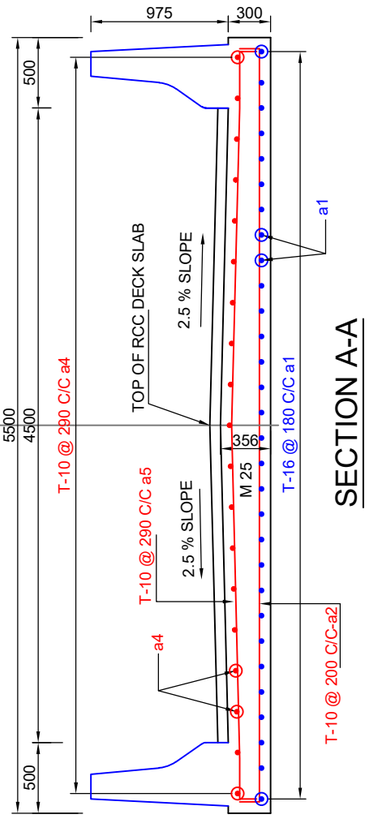
Prepared by :- WAPCOS LTD.	
Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
Drawing Title :-	SHARDA TYPE 1.220 M HT. FALL AT KM. 1.050 OF PARANPUR MR. (OFFTAKE FROM RD - 9+325 KM. (L), CHAIN NAWADA SUB-DY.)
Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34-01/ FALL 1 of 2



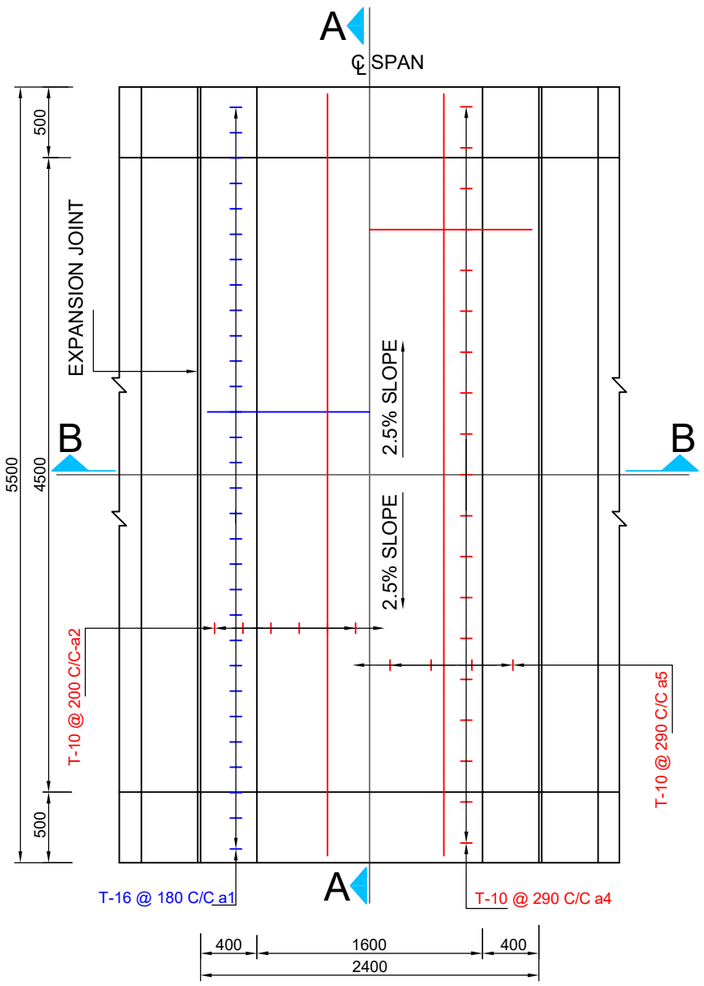
SECTION B-B
(SCALE A)



REINF. DETAILS OF CRASH BARRIER IN MAIN SLAB
(SCALE B)



SECTION A-A



BOTTOM REINFORCEMENT TOP REINFORCEMENT

PLAN SHOWING REINFORCEMENT DETAILS OF DECK SLAB
(SCALE A)

BAR BENDING SCHEDULE

S. No.	Type of bars	Shape of bars (not to scale) (Dimensions are in millimetres)	Dia of Bars (mm)	Spacing (mm)	Nos. of Bars
SLAB PER SPAN					
1	a1	200, R=80, 2300, 200	16	180	31
2	a2	200, R=50, 5400, 200	10	200	12
3	a3	5400	10	-	2
4	a4	2300, 200, R=40, 200	10	290	19
5	a5	200, 450, 2250, 2250, 450, 200	10	290	8
CRASH BARRIER					
1	x1	75, 1176, 950, 300	12	120	21X2
2	x2	75, 540, 350, 300	16	120	21X2
3	x3	2300	10	-	12X2

NOTES:-

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BRIDGE SLAB & PARAPET M-25
4. ALL REINFORCEMENT BARS SHALL BE OF HIGH YIELD STRENGTH DEFORMED BARS (Fe 415) COMFORMING I.S. 1786.
5. MIN. CLEAR COVER TO ANY REINF. INCLUDING STIRRUPS SHALL BE 40 MM OR UNLESS OTHERWISE SPECIFIED.
6. THE COVER INDICATED IN THIS DRAWINGS IS CLEAR COVER TO MAIN REINFORCEMENT BARS NEAREST TO THE CONCRETE SURFACE INCLUDING STIRRUPS AND BINDERS UNLESS MENTIONED OTHERWISE.
7. BENDING OF REINF. BARS SHALL CONFORM TO I.S. 2502.
8. REINF. BARS SHALL BE CUT AND ADJUSTED TO ACCOMODATE DRAINAGE SPOUT.
9. 75 MM THK. WEARING COAT IN M-25 CC SHALL BE PROVIDED.
10. APPROACH SLAB & APPROACH SLAB SUPPORT SHALL BE DECIDED BY FIELD ENGINEERS ACCORDING TO THE SITE CONDITIONS.
11. TARFELT BEARING SHALL BE PROVIDED UNDER SLAB AT SUPPORT.
12. THE REINFORCEMENT OF CRASH BARRIER SHALL BE INCORPORATED BEFORE CASTING OF THE DECK SLAB.
13. 8 MM DIA BAR @ 200 C/C IN BOTH DIRECTION SHALL BE PROVIDED IN WEARING COAT AT MIDDLE DEPTH.
14. WHEN BARS OF TWO DIFFERENT DIAMETERS ARE TO BE SPLICED, THE LAP LENGTH SHALL BE CALCULATED ON THE BASIS OF DIAMETER OF SMALLER BAR.
15. THE DEVELOPMENT LENGTH OF BARS ARE GIVEN BELOW:

DEVELOPMENT LENGTH FULLY STRESSED DEFORMED BARS (fy=500N/mm^2) (IS 456 CLAUSE 26.2.1)

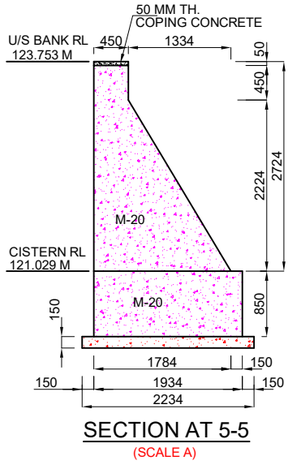
TENSION BARS GRADE OF CONCRETE				COMPRESSION BARS GRADE OF CONCRETE			
M15	M20	M25	M30	M15	M20	M25	M30
68.00	56.60	48.50	45.30	54.40	45.30	38.80	36.30
81.60	68.00	58.30	54.40	65.30	54.40	46.60	43.50
108.80	90.60	77.70	72.50	87.00	87.00	62.10	58.00
135.90	113.30	97.10	90.60	108.80	108.80	77.70	72.50
169.90	141.60	121.40	113.30	135.90	135.90	97.10	90.60
217.50	181.30	155.40	145.00	174.00	174.00	124.30	116.00

1. THE DEVELOPMENT LENGTHS GIVEN ABOVE ARE FOR A STRESS OF 0.87 fy IN THE BAR
2. THE DEVELOPMENT LENGTH INCLUDES ANCHORAGE VALUES OF HOOKS IN TENSION REINFORCEMENT.

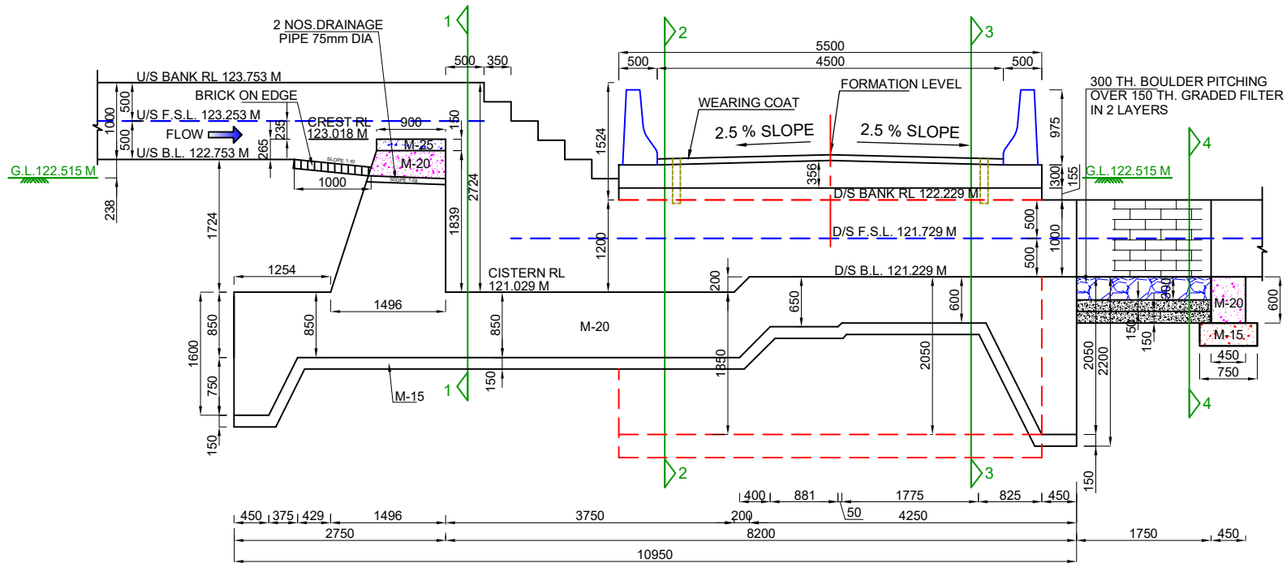
16. LAPPING OF REINFORCEMENT SHALL BE AVOIDED AS FAR IS POSSIBLE IN CASE LAPPING OF BARS BECOMES UNAVOIDABLE, MINIMUM LAP LENGTH OF REINFORCEMENT BARS SHALL BE CALCULATED AS FOLLOW WITH MAXIMUM ALLOWABLE LAPPING (p) OF 50 % ONLY (IRC:112 - 2011) CLAUSE: 15.2.5.1)
LAP LENGTH = α1. lbnet
WHERE, α1 = 1.0 for p%≤25%
α1 = 1.15 for 25%≤p%≤33%
α1 = 1.4 for 33%≤p%≤50%
17. THE STRAIGHT LENGTH OF THE LAP SHOULD NOT BE LESS THAN 15Ø OR 200 MM (WHICH EVER IS MORE)
18. THE LAP LENGTH MUST BE AT LEAST EQUAL TO DEVELOPMENT LENGTH IN NO CASE, THE LAP LENGTH SHOULD BE LESS THAN 30Ø FOR FLEXURAL AND DIRECT TENSION AND 24Ø FOR COMPRESSION.
19. LAP SPLICES SHALL BE CONSIDERED AS STAGGERED IF THE C/C DISTANCE OF SPLICES IS NOT LESS THAN 1.3 TIMES THE LAP LENGTH CALCULATED.
20. WHEN BARS OF TWO DIFFERENT DIAMETERS ARE TO BE SPLICED, THE LAP LENGTH SHALL BE CALCULATED ON THE BASIS OF DIAMETER OF SMALLER BAR.

SCALE A:- 400 0 400 800 1200
SCALE B:- 200 0 200 400 600

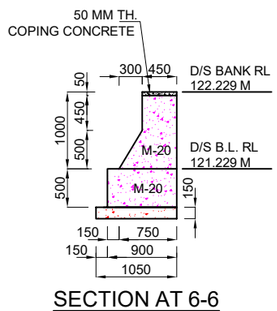
Prepared by :- WAPCOS LTD.	Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
	Drawing Title :-	REINFORCEMENT DETAILS OF SLAB FOR FALL CUM BRG. AT KM. 1.050 OF PARANPUR MR. OFFTAKE FROM RD - 9+325 KM. (L), CHAIN NAWADA SUB-DY.)
	Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34-01/ FALL 2 of 2



SECTION AT 5-5
(SCALE A)



SECTION A-A
(SCALE A)



SECTION AT 6-6
(SCALE A)

NOTES:-

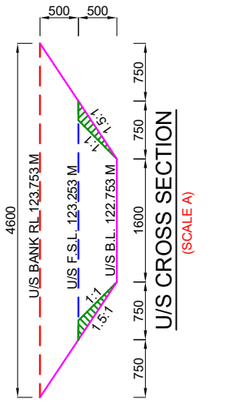
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3. ALL CONCRETE WORK SHALL CONFORM TO IS: 456 -2000. GRADE OF CONCRETE IN DIFFERENT COMPONENTS SHALL BE AS FOLLOWS,

PCC UNDER FLOOR	M 15
FOUNDATION OF ABUTMENTS & WING WALL	M 20
FLOOR	M 20
ABUTMENTS / WING WALLS	M 20
SLAB & DIRT WALL	M 25

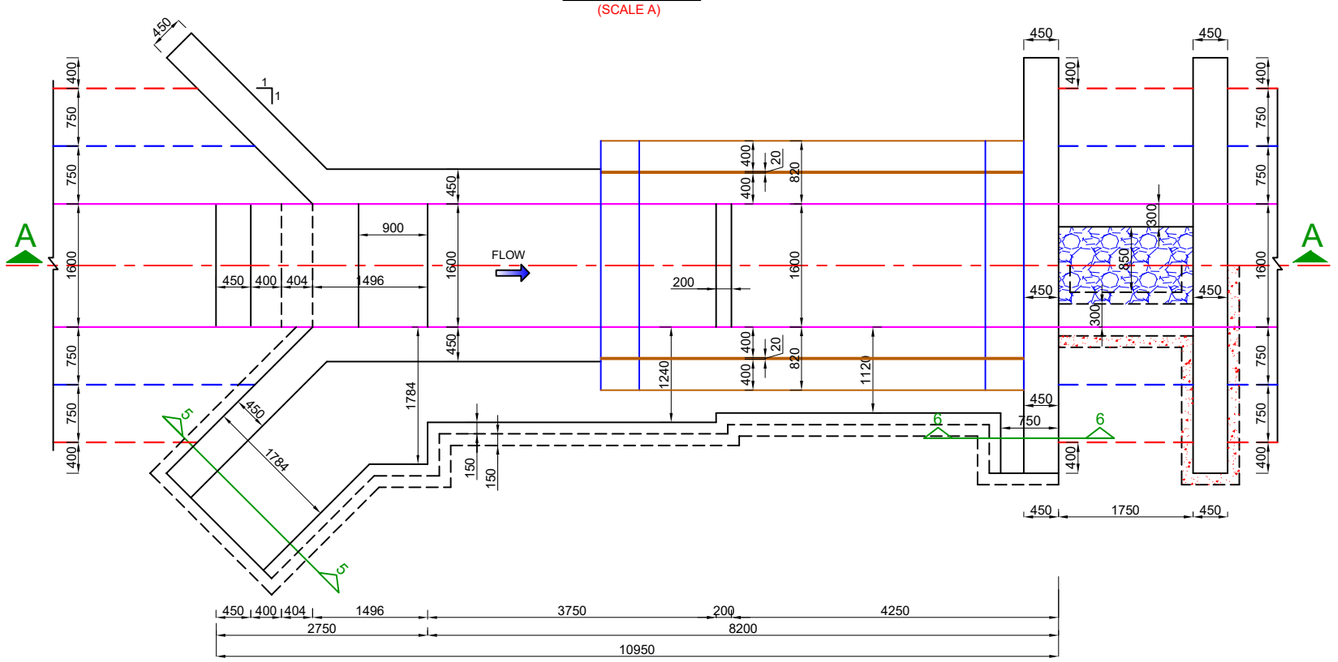
4. ANY OVER DIGGING SHALL BE FILLED BY CONCRETE 1:3:6 GRADE.
5. SKIN REINFORCEMENT SHALL BE PROVIDED IN FLOOR AND ABUTMENT OF 12 MM DIA BARS @ 250 MM.

HYDRAULIC:- DATA

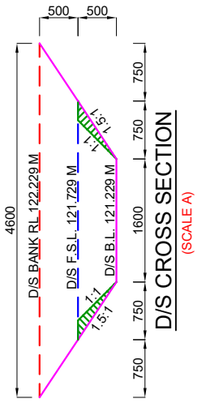
	U/S	D/S	UNIT
FULL SUPPLY DISCHARGE	0.280	0.280	CUMEC
VERTICAL DROP	1.524	1.524	METRE
FULL SUPPLY DEPTH	0.500	0.500	METRE
BED WIDTH	1.600	1.600	METRE
BED SLOPE	1 : 4400	1 : 4400	



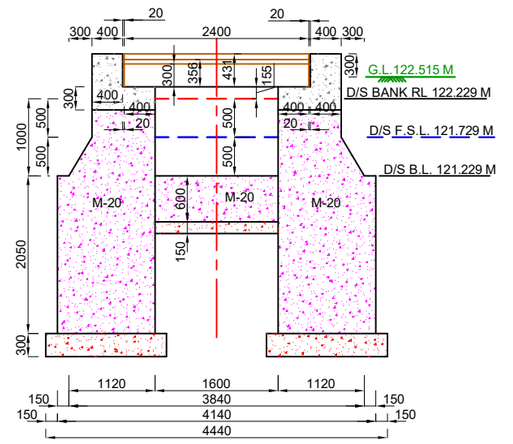
U/S CROSS SECTION
(SCALE A)



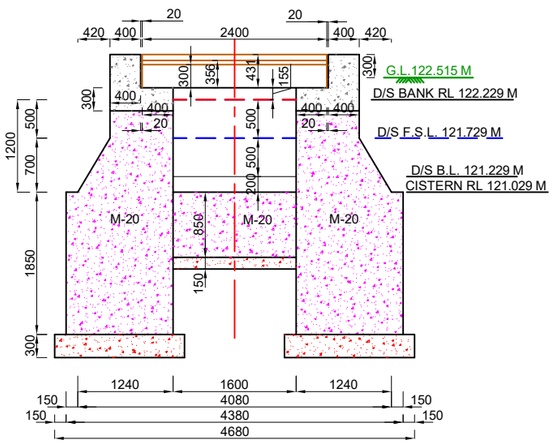
HALF TOP / HALF FOUNDATION PLAN
(SCALE A)



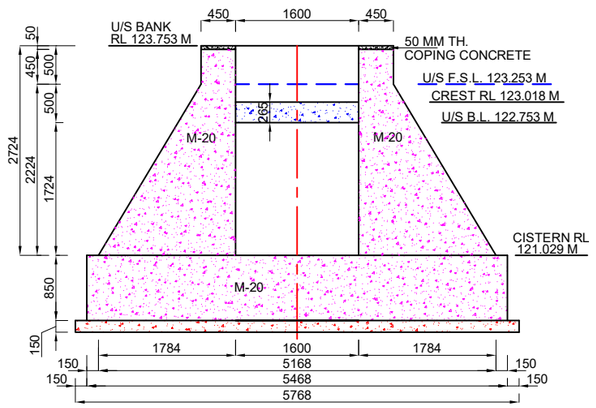
D/S CROSS SECTION
(SCALE A)



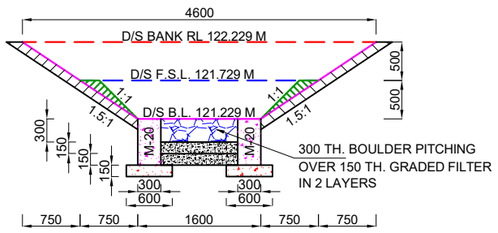
SECTION AT 3-3
(SCALE A)



SECTION AT 2-2
(SCALE A)



SECTION AT 1-1
(SCALE A)

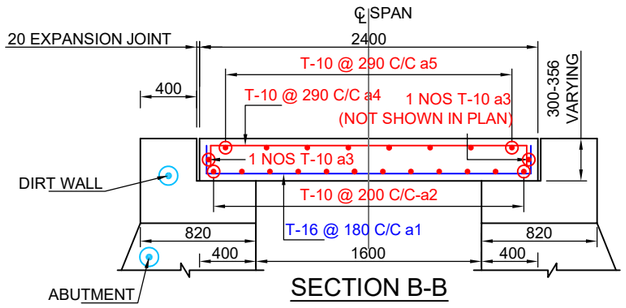


SECTION AT 4-4
(SCALE A)

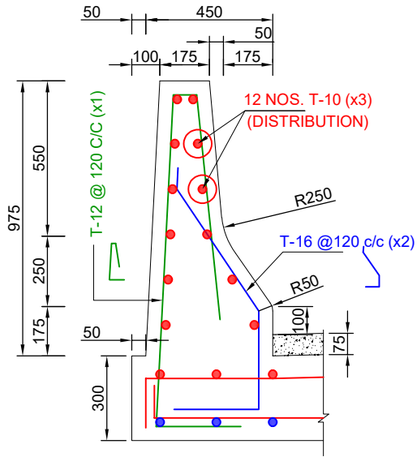
SCALE A:-

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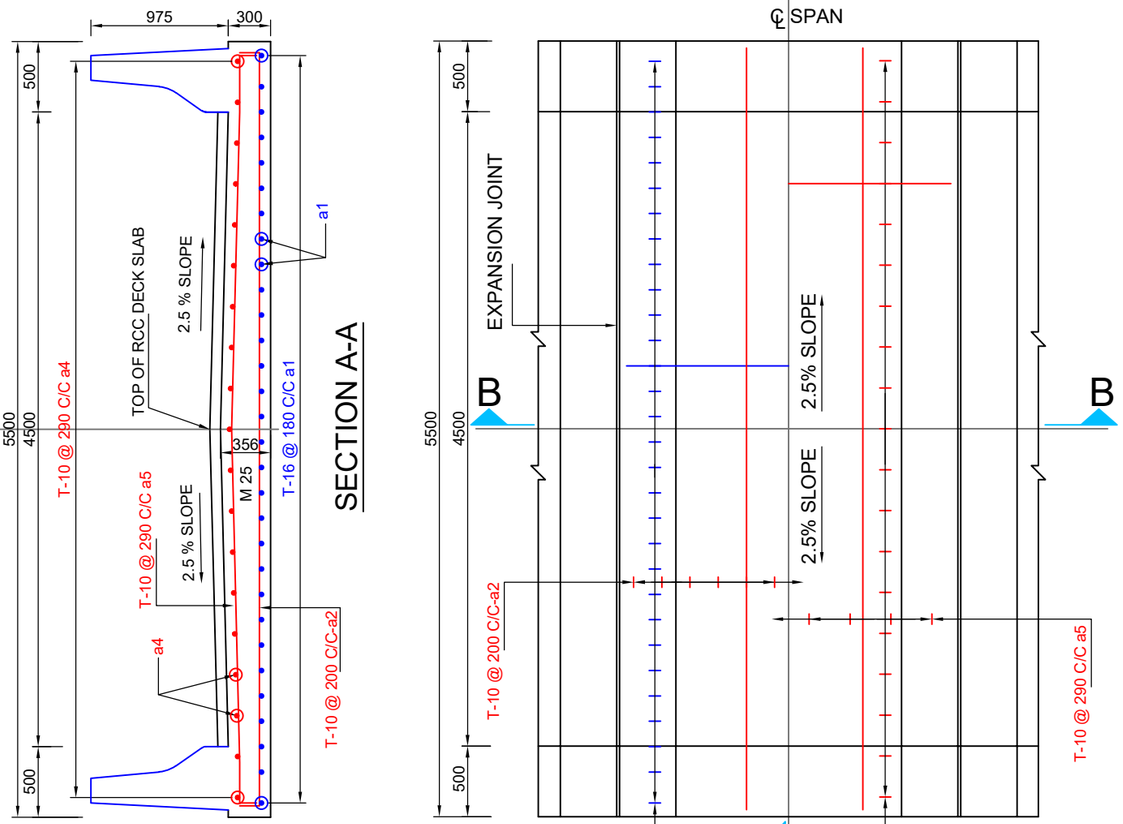
Prepared by :- WAPCOS LTD.	Project Title :- NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
	Drawing Title :- SHARDA TYPE 1.524 M HT. FALL AT KM. 1.150 OF PARANPUR MR. (OFFTAKE FROM RD - 9+325 KM. (L), CHAIN NAWADA SUB-DY.)
	Drawing No. :- WAP/ INFRA/ NORTHKOEL/ BC/ R-34-01/ FALL 1 of 2



SECTION B-B
(SCALE A)



REINF. DETAILS OF CRASH BARRIER IN MAIN SLAB
(SCALE B)



SECTION A-A

BOTTOM REINFORCEMENT TOP REINFORCEMENT

PLAN SHOWING REINFORCEMENT DETAILS OF DECK SLAB
(SCALE A)

BAR BENDING SCHEDULE

S. No.	Type of bars	Shape of bars (not to scale) (Dimensions are in millimetres)	Dia of Bars (mm)	Spacing (mm)	Nos. of Bars
SLAB PER SPAN					
1	a1	200, R=80, 2300, 200	16	180	31
2	a2	200, R=50, 5400, 200	10	200	12
3	a3	5400	10	-	2
4	a4	2300, 200, R=40, 200	10	290	19
5	a5	200, 450, 2250, 2250, 450, 200	10	290	8
CRASH BARRIER					
1	x1	75, 1176, 950, 300	12	120	21X2
2	x2	75, 540, 350, 300	16	120	21X2
3	x3	2300	10	-	12X2

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,
BRIDGE SLAB & PARAPET M-25
4. ALL REINFORCEMENT BARS SHALL BE OF HIGH YIELD STRENGTH DEFORMED BARS (Fe 415) COMFORMING I.S. 1786.
5. MIN. CLEAR COVER TO ANY REINF. INCLUDING STIRRUPS SHALL BE 40 MM OR UNLESS OTHERWISE SPECIFIED.
6. THE COVER INDICATED IN THIS DRAWINGS IS CLEAR COVER TO MAIN REINFORCEMENT BARS NEAREST TO THE CONCRETE SURFACE INCLUDING STIRRUPS AND BINDERS UNLESS MENTIONED OTHERWISE.
7. BENDING OF REINF. BARS SHALL CONFORM TO I.S. 2502.
8. REINF. BARS SHALL BE CUT AND ADJUSTED TO ACCOMODATE DRAINAGE SPOUT.
9. 75 MM THK. WEARING COAT IN M-25 CC SHALL BE PROVIDED.
10. APPROACH SLAB & APPROACH SLAB SUPPORT SHALL BE DECIDED BY FIELD ENGINEERS ACCORDING TO THE SITE CONDITIONS.
11. TARFELT BEARING SHALL BE PROVIDED UNDER SLAB AT SUPPORT.
12. THE REINFORCEMENT OF CRASH BARRIER SHALL BE INCORPORATED BEFORE CASTING OF THE DECK SLAB.
13. 8 MM DIA BAR @ 200 C/C IN BOTH DIRECTION SHALL BE PROVIDED IN WEARING COAT AT MIDDLE DEPTH.
14. WHEN BARS OF TWO DIFFERENT DIAMETERS ARE TO BE SPLICED, THE LAP LENGTH SHALL BE CALCULATED ON THE BASIS OF DIAMETER OF SMALLER BAR.
15. THE DEVELOPMENT LENGTH OF BARS ARE GIVEN BELOW:

DEVELOPMENT LENGTH FULLY STRESSED DEFORMED BARS (fy=500N/mm^2) (IS 456 CLAUSE 26.2.1)

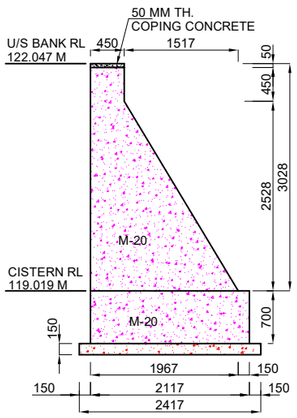
TENSION BARS GRADE OF CONCRETE				COMPRESSION BARS GRADE OF CONCRETE			
M15	M20	M25	M30	M15	M20	M25	M30
68.00	56.60	48.50	45.30	54.40	45.30	38.80	36.30
81.60	68.00	58.30	54.40	65.30	54.40	46.60	43.50
108.80	90.60	77.70	72.50	87.00	87.00	62.10	58.00
135.90	113.30	97.10	90.60	108.80	108.80	77.70	72.50
169.90	141.60	121.40	113.30	135.90	135.90	97.10	90.60
217.50	181.30	155.40	145.00	174.00	174.00	124.30	116.00

1. THE DEVELOPMENT LENGTHS GIVEN ABOVE ARE FOR A STRESS OF 0.87 fy IN THE BAR
2. THE DEVELOPMENT LENGTH INCLUDES ANCHORAGE VALUES OF HOOKS IN TENSION REINFORCEMENT.

16. LAPPING OF REINFORCEMENT SHALL BE AVOIDED AS FAR IS POSSIBLE IN CASE LAPPING OF BARS BECOMES UNAVOIDABLE, MINIMUM LAP LENGTH OF REINFORCEMENT BARS SHALL BE CALCULATED AS FOLLOW WITH MAXIMUM ALLOWABLE LAPPING (p) OF 50 % ONLY (IRC:112 - 2011) CLAUSE: 15.2.5.1)
LAP LENGTH = α1. lbnet
WHERE, α1 = 1.0 for p%≤25%
α1 = 1.15 for 25%≤p%≤33%
α1 = 1.4 for 33%≤p%≤50%
17. THE STRAIGHT LENGTH OF THE LAP SHOULD NOT BE LESS THAN 15Ø OR 200 MM (WHICH EVER IS MORE)
18. THE LAP LENGTH MUST BE AT LEAST EQUAL TO DEVELOPMENT LENGTH IN NO CASE, THE LAP LENGTH SHOULD BE LESS THAN 30Ø FOR FLEXURAL AND DIRECT TENSION AND 24Ø FOR COMPRESSION.
19. LAP SPLICES SHALL BE CONSIDERED AS STAGGERED IF THE C/C DISTANCE OF SPLICES IS NOT LESS THAN 1.3 TIMES THE LAP LENGTH CALCULATED.
20. WHEN BARS OF TWO DIFFERENT DIAMETERS ARE TO BE SPLICED, THE LAP LENGTH SHALL BE CALCULATED ON THE BASIS OF DIAMETER OF SMALLER BAR.

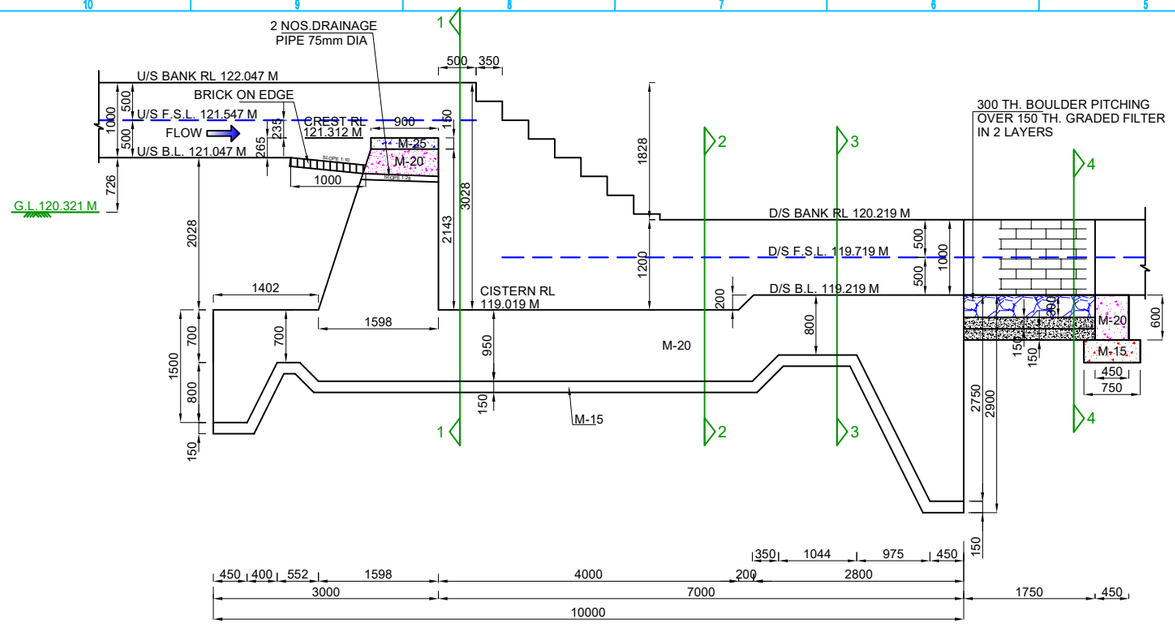
SCALE A:- 400 0 400 800 1200
SCALE B:- 200 0 200 400 600

Prepared by :- WAPCOS LTD.	Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
	Drawing Title :-	REINFORCEMENT DETAILS OF SLAB FOR FALL CUM BRG. AT KM. 1.150 OF PARANPUR MR. OFFTAKE FROM RD - 9+325 KM. (L), CHAIN NAWADA SUB-DY.)
	Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34-01/ FALL 2 of 2



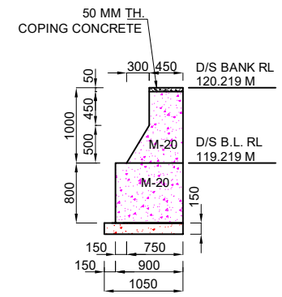
SECTION AT 5-5

(SCALE A)



SECTION A-A

(SCALE A)



SECTION AT 6-6

(SCALE A)

NOTES:-

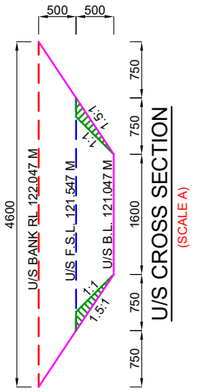
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FLOOR	M 20
FOUNDATION OF ABUTMENTS & WING WALL	M 20
PCC UNDER FLOOR	M 15
ABUTMENTS / WING WALLS	M 20

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.

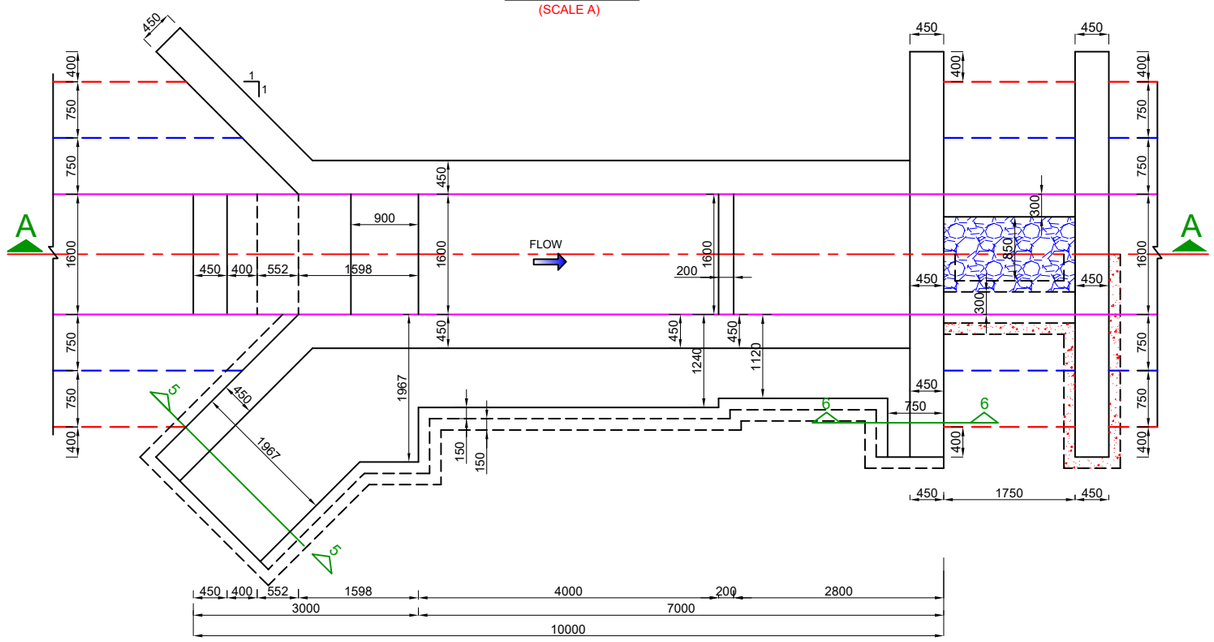
HYDRAULIC:- DATA

	U/S	D/S	UNIT
FULL SUPPLY DISCHARGE	0.280	0.280	CUMEC
VERTICAL DROP	1.828	1.828	METRE
FULL SUPPLY DEPTH	0.500	0.500	METRE
BED WIDTH	1.600	1.600	METRE
BED SLOPE	1 : 4400	1 : 4400	



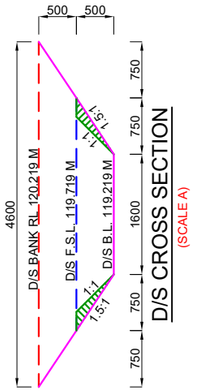
U/S CROSS SECTION

(SCALE A)



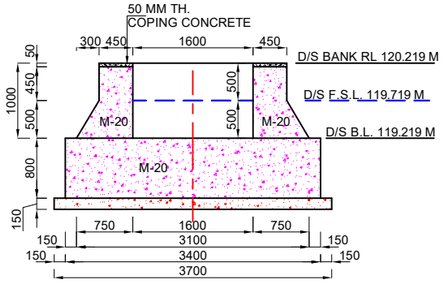
HALF TOP / HALF FOUNDATION PLAN

(SCALE A)



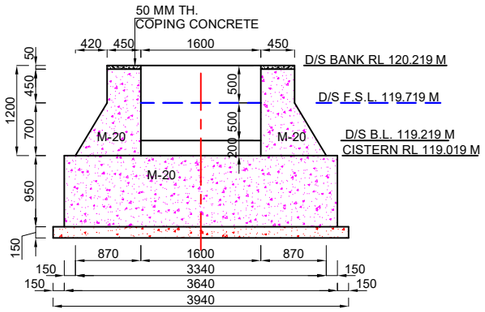
D/S CROSS SECTION

(SCALE A)



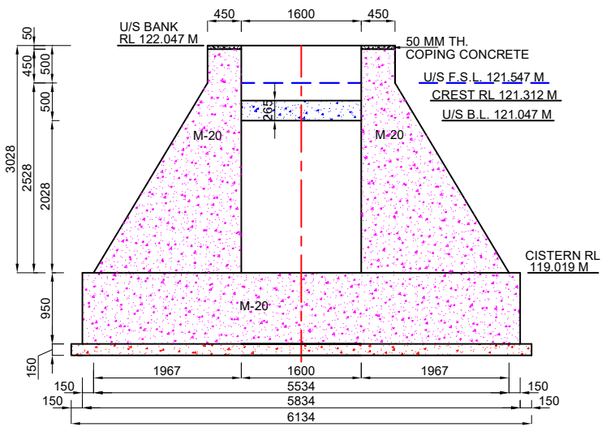
SECTION AT 3-3

(SCALE A)



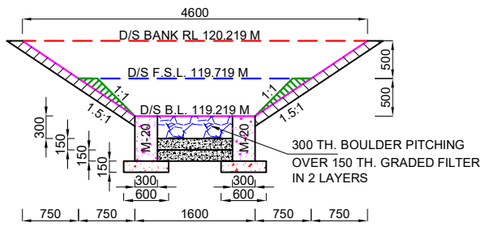
SECTION AT 2-2

(SCALE A)



SECTION AT 1-1

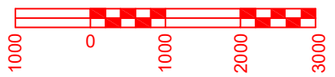
(SCALE A)



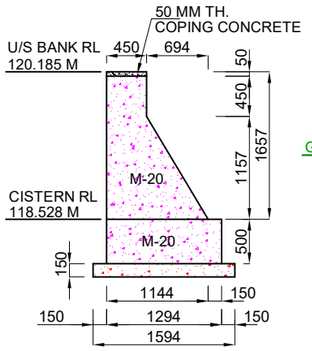
SECTION AT 4-4

(SCALE A)

SCALE A:-

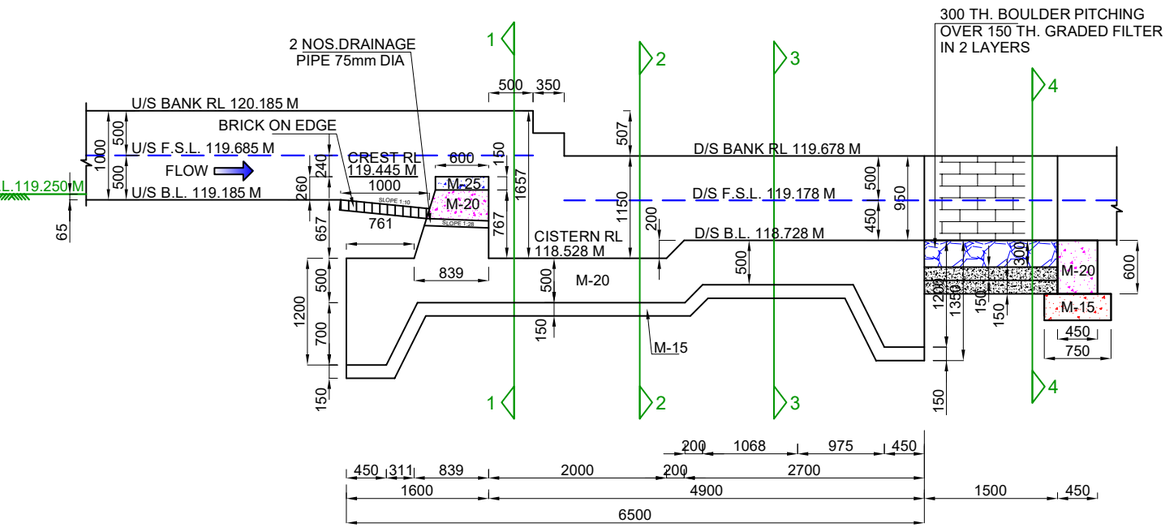


Prepared by :- WAPCOS LTD.	Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
	Drawing Title :-	SHARDA TYPE 1.524 M HT. FALL AT KM. 1.950 OF PARANPUR MR. (OFFTAKE FROM RD - 9+325 KM. (L), CHAIN NAWADA SUB-DY.)
	Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34-01/ FALL 1 of 1



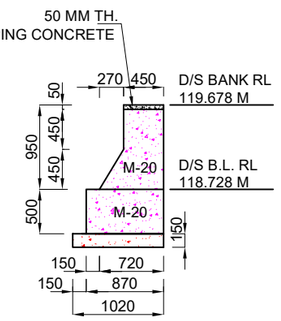
SECTION AT 5-5

(SCALE A)



SECTION A-A

(SCALE A)



SECTION AT 6-6

(SCALE A)

NOTES:-

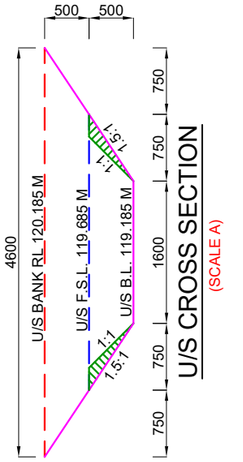
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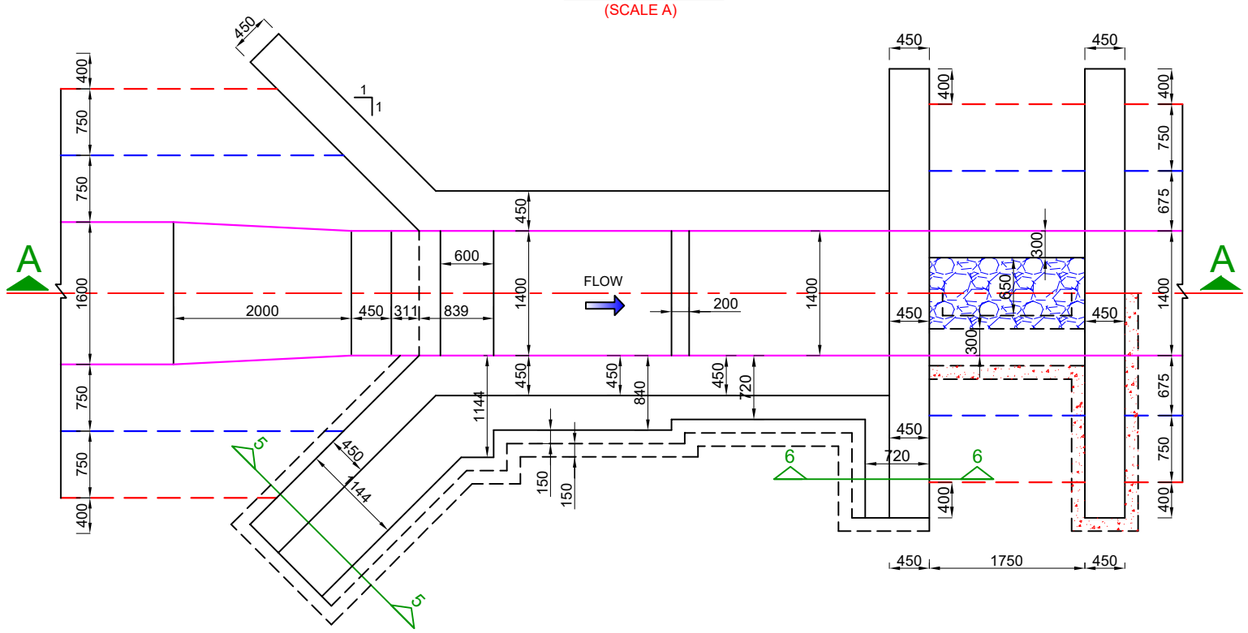
HYDRAULIC:- DATA

	U/S	D/S	UNIT
FULL SUPPLY DISCHARGE	0.280	0.280	CUMEC
VERTICAL DROP	0.457	0.457	METRE
FULL SUPPLY DEPTH	0.500	0.450	METRE
BED WIDTH	1.600	1.400	METRE
BED SLOPE	1 : 4300	1 : 4300	



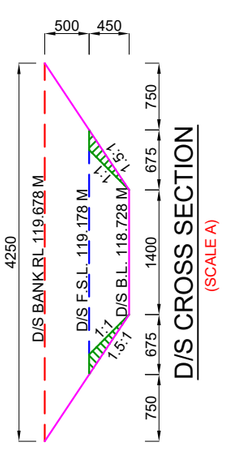
U/S CROSS SECTION

(SCALE A)



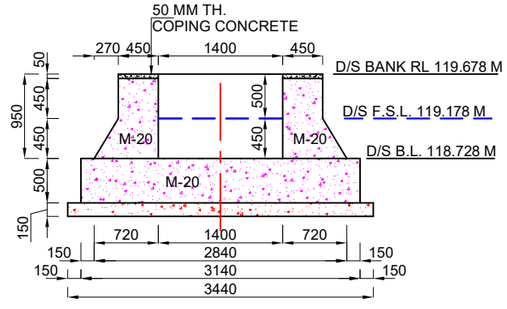
HALF TOP / HALF FOUNDATION PLAN

(SCALE A)



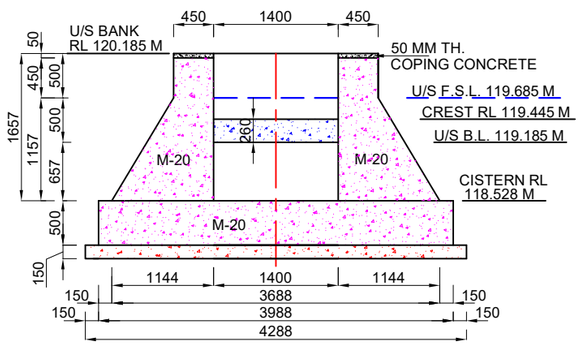
D/S CROSS SECTION

(SCALE A)



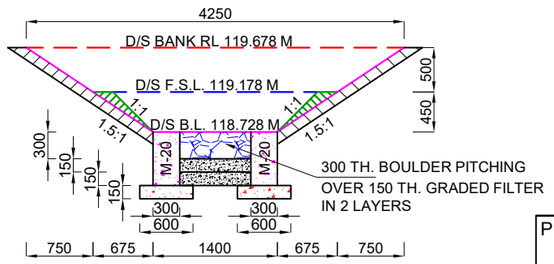
SECTION AT 3-3

(SCALE A)



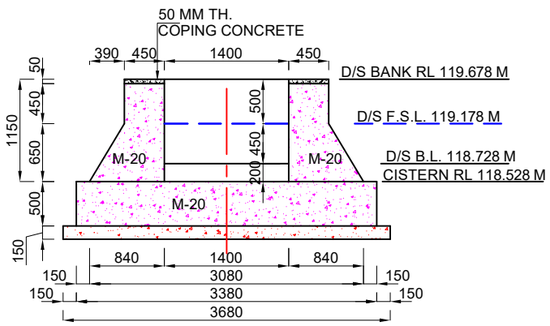
SECTION AT 1-1

(SCALE A)



SECTION AT 4-4

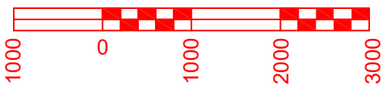
(SCALE A)



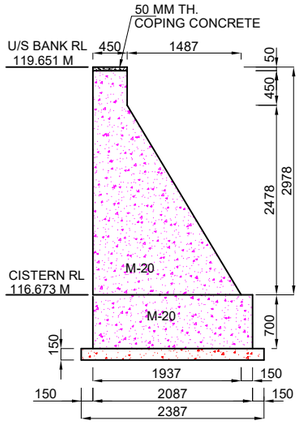
SECTION AT 2-2

(SCALE A)

SCALE A:-

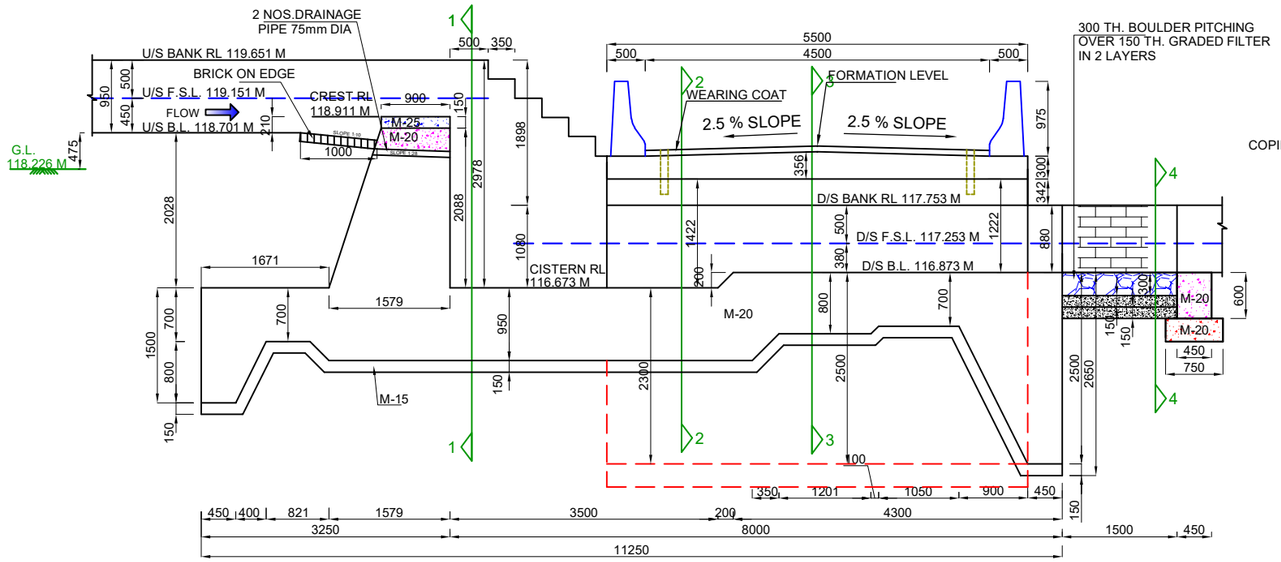


Prepared by :- WAPCOS LTD.	Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
	Drawing Title :-	SHARDA TYPE 0.457 M HT. FALL AT KM. 2.100 OF PARANPUR MR. (OFFTAKE FROM RD - 9+325 KM. (L), CHAIN NAWADA SUB-DY.)
	Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34-01/ FALL 1 of 1



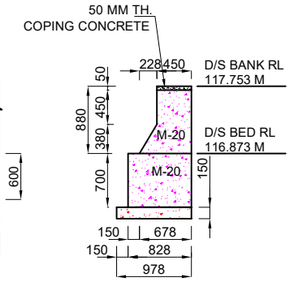
SECTION AT 5-5

(SCALE A)



SECTION A-A

(SCALE A)



SECTION AT 6-6

(SCALE A)

NOTES:-

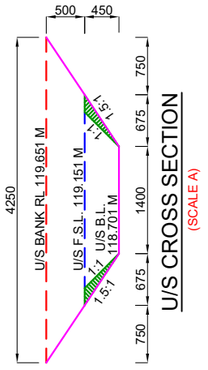
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3. ALL CONCRETE WORK SHALL CONFORM TO IS: 456 -2000. GRADE OF CONCRETE IN DIFFERENT COMPONENTS SHALL BE AS FOLLOWS,

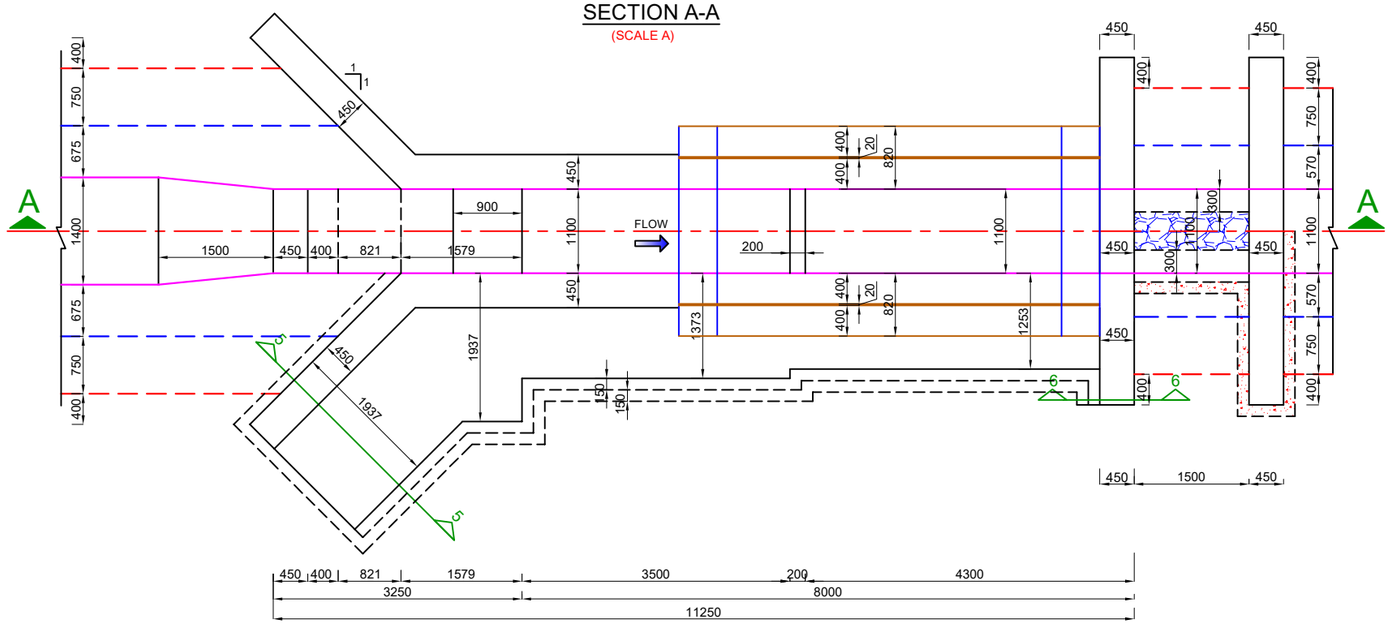
PCC UNDER FLOOR	M 15
FOUNDATION OF ABUTMENTS & WING WALL	M 20
FLOOR	M 20
ABUTMENTS / WING WALLS	M 20
SLAB & DIRT WALL	M 25

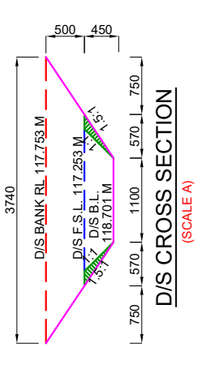
4. ANY OVER DIGGING SHALL BE FILLED BY CONCRETE 1:3:6 GRADE.
5. SKIN REINFORCEMENT SHALL BE PROVIDED IN FLOOR AND ABUTMENT OF 12 MM DIA BARS @ 250 MM.

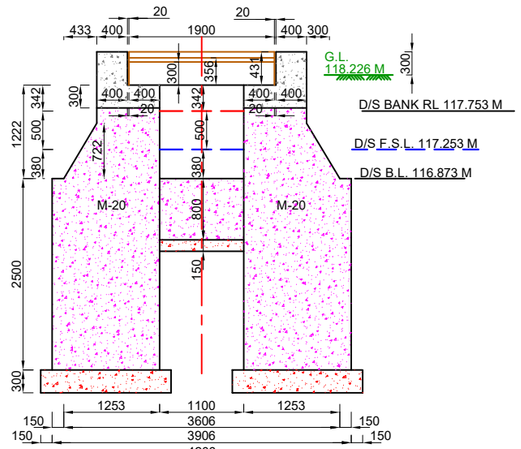
HYDRAULIC:- DATA

	U/S	D/S	UNIT
FULL SUPPLY DISCHARGE	0.200	0.200	CUMEC
VERTICAL DROP	1.828	1.828	METRE
FULL SUPPLY DEPTH	1.400	1.100	METRE
BED WIDTH		0.380	METRE
BED SLOPE	1 : 4200	1 : 4200	



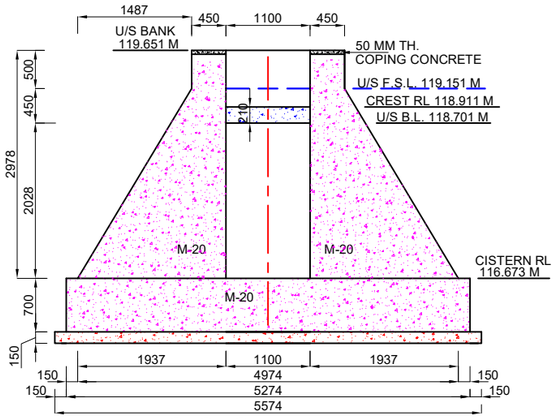






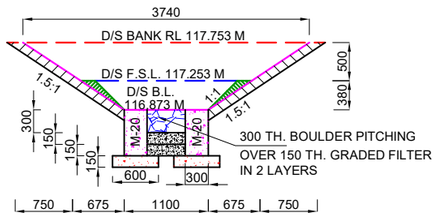
SECTION AT 3-3

(SCALE A)



SECTION AT 1-1

(SCALE A)

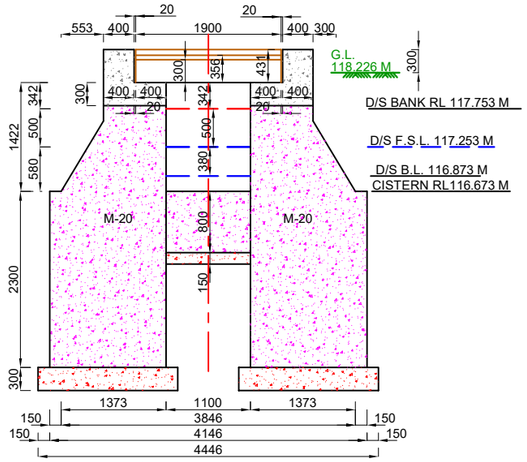


SECTION AT 4-4

(SCALE A)

SCALE A:-

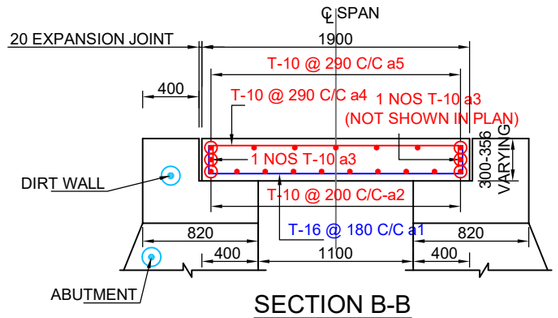
1000 0 1000 2000 3000



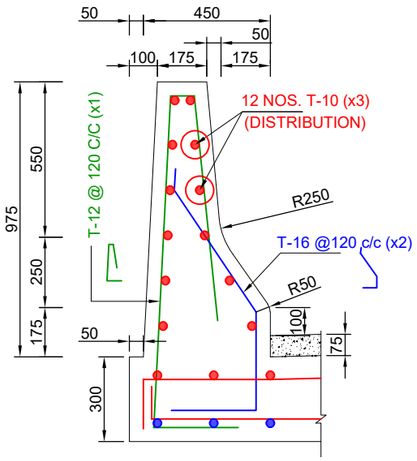
SECTION AT 2-2

(SCALE A)

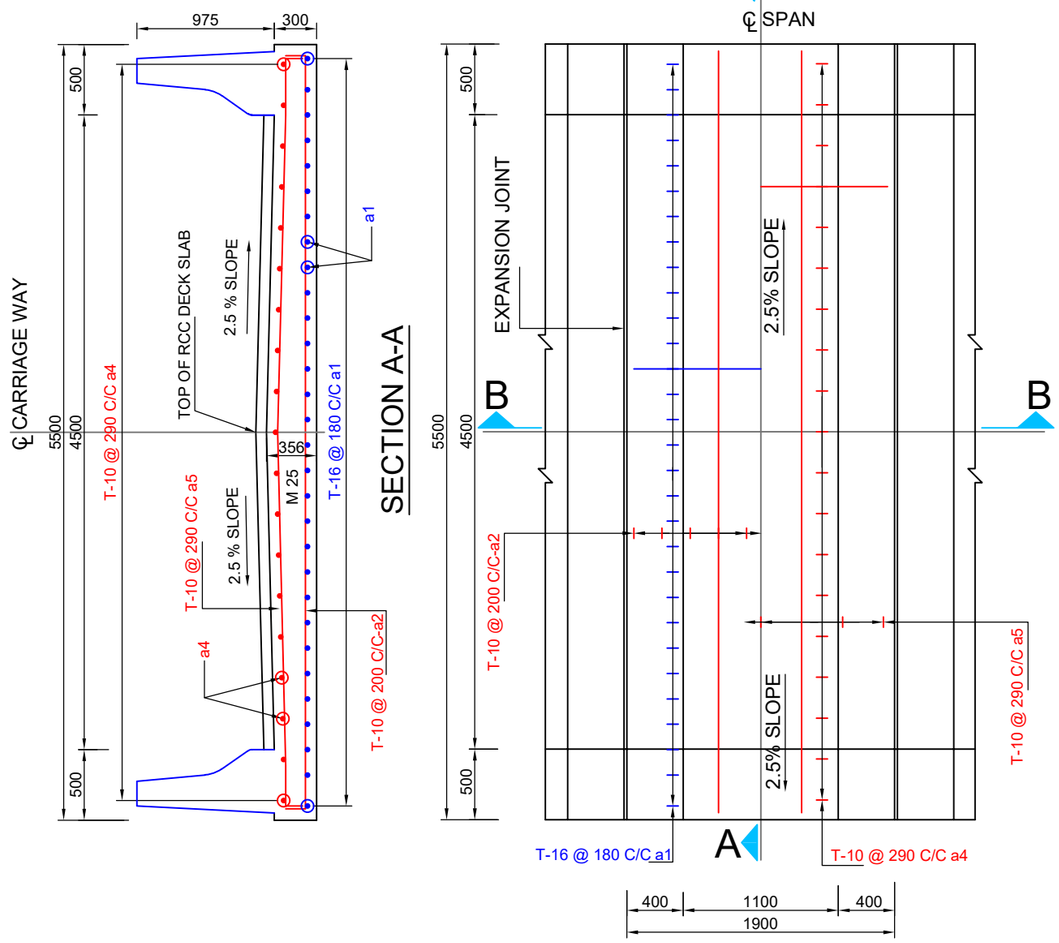
Prepared by :- WAPCOS LTD.	Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
	Drawing Title :-	SHARDA TYPE 1.828 M HT. FALL AT KM. 2.215 OF PARANPUR MR. (OFFTAKE FROM RD - 9+325 KM. (L), CHAIN NAWADA SUB-DY.)
	Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34-01/ FALL 1 of 2



SECTION B-B
(SCALE A)



REINF. DETAILS OF CRASH BARRIER IN MAIN SLAB
(SCALE B)



BOTTOM REINFORCEMENT TOP REINFORCEMENT

PLAN SHOWING REINFORCEMENT DETAILS OF DECK SLAB
(SCALE A)

BAR BENDING SCHEDULE

S. No.	Type of bars	Shape of bars (not to scale) (Dimensions are in millimetres)	Dia of Bars (mm)	Spacing (mm)	Nos. of Bars
SLAB PER SPAN					
1	a1	200, R=80, 1800, 200	16	180	36
2	a2	200, R=50, 6400, 200	10	200	10
3	a3	6400	10	-	2
4	a4	1800, 200, R=40, 200	10	290	23
5	a5	200, 450, 2750, 2750, 450, 200	10	290	7
CRASH BARRIER					
1	x1	75, 1176, 950, 300	12	120	16X2
2	x2	75, 540, 350, 300	16	120	16X2
3	x3	1800	10	-	12X2

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,
BRIDGE SLAB & PARAPET M-25
4. ALL REINFORCEMENT BARS SHALL BE OF HIGH YIELD STRENGTH DEFORMED BARS (Fe 500) COMFORMING I.S. 1786.
5. MIN. CLEAR COVER TO ANY REINF. INCLUDING STIRRUPS SHALL BE 40 MM OR UNLESS OTHERWISE SPECIFIED.
6. THE COVER INDICATED IN THIS DRAWINGS IS CLEAR COVER TO MAIN REINFORCEMENT BARS NEAREST TO THE CONCRETE SURFACE INCLUDING STIRRUPS AND BINDERS UNLESS MENTIONED OTHERWISE.
7. BENDING OF REINF. BARS SHALL CONFORM TO I.S. 2502.
8. REINF. BARS SHALL BE CUT AND ADJUSTED TO ACCOMODATE DRAINAGE SPOUT.
9. 75 MM THK. WEARING COAT IN M-25 CC SHALL BE PROVIDED.
10. APPROACH SLAB & APPROACH SLAB SUPPORT SHALL BE DECIDED BY FIELD ENGINEERS ACCORDING TO THE SITE CONDITIONS.
11. TARFELT BEARING SHALL BE PROVIDED UNDER SLAB AT SUPPORT.
12. THE REINFORCEMENT OF CRASH BARRIER SHALL BE INCORPORATED BEFORE CASTING OF THE DECK SLAB.
13. 8 MM DIA BAR @ 200 C/C IN BOTH DIRECTION SHALL BE PROVIDED IN WEARING COAT AT MIDDLE DEPTH.
14. WHEN BARS OF TWO DIFFERENT DIAMETERS ARE TO BE SPLICED, THE LAP LENGTH SHALL BE CALCULATED ON THE BASIS OF DIAMETER OF SMALLER BAR.
15. THE DEVELOPMENT LENGTH OF BARS ARE GIVEN BELOW:

DEVELOPMENT LENGTH FULLY STRESSED DEFORMED BARS (fy=500N/mm^2) (IS 456 CLAUSE 26.2.1)

TENSION BARS GRADE OF CONCRETE				COMPRESSION BARS GRADE OF CONCRETE			
M15	M20	M25	M30	M15	M20	M25	M30
68.00	56.60	48.50	45.30	54.40	45.30	38.80	36.30
81.60	68.00	58.30	54.40	65.30	54.40	46.60	43.50
108.80	90.60	77.70	72.50	87.00	87.00	62.10	58.00
135.90	113.30	97.10	90.60	108.80	108.80	77.70	72.50
169.90	141.60	121.40	113.30	135.90	135.90	97.10	90.60
217.50	181.30	155.40	145.00	174.00	174.00	124.30	116.00

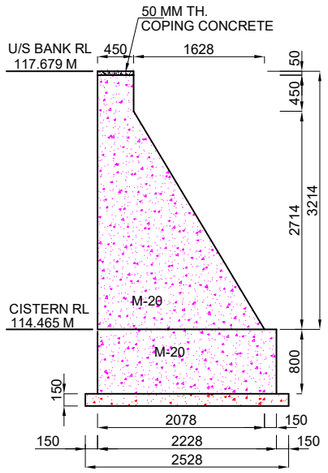
1. THE DEVELOPMENT LENGTHS GIVEN ABOVE ARE FOR A STRESS OF 0.87 fy IN THE BAR
2. THE DEVELOPMENT LENGTH INCLUDES ANCHORAGE VALUES OF HOOKS IN TENSION REINFORCEMENT.

16. LAPPING OF REINFORCEMENT SHALL BE AVOIDED AS FAR IS POSSIBLE IN CASE LAPPING OF BARS BECOMES UNAVOIDABLE, MINIMUM LAP LENGTH OF REINFORCEMENT BARS SHALL BE CALCULATED AS FOLLOW WITH MAXIMUM ALLOWABLE LAPPING (p) OF 50 % ONLY (IRC:112 - 2011) CLAUSE: 15.2.5.1)
LAP LENGTH = α1. lbnet
WHERE, α1 = 1.0 for p%≤25%
α1 = 1.15 for 25%≤p%≤33%
α1 = 1.4 for 33%≤p%≤50%
17. THE STRAIGHT LENGTH OF THE LAP SHOULD NOT BE LESS THAN 15Ø OR 200 MM (WHICH EVER IS MORE)
18. THE LAP LENGTH MUST BE AT LEAST EQUAL TO DEVELOPMENT LENGTH IN NO CASE, THE LAP LENGTH SHOULD BE LESS THAN 30Ø FOR FLEXURAL AND DIRECT TENSION AND 24Ø FOR COMPRESSION.
19. LAP SPLICES SHALL BE CONSIDERED AS STAGGERED IF THE C/C DISTANCE OF SPLICES IS NOT LESS THAN 1.3 TIMES THE LAP LENGTH CALCULATED.
20. WHEN BARS OF TWO DIFFERENT DIAMETERS ARE TO BE SPLICED, THE LAP LENGTH SHALL BE CALCULATED ON THE BASIS OF DIAMETER OF SMALLER BAR.

SCALE A:- 400 0 400 800 1200

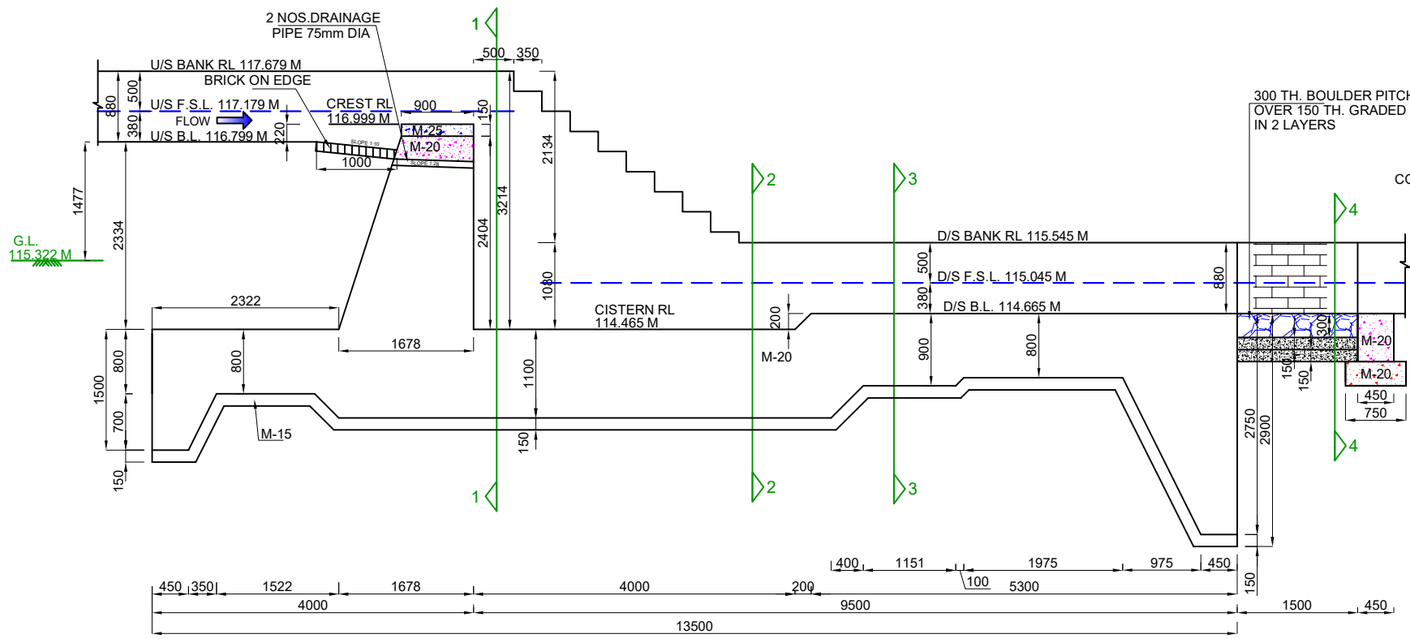
SCALE B:- 200 0 200 400 600

Prepared by :- WAPCOS LTD.	
Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
Drawing Title :-	REINFORCEMENT DETAILS OF SLAB FOR FALL CUM BRG. AT KM. 2.215 OF PARANPUR MR. (OFFTAKE FROM RD - 9+325 KM. (L), CHAIN NAWADA SUB-DY.)
Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34-01/ FALL 2 of 2



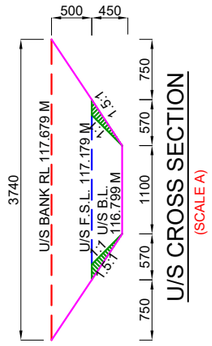
SECTION AT 5-5

(SCALE A)



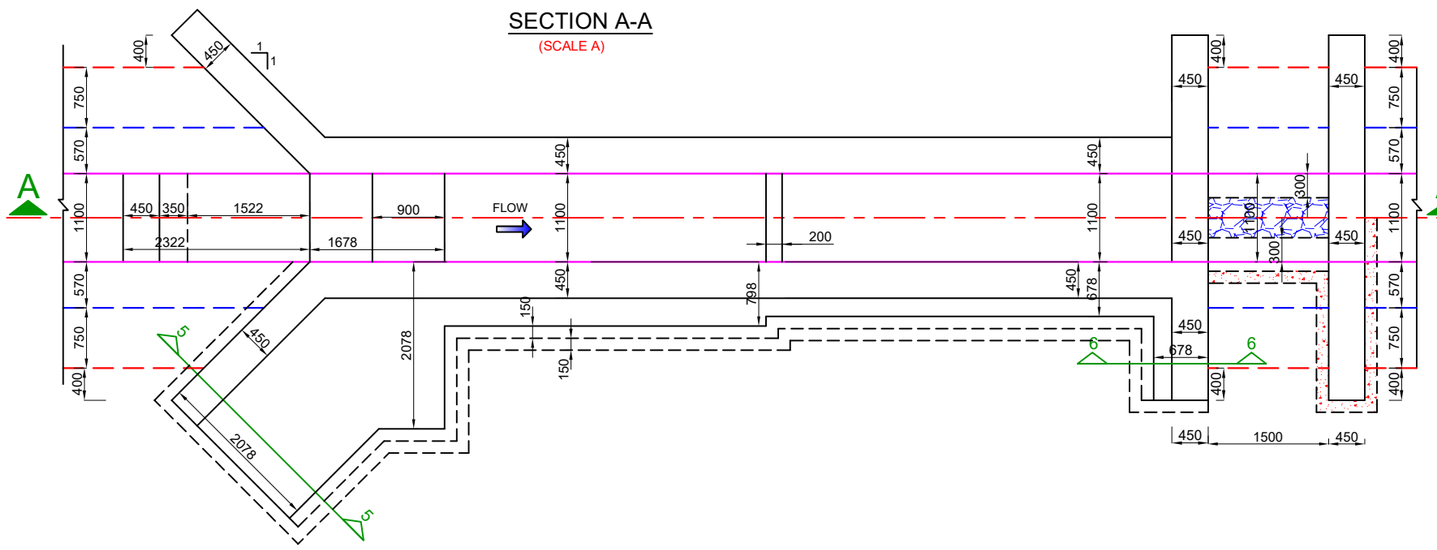
SECTION A-A

(SCALE A)



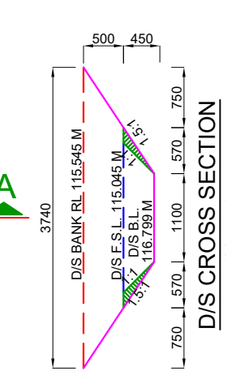
U/S CROSS SECTION

(SCALE A)



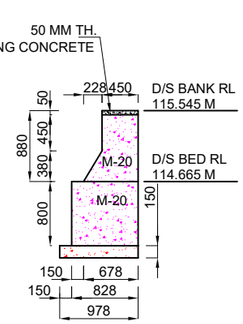
HALF TOP / HALF FOUNDATION PLAN

(SCALE A)



D/S CROSS SECTION

(SCALE A)



SECTION AT 6-6

(SCALE A)

NOTES:-

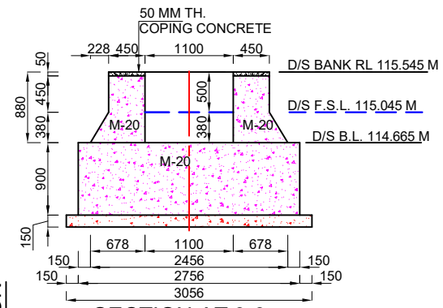
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FLOOR	M 20
FOUNDATION OF ABUTMENTS & WING WALL	M 20
PCC UNDER FLOOR	M 15
ABUTMENTS / WING WALLS	M 20

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.

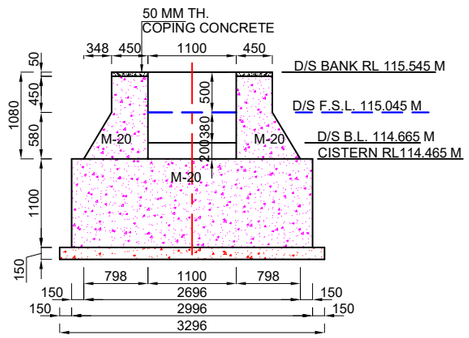
HYDRAULIC:- DATA

	U/S	D/S	UNIT
FULL SUPPLY DISCHARGE	0.120	0.120	CUMEC
VERTICAL DROP	2.134	2.134	METRE
FULL SUPPLY DEPTH	1.100	1.100	METRE
BED WIDTH	0.380	0.380	METRE
BED SLOPE	1 : 4200	1 : 4200	



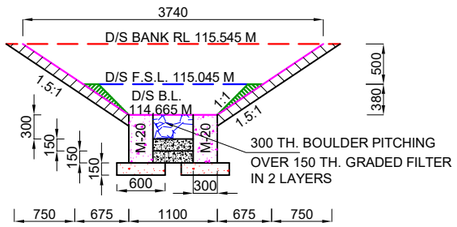
SECTION AT 3-3

(SCALE A)



SECTION AT 2-2

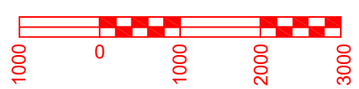
(SCALE A)

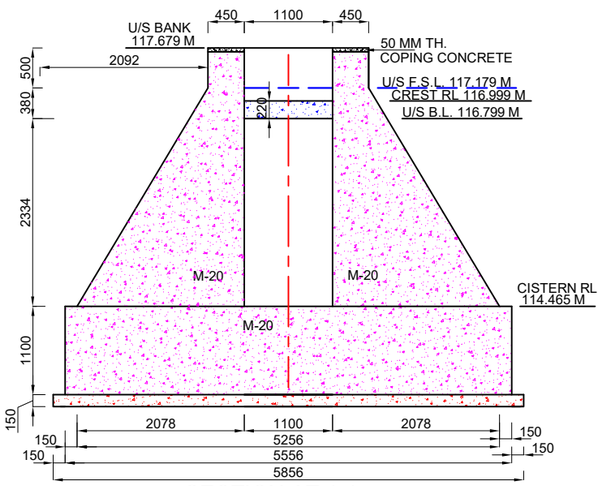


SECTION AT 4-4

(SCALE A)

SCALE A:-

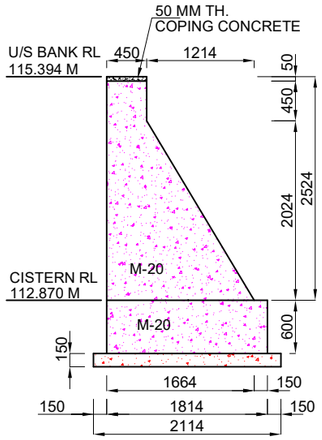




SECTION AT 1-1

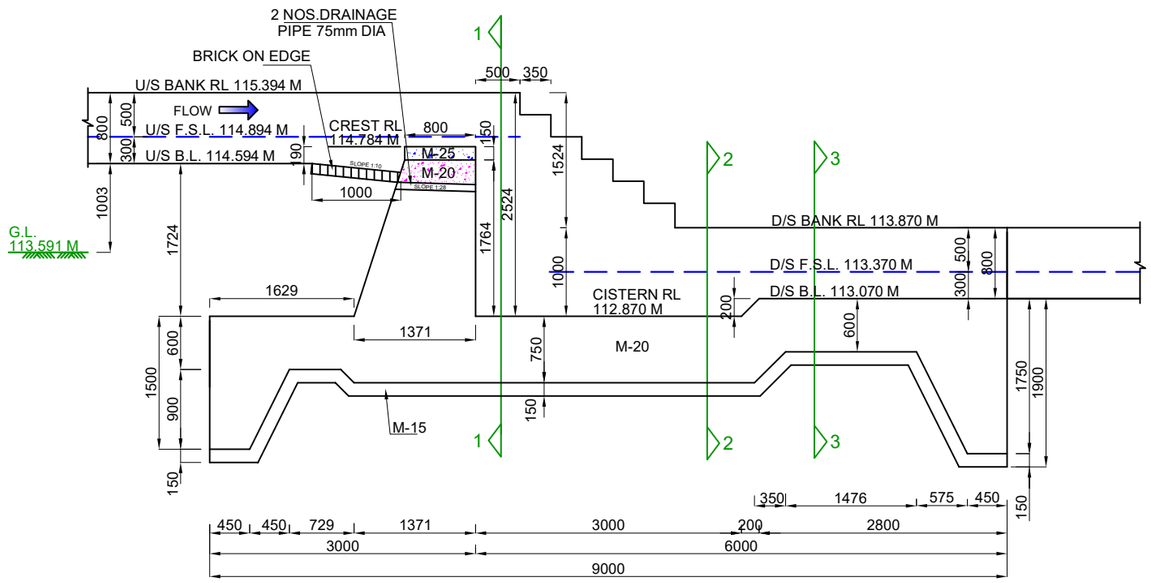
(SCALE A)

Prepared by :- WAPCOS LTD.	Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
	Drawing Title :-	SHARDA TYPE 2.134 M HT. FALL AT KM. 2.525 OF PARANPUR MR. (OFFTAKE FROM RD - 9+325 KM. (L), CHAIN NAWADA SUB-DY.)
	Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34-01/ FALL 1 of 1



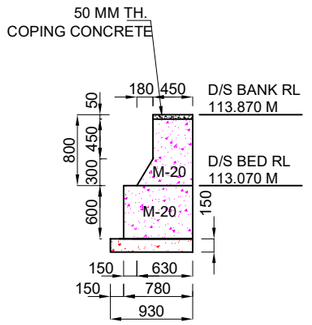
SECTION AT 5-5

(SCALE A)



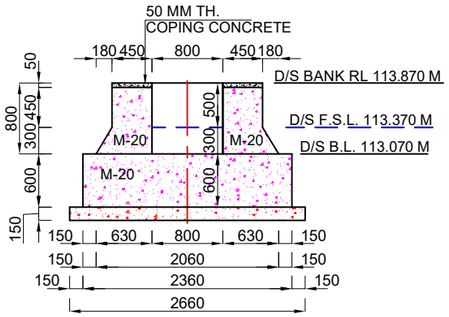
SECTION A-A

(SCALE A)



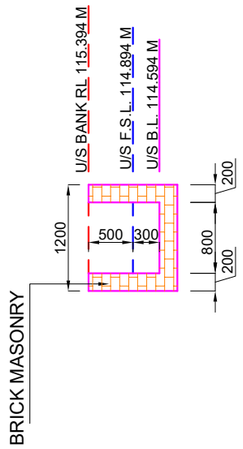
SECTION AT 6-6

(SCALE A)

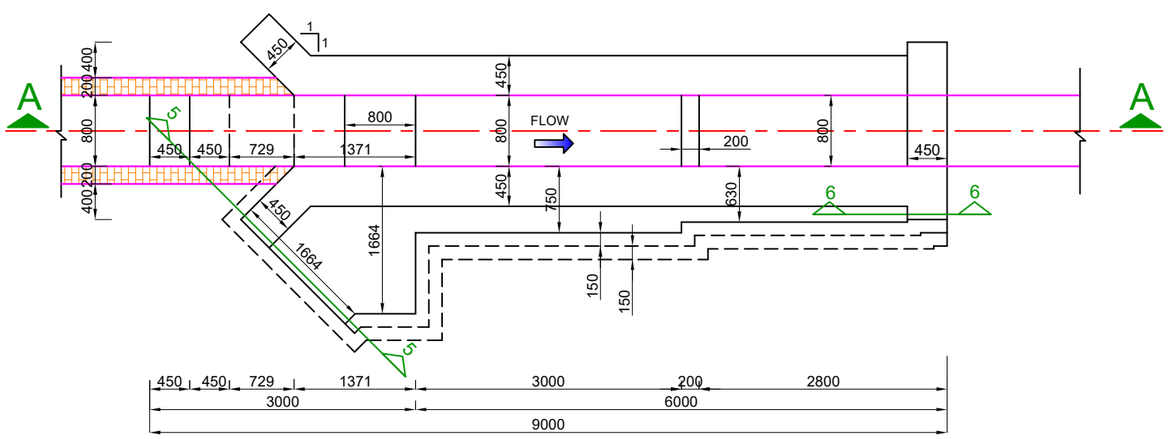


SECTION AT 3-3

(SCALE A)

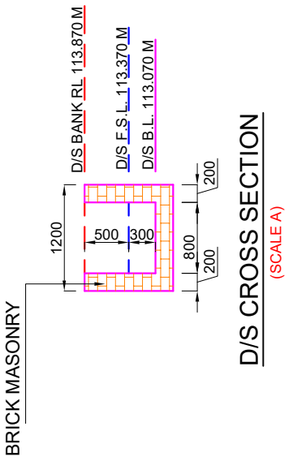


U/S CROSS SECTION (SCALE A)

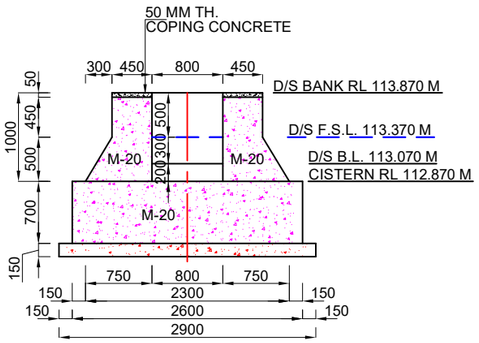


HALF TOP / HALF FOUNDATION PLAN

(SCALE A)

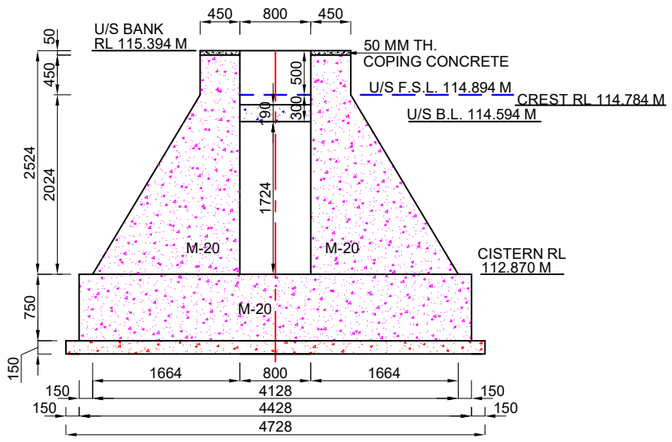


D/S CROSS SECTION (SCALE A)



SECTION AT 2-2

(SCALE A)



SECTION AT 1-1

(SCALE A)

NOTES:-

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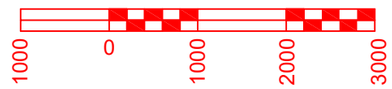
FLOOR	M 20
FOUNDATION OF ABUTMENTS & WING WALL	M 20
PCC UNDER FLOOR	M 15
ABUTMENTS / WING WALLS	M 20

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.

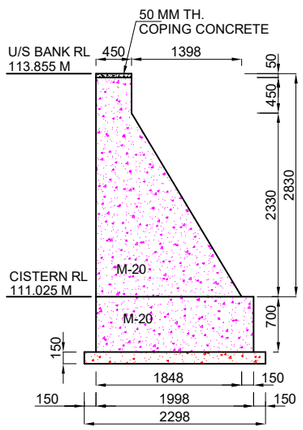
HYDRAULIC:- DATA

	U/S	D/S	UNIT
FULL SUPPLY DISCHARGE	0.040	0.040	CUMEC
VERTICAL DROP	1.524	1.524	METRE
FULL SUPPLY DEPTH	0.800	0.800	METRE
BED WIDTH	0.300	0.300	METRE
BED SLOPE	1 : 3800	1 : 3800	

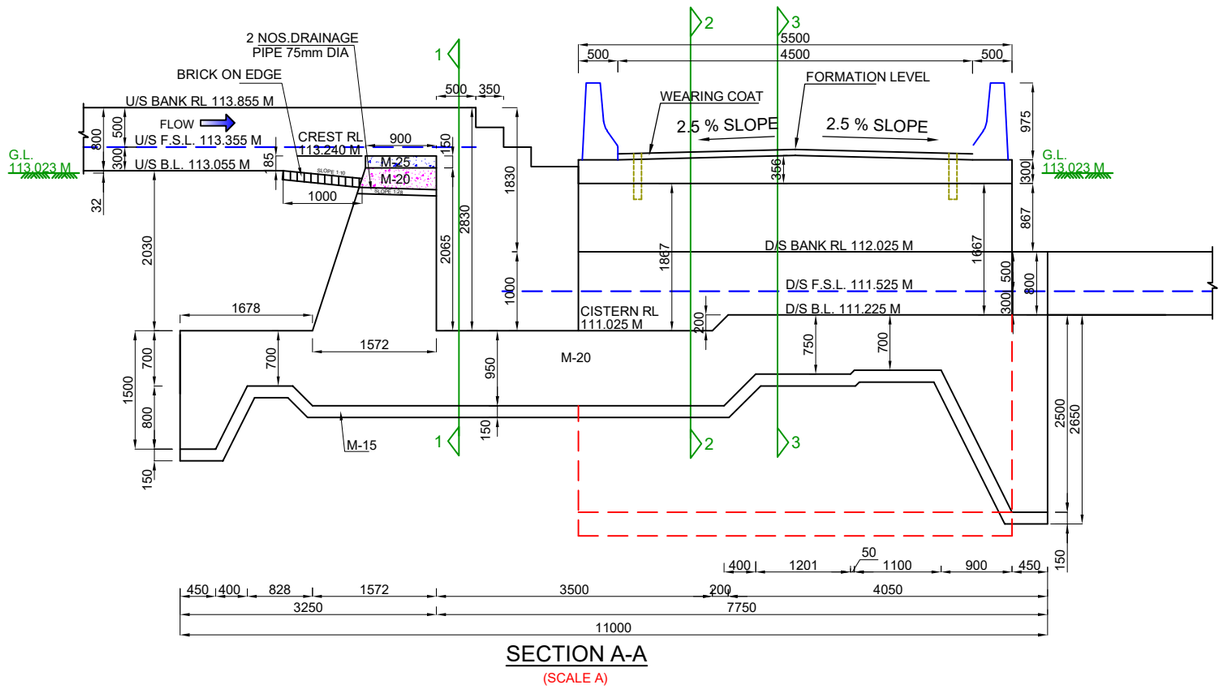
SCALE A:-



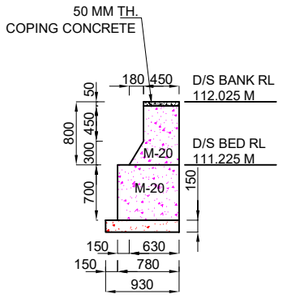
Prepared by :- WAPCOS LTD.	Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
	Drawing Title :-	SHARDA TYPE 1.524 M HT. FALL AT KM. 2.810 OF PARANPUR MR. (OFFTAKE FROM RD - 9+325 KM. (L), CHAIN NAWADA SUB-DY.)
	Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34-01/ FALL 1 of 1



SECTION AT 5-5
(SCALE A)



SECTION A-A
(SCALE A)



SECTION AT 6-6
(SCALE A)

NOTES:-

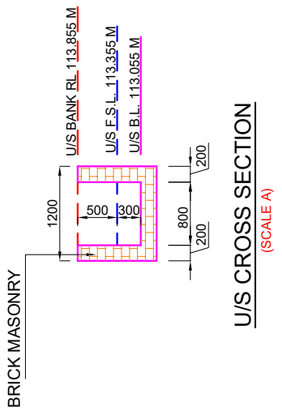
1. ALL DIMENSIONS ARE IN mm AND LEVELS IN METRES EXCEPT OTHERWISE MENTIONED.
2. THE DRAWING SHALL NOT BE SCALED OFF, ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED.
3. ALL CONCRETE WORK SHALL CONFORM TO IS: 456 -2000. GRADE OF CONCRETE IN DIFFERENT COMPONENTS SHALL BE AS FOLLOWS,

PCC UNDER FLOOR	M 15
FOUNDATION OF ABUTMENTS & WING WALL	M 20
FLOOR	M 20
ABUTMENTS / WING WALLS	M 20
SLAB & DIRT WALL	M 25

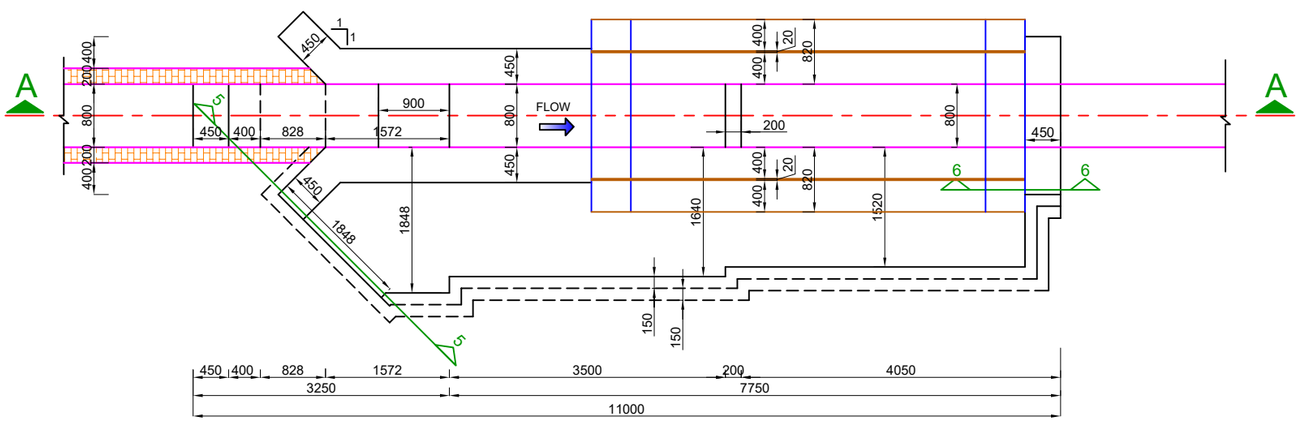
4. ANY OVER DIGGING SHALL BE FILLED BY CONCRETE 1:3:6 GRADE.
5. SKIN REINFORCEMENT SHALL BE PROVIDED IN FLOOR AND ABUTMENT OF 12 MM DIA BARS @ 250 MM.

HYDRAULIC:- DATA

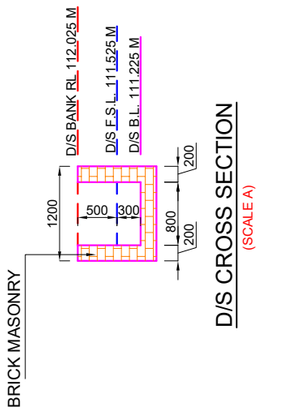
	U/S	D/S	UNIT
FULL SUPPLY DISCHARGE	0.040	0.040	CUMEC
VERTICAL DROP	1.830	1.830	METRE
FULL SUPPLY DEPTH	0.800	0.800	METRE
BED WIDTH	0.300	0.300	METRE
BED SLOPE	1 : 3800	1 : 3800	



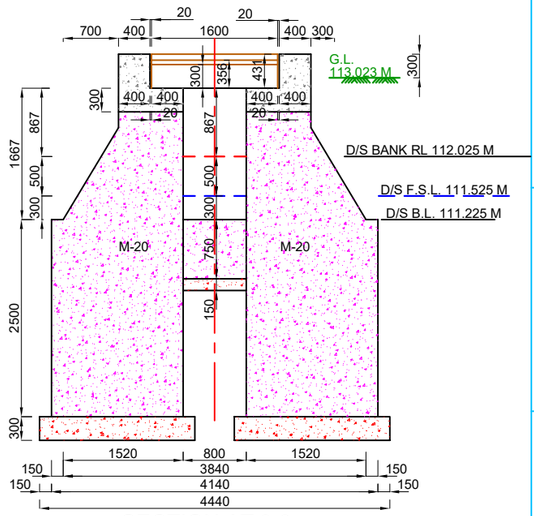
(SCALE A)



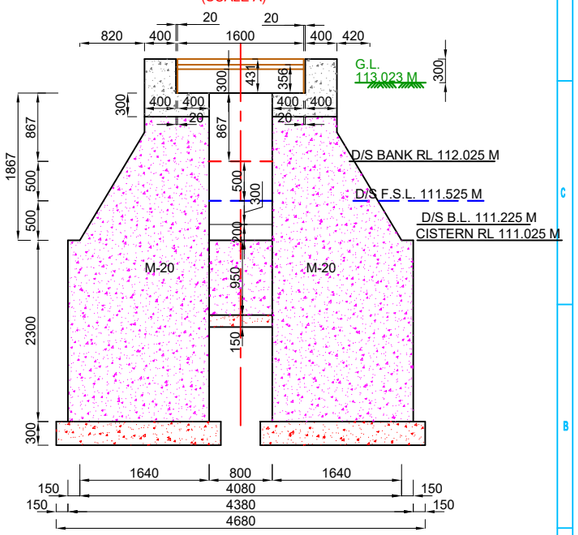
(SCALE A)



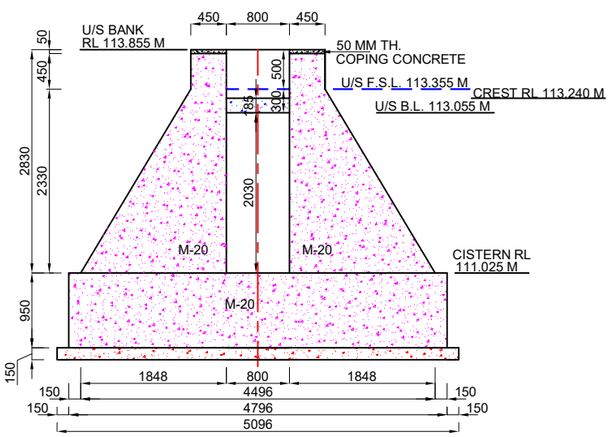
(SCALE A)



SECTION AT 3-3
(SCALE A)



SECTION AT 2-2
(SCALE A)

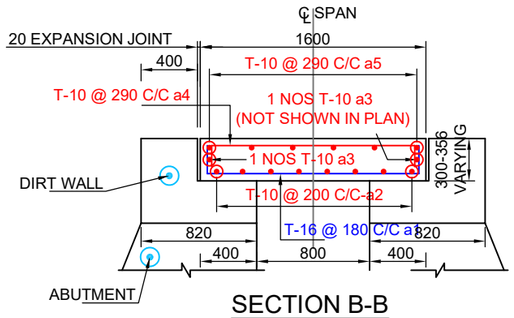


SECTION AT 1-1
(SCALE A)

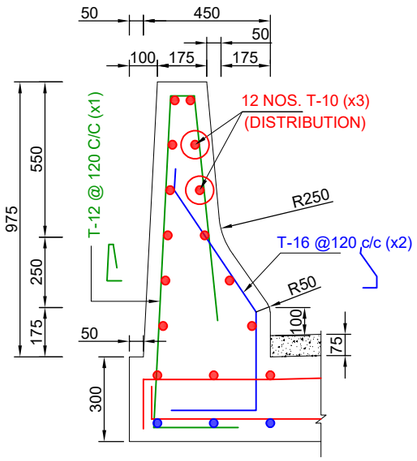
SCALE A:-

1000 0 1000 2000 3000

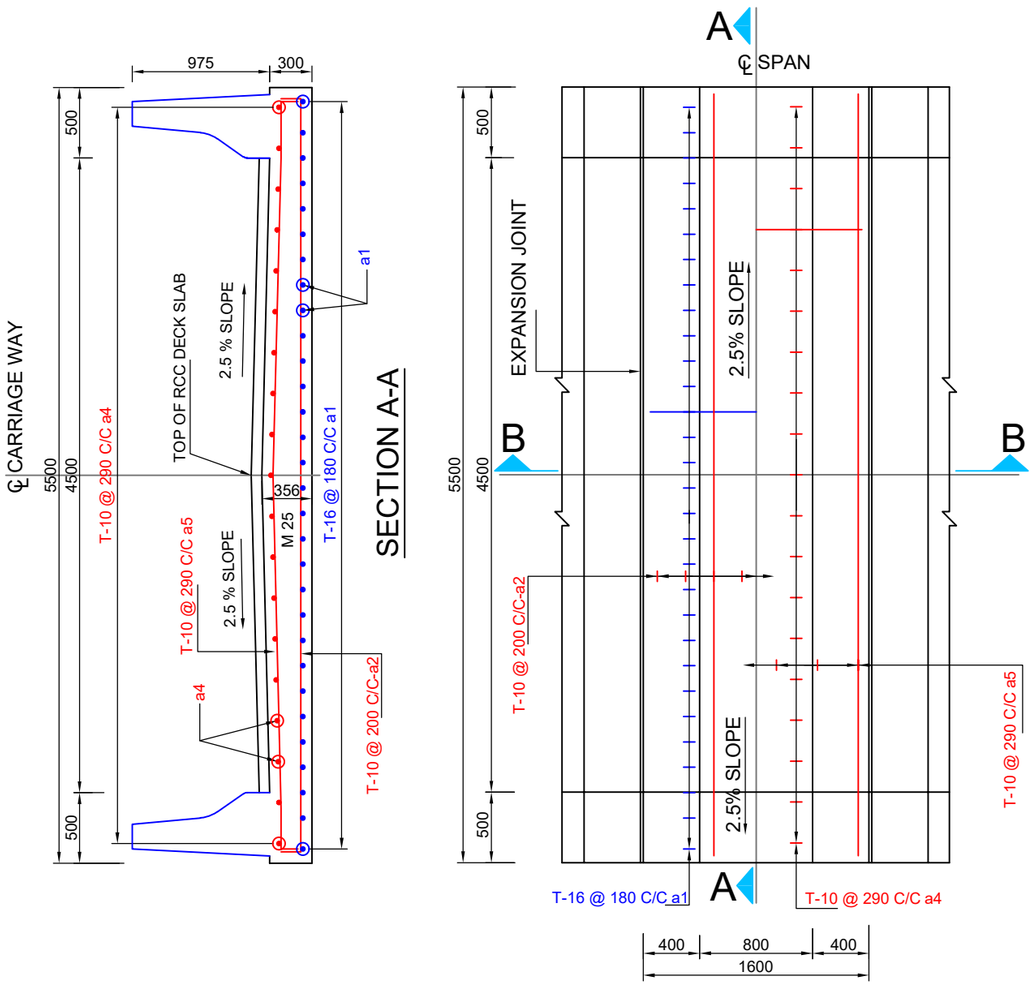
Prepared by :- WAPCOS LTD.	Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
	Drawing Title :-	SHARDA TYPE 1.830 M HT. FALL AT KM. 2.870 OF PARANPUR MR. (OFFTAKE FROM RD - 9+325 KM. (L), CHAIN NAWADA SUB-DY.)
	Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34-01/ FALL 1 of 2



SECTION B-B
(SCALE A)



REINF. DETAILS OF CRASH BARRIER IN MAIN SLAB
(SCALE B)



BOTTOM REINFORCEMENT TOP REINFORCEMENT

PLAN SHOWING REINFORCEMENT DETAILS OF DECK SLAB
(SCALE A)

BAR BENDING SCHEDULE

S. No.	Type of bars	Shape of bars (not to scale) (Dimensions are in millimetres)	Dia of Bars (mm)	Spacing (mm)	Nos. of Bars
SLAB PER SPAN					
1	a1	200, R=80, 1500, 200	16	180	30
2	a2	200, R=50, 5400, 200	10	200	8
3	a3	5400	10	-	2
4	a4	1500, 200, R=40, 200	10	290	19
5	a5	200, 450, 2250, 2250, 450, 200	10	290	6
CRASH BARRIER					
1	x1	75, 1176, 950, 300	12	120	12X2
2	x2	75, 540, 350, 300	16	120	12X2
3	x3	1500	10	-	12X2

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,
BRIDGE SLAB & PARAPET M-25
4. ALL REINFORCEMENT BARS SHALL BE OF HIGH YIELD STRENGTH DEFORMED BARS (Fe 415) COMFORMING I.S. 1786.
5. MIN. CLEAR COVER TO ANY REINF. INCLUDING STIRRUPS SHALL BE 40 MM OR UNLESS OTHERWISE SPECIFIED.
6. THE COVER INDICATED IN THIS DRAWINGS IS CLEAR COVER TO MAIN REINFORCEMENT BARS NEAREST TO THE CONCRETE SURFACE INCLUDING STIRRUPS AND BINDERS UNLESS MENTIONED OTHERWISE.
7. BENDING OF REINF. BARS SHALL CONFORM TO I.S. 2502.
8. REINF. BARS SHALL BE CUT AND ADJUSTED TO ACCOMODATE DRAINAGE SPOUT.
9. 75 MM THK. WEARING COAT IN M-25 CC SHALL BE PROVIDED.
10. APPROACH SLAB & APPROACH SLAB SUPPORT SHALL BE DECIDED BY FIELD ENGINEERS ACCORDING TO THE SITE CONDITIONS.
11. TARFELT BEARING SHALL BE PROVIDED UNDER SLAB AT SUPPORT.
12. THE REINFORCEMENT OF CRASH BARRIER SHALL BE INCORPORATED BEFORE CASTING OF THE DECK SLAB.
13. 8 MM DIA BAR @ 200 C/C IN BOTH DIRECTION SHALL BE PROVIDED IN WEARING COAT AT MIDDLE DEPTH.
14. WHEN BARS OF TWO DIFFERENT DIAMETERS ARE TO BE SPLICED, THE LAP LENGTH SHALL BE CALCULATED ON THE BASIS OF DIAMETER OF SMALLER BAR.
15. THE DEVELOPMENT LENGTH OF BARS ARE GIVEN BELOW:

DEVELOPMENT LENGTH FULLY STRESSED DEFORMED BARS (fy=500N/mm^2) (IS 456 CLAUSE 26.2.1)

TENSION BARS GRADE OF CONCRETE				COMPRESSION BARS GRADE OF CONCRETE			
M15	M20	M25	M30	M15	M20	M25	M30
68.00	56.60	48.50	45.30	54.40	45.30	38.80	36.30
81.60	68.00	58.30	54.40	65.30	54.40	46.60	43.50
108.80	90.60	77.70	72.50	87.00	87.00	62.10	58.00
135.90	113.30	97.10	90.60	108.80	108.80	77.70	72.50
169.90	141.60	121.40	113.30	135.90	135.90	97.10	90.60
217.50	181.30	155.40	145.00	174.00	174.00	124.30	116.00

1. THE DEVELOPMENT LENGTHS GIVEN ABOVE ARE FOR A STRESS OF 0.87 fy IN THE BAR
2. THE DEVELOPMENT LENGTH INCLUDES ANCHORAGE VALUES OF HOOKS IN TENSION REINFORCEMENT.

16. LAPPING OF REINFORCEMENT SHALL BE AVOIDED AS FAR IS POSSIBLE IN CASE LAPPING OF BARS BECOMES UNAVOIDABLE, MINIMUM LAP LENGTH OF REINFORCEMENT BARS SHALL BE CALCULATED AS FOLLOW WITH MAXIMUM ALLOWABLE LAPPING (p) OF 50 % ONLY (IRC:112 - 2011) CLAUSE: 15.2.5.1)
LAP LENGTH = α1. lbnet
WHERE, α1 = 1.0 for p%≤25%
α1 = 1.15 for 25%≤p%≤33%
α1 = 1.4 for 33%≤p%≤50%
17. THE STRAIGHT LENGTH OF THE LAP SHOULD NOT BE LESS THAN 15Ø OR 200 MM (WHICH EVER IS MORE)
18. THE LAP LENGTH MUST BE AT LEAST EQUAL TO DEVELOPMENT LENGTH IN NO CASE, THE LAP LENGTH SHOULD BE LESS THAN 30Ø FOR FLEXURAL AND DIRECT TENSION AND 24Ø FOR COMPRESSION.
19. LAP SPLICES SHALL BE CONSIDERED AS STAGGERED IF THE C/C DISTANCE OF SPLICES IS NOT LESS THAN 1.3 TIMES THE LAP LENGTH CALCULATED.
20. WHEN BARS OF TWO DIFFERENT DIAMETERS ARE TO BE SPLICED, THE LAP LENGTH SHALL BE CALCULATED ON THE BASIS OF DIAMETER OF SMALLER BAR.

SCALE A:- 400 0 400 800 1200

SCALE B:- 200 0 200 400 600

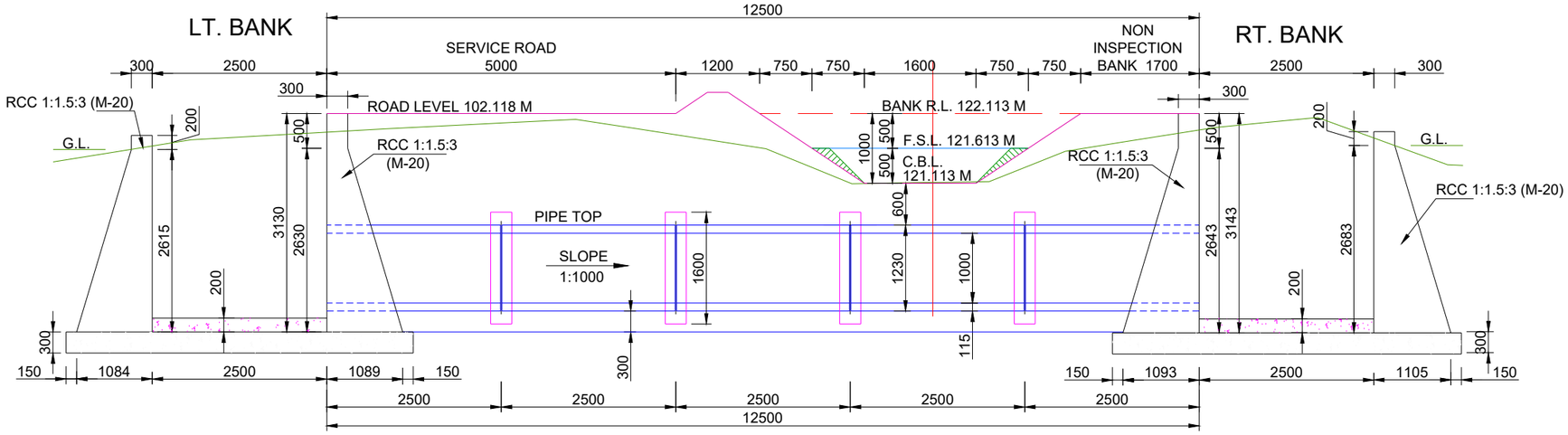
Prepared by :- WAPCOS LTD.	
Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
Drawing Title :-	REINFORCEMENT DETAILS OF SLAB FOR FALL CUM BRG. AT KM. 2.870 OF PARANPUR MR. (OFFTAKE FROM RD - 9+325 KM. (L), CHAIN NAWADA SUB-DY.)
Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34-01/ FALL 2 of 2

PROPOSED DESIGN DATA

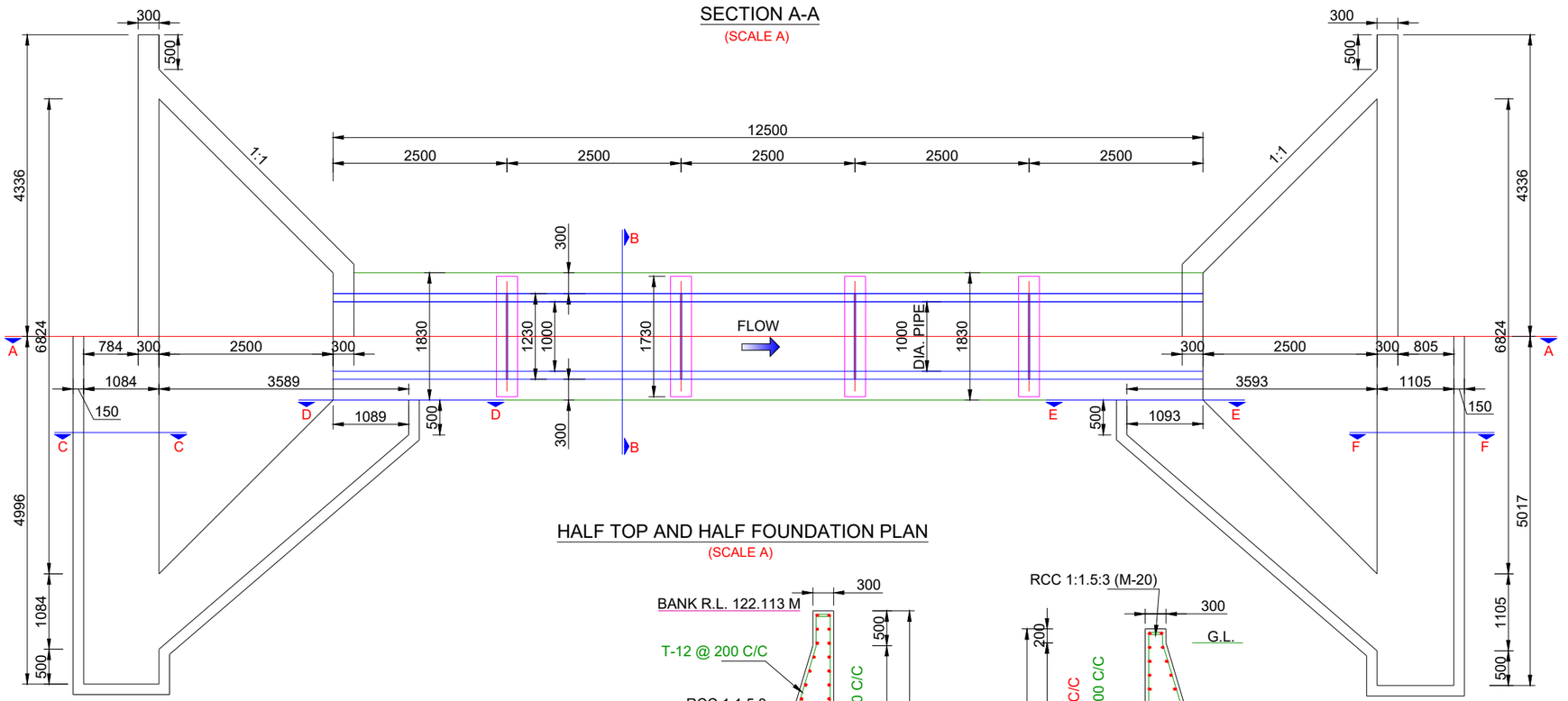
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Bed Width	1.600	m
Water Depth	0.500	m
Internal Dia	1.000	m
No. of Dia	1	Nos.
Free Board	0.500	m

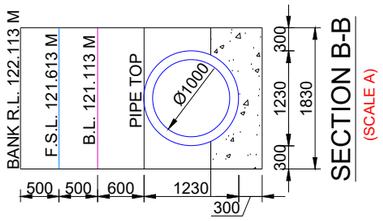
NOTES:-

1. ALL DIMENSIONS ARE IN mm AND LEVELS IN METERS EXCEPT OTHERWISE MENTIONED.
2. THE DRAWING SHALL NOT TO BE SCALED OFF ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED.
3. ANY OVER DIGGING SHALL BE FILLED BY CONCRETE M-10
4. THE PIPES SHALL BE RCC NP3 NON PRESSURE PIPES. THE SPECIFICATION OF PIPES SHALL BE AS PER IS:458.
5. BENDING OF BARS SHALL CONFORM TO IS:2502.
6. ALL CONCRETE WORK SHALL CONFORM TO IS:456-2000. GRADE OF CONCRETE IN DIFF. COMPONENTS SHALL BE ASSHOWN ON DRAWINGS.
7. ALL REINFORCEMENT BARS SHALL BE OF HIGH YIELD STRENGTH DEFORMED BARS CONFORMING IS:786.



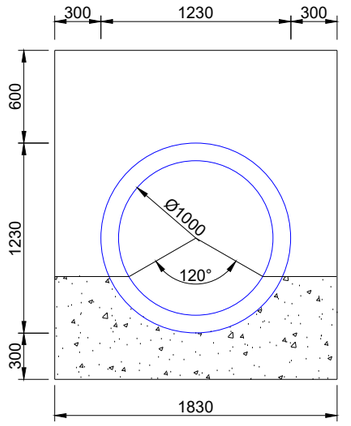
SECTION A-A
(SCALE A)



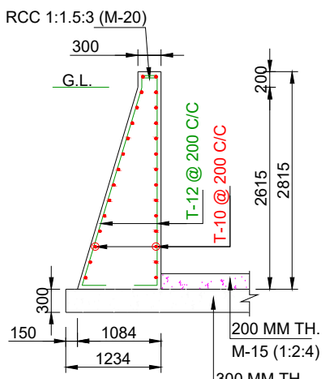


SECTION B-B
(SCALE A)

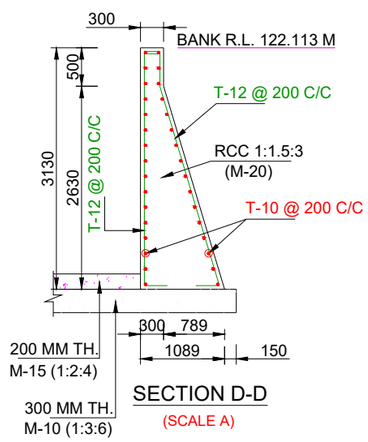
HALF TOP AND HALF FOUNDATION PLAN
(SCALE A)



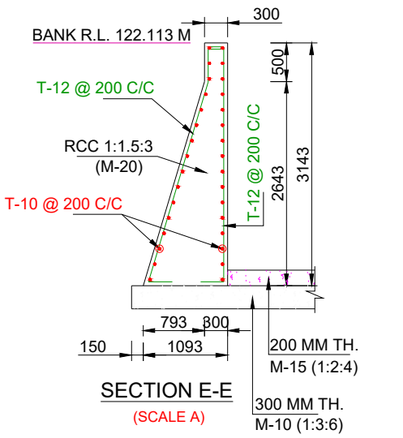
DETAILS OF JOINT OF PIPE
(SCALE B)



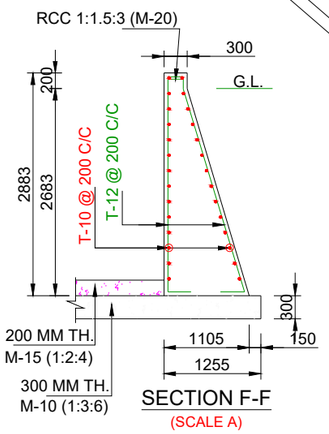
SECTION C-C
(SCALE A)



SECTION D-D
(SCALE A)



SECTION E-E
(SCALE A)

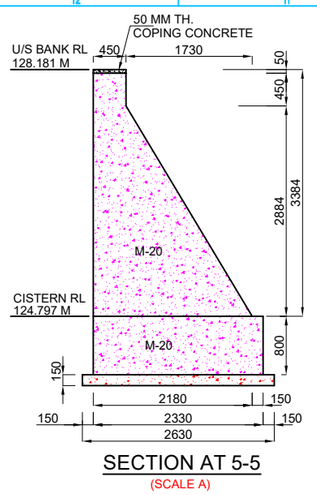


SECTION F-F
(SCALE A)

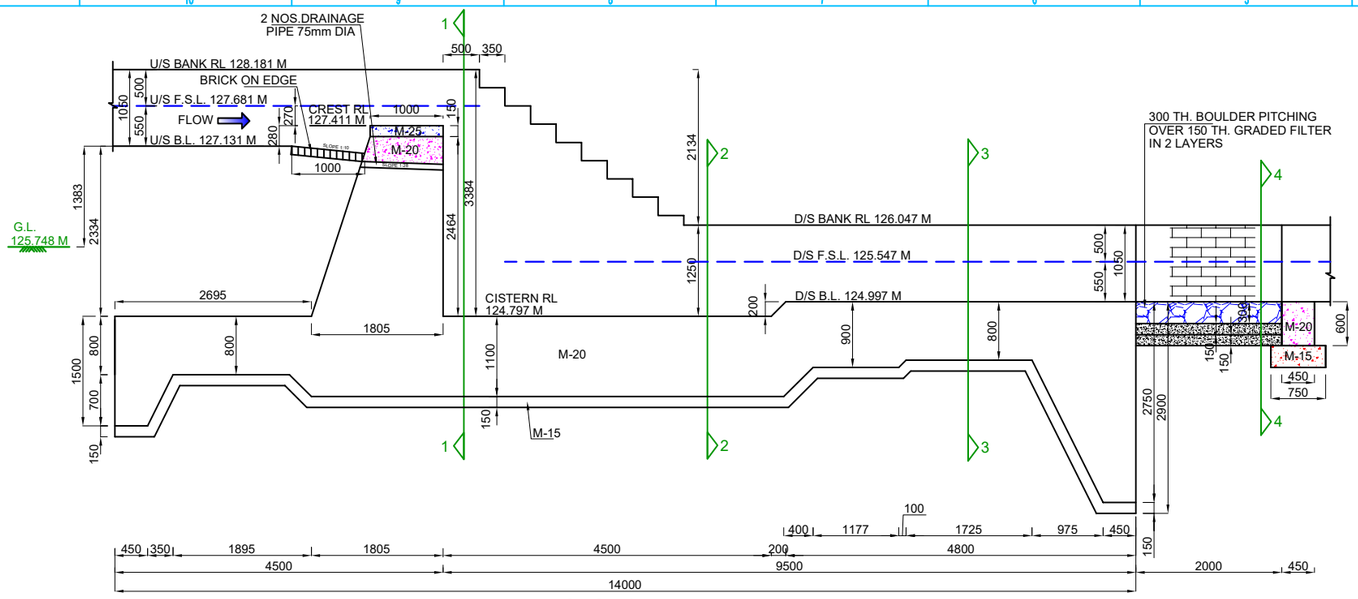
SCALE A:-

SCALE B:-

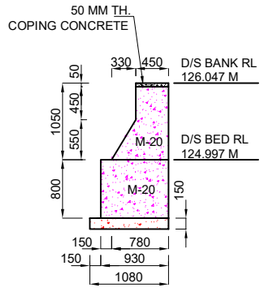
Prepared by :-	WAPCOS LTD.
Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
Drawing Title :-	GENERAL ARRANGEMENT DRAWING OF DRAINAGE SYPHON AT KM 1.660 OF PARANPUR MINOR
Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34-01/ CD-01 1 of 1



SECTION AT 5-5
(SCALE A)



SECTION A-A
(SCALE A)



SECTION AT 6-6
(SCALE A)

NOTES:-

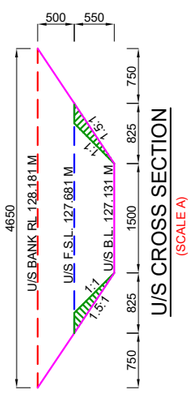
1. ALL DIMENSIONS ARE IN mm AND LEVELS IN METRES EXCEPT OTHERWISE MENTIONED.
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3. ALL CONCRETE WORK SHALL CONFORM TO IS: 456 -2000. GRADE OF CONCRETE IN DIFFERENT COMPONENTS SHALL BE AS FOLLOWS,

FLOOR	M 20
FOUNDATION OF ABUTMENTS & WING WALL	M 20
PCC UNDER FLOOR	M 15
ABUTMENTS / WING WALLS	M 20

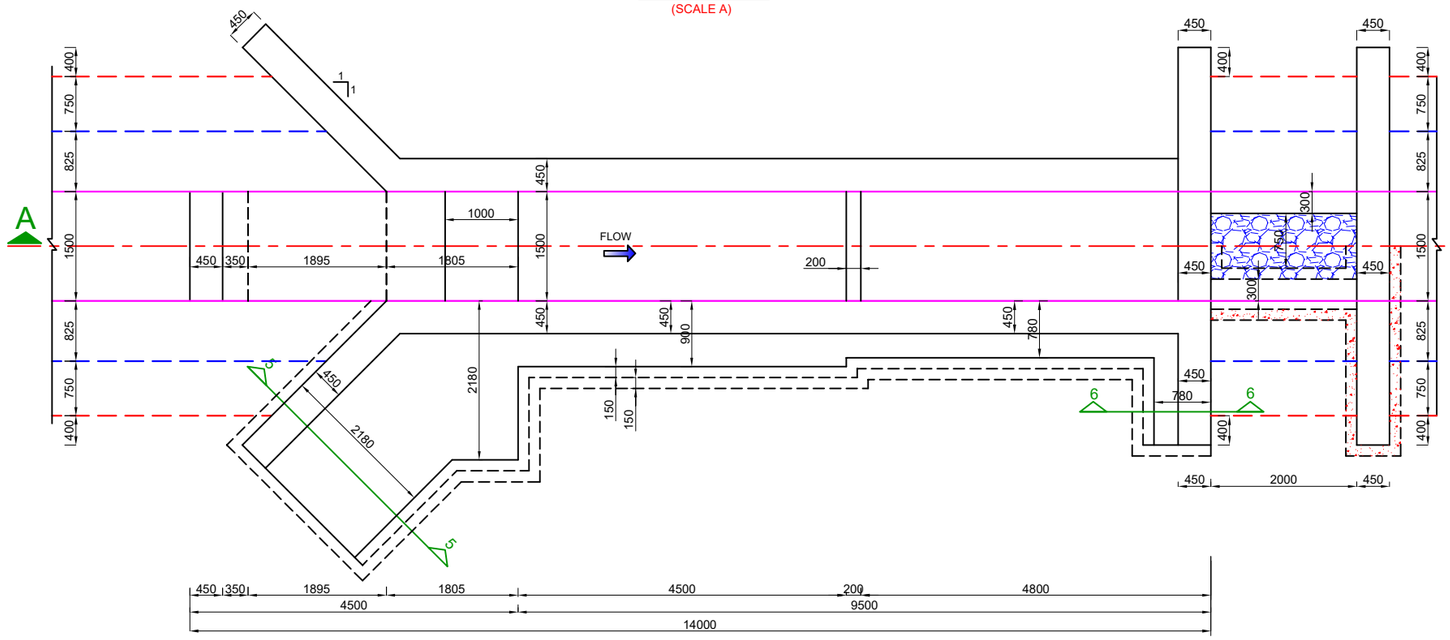
4. ANY OVER DIGGING SHALL BE FILLED BY CONCRETE 1:3:6 GRADE.
5. SKIN REINFORCEMENT SHALL BE PROVIDED IN FLOOR AND ABUTMENT OF 12 MM DIA BARS @ 250 MM.

HYDRAULIC:- DATA

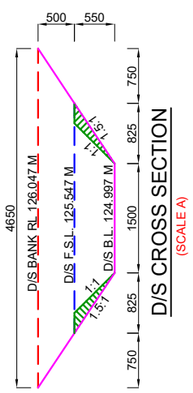
	U/S	D/S	UNIT
FULL SUPPLY DISCHARGE	0.320	0.320	CUMEC
VERTICAL DROP	2.134	2.134	METRE
FULL SUPPLY DEPTH	0.550	0.550	METRE
BED WIDTH	1.500	1.500	METRE
BED SLOPE	1 : 4000	1 : 4000	



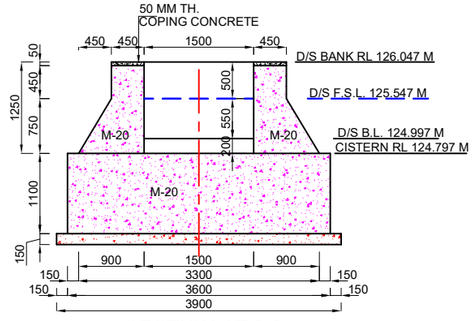
U/S CROSS SECTION
(SCALE A)



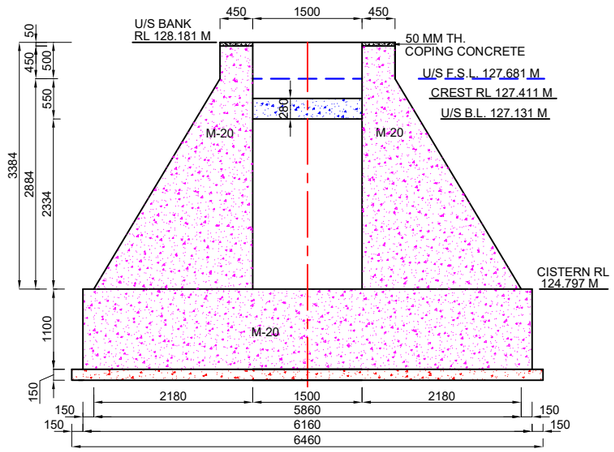
HALF TOP / HALF FOUNDATION PLAN
(SCALE A)



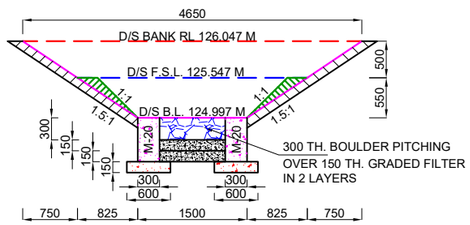
D/S CROSS SECTION
(SCALE A)



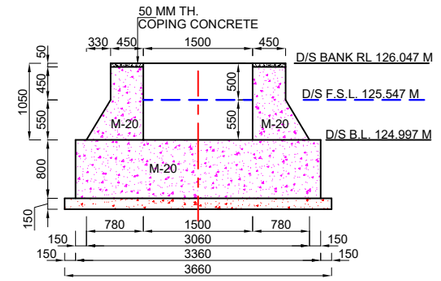
SECTION AT 2-2
(SCALE A)



SECTION AT 1-1
(SCALE A)

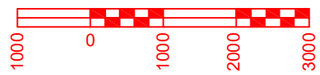


SECTION AT 4-4
(SCALE A)

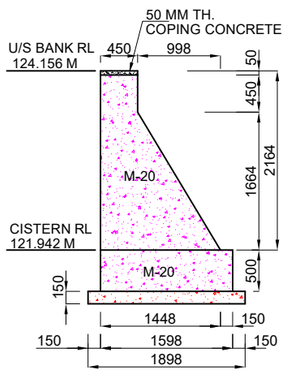


SECTION AT 3-3
(SCALE A)

SCALE A:-

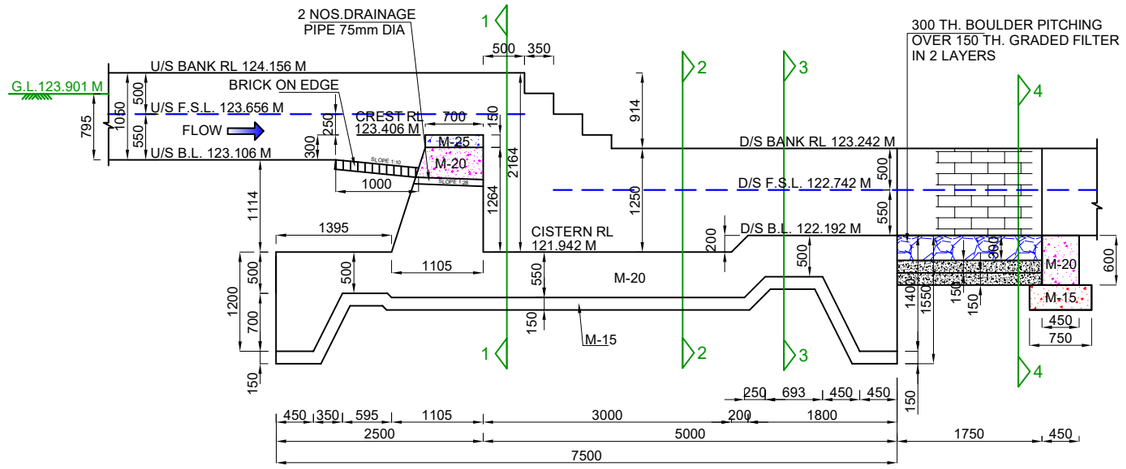


Prepared by :- WAPCOS LTD.	Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
	Drawing Title :-	SHARDA TYPE 2.134 M HT. FALL AT KM. 0.030 OF SALAIYA MR. (OFFTAKE FROM RD - 11+070 KM. (L), CHAIN NAWADA SUB-DY.)
	Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34-02/ FALL 1 of 1



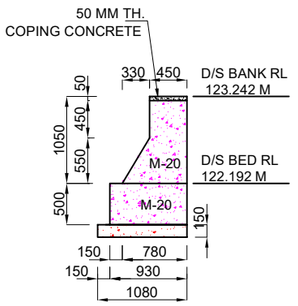
SECTION AT 5-5

(SCALE A)



SECTION A-A

(SCALE A)



SECTION AT 6-6

(SCALE A)

NOTES:-

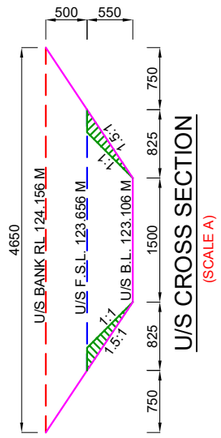
1. ALL DIMENSIONS ARE IN mm AND LEVELS IN METRES EXCEPT OTHERWISE MENTIONED.
2. THE DRAWING SHALL NOT BE SCALED OFF, ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED.
3. ALL CONCRETE WORK SHALL CONFORM TO IS: 456 -2000. GRADE OF CONCRETE IN DIFFERENT COMPONENTS SHALL BE AS FOLLOWS,

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.

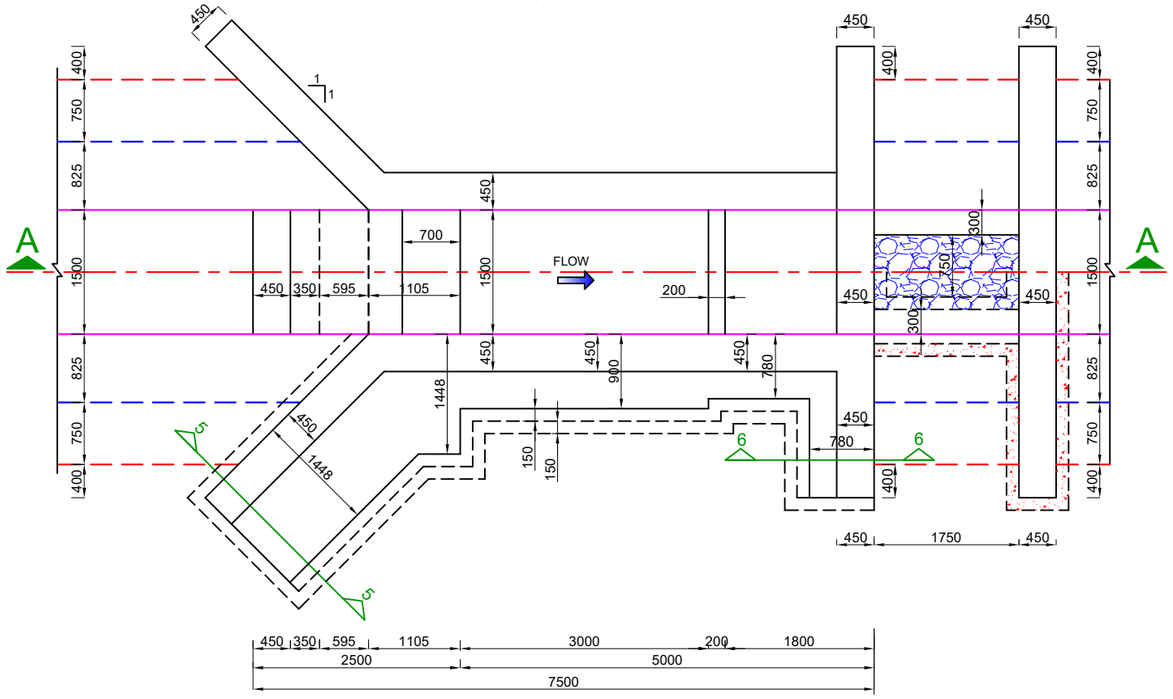
HYDRAULIC:- DATA

	U/S	D/S	UNIT
FULL SUPPLY DISCHARGE	0.320	0.320	CUMEC
VERTICAL DROP	0.914	0.914	METRE
FULL SUPPLY DEPTH	0.550	0.550	METRE
BED WIDTH	1.500	1.500	METRE
BED SLOPE	1 : 4000	1 : 4000	



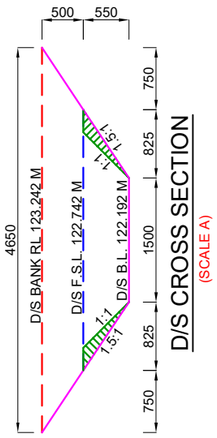
U/S CROSS SECTION

(SCALE A)



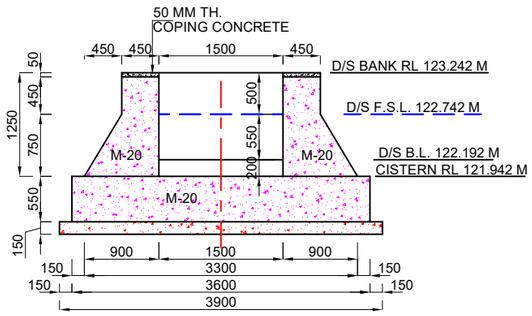
HALF TOP / HALF FOUNDATION PLAN

(SCALE A)



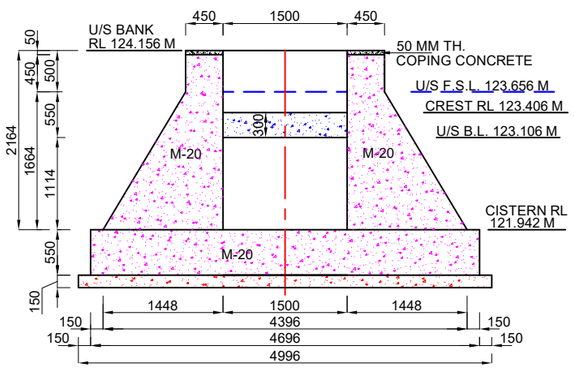
D/S CROSS SECTION

(SCALE A)



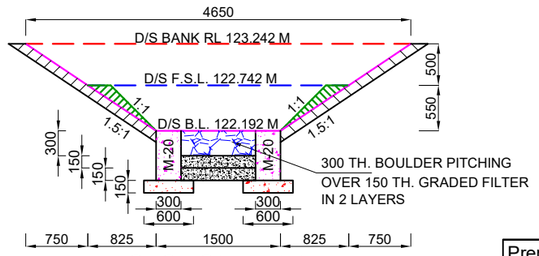
SECTION AT 2-2

(SCALE A)



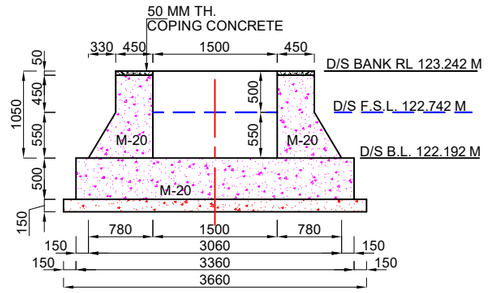
SECTION AT 1-1

(SCALE A)



SECTION AT 4-4

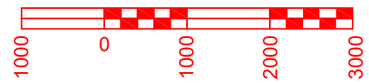
(SCALE A)



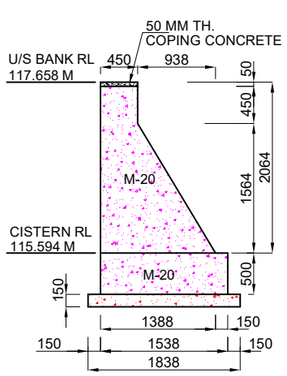
SECTION AT 3-3

(SCALE A)

SCALE A:-

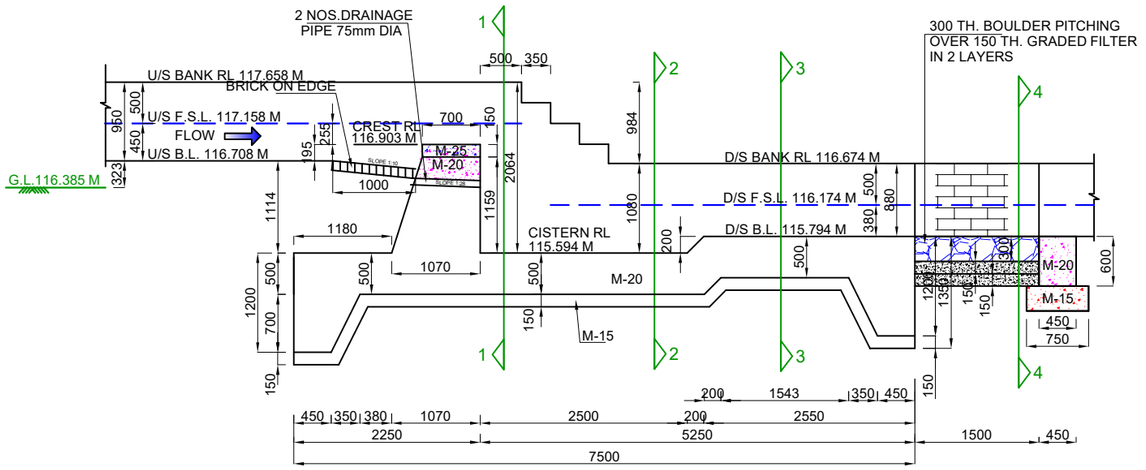


Prepared by :- WAPCOS LTD.	Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
	Drawing Title :-	SHARDA TYPE 0.914 M HT. FALL AT KM. 0.300 OF SALAIYA MR. (OFFTAKE FROM RD - 11+070 KM. (L), CHAIN NAWADA SUB-DY.)
	Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34-02/ FALL 1 of 1



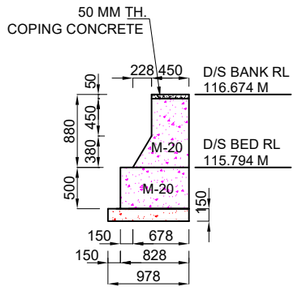
SECTION AT 5-5

(SCALE A)



SECTION A-A

(SCALE A)



SECTION AT 6-6

(SCALE A)

NOTES:-

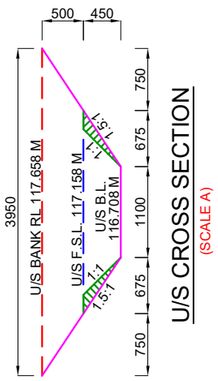
1. ALL DIMENSIONS ARE IN mm AND LEVELS IN METRES EXCEPT OTHERWISE MENTIONED.
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3. ALL CONCRETE WORK SHALL CONFORM TO IS: 456 -2000. GRADE OF CONCRETE IN DIFFERENT COMPONENTS SHALL BE AS FOLLOWS,

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.

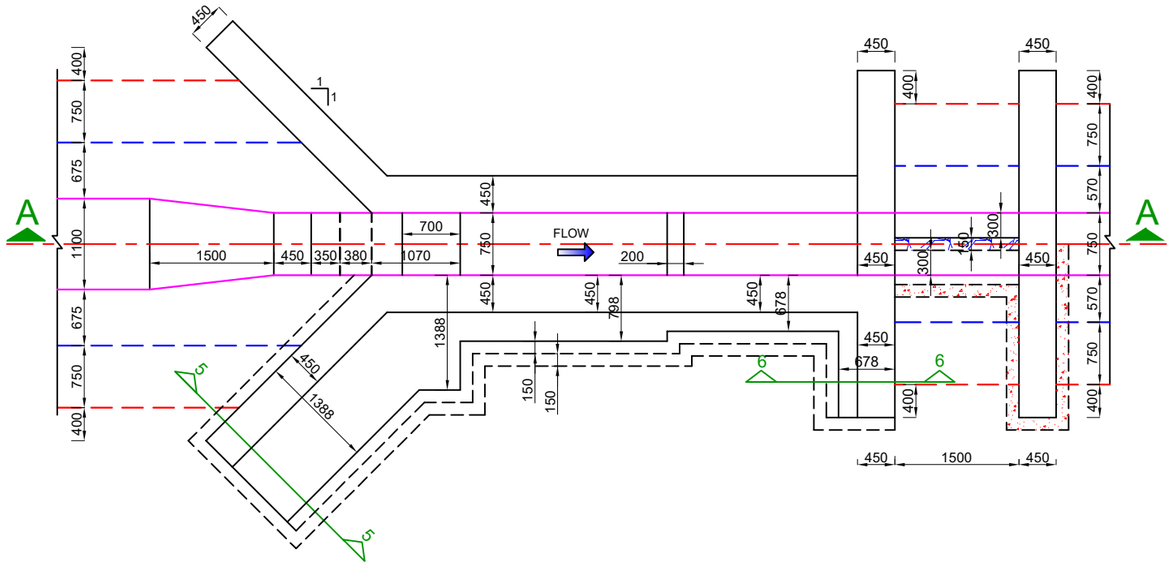
HYDRAULIC:- DATA

	U/S	D/S	UNIT
FULL SUPPLY DISCHARGE	0.400	0.400	CUMEC
VERTICAL DROP	0.914	0.914	METRE
FULL SUPPLY DEPTH	0.450	0.380	METRE
BED WIDTH	1.100	0.750	METRE
BED SLOPE	1 : 3600	1 : 3600	



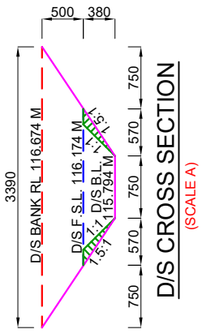
U/S CROSS SECTION

(SCALE A)



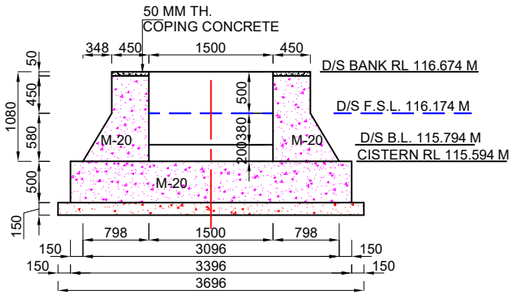
HALF TOP / HALF FOUNDATION PLAN

(SCALE A)



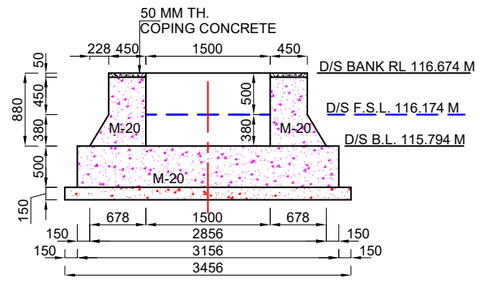
D/S CROSS SECTION

(SCALE A)



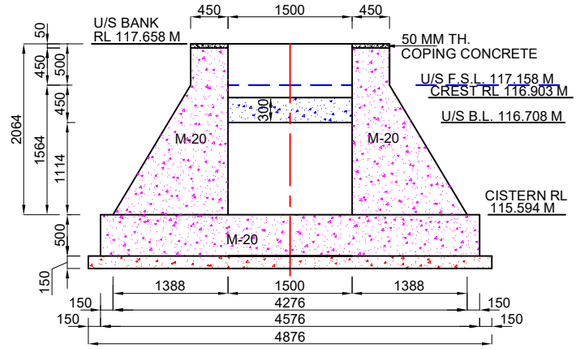
SECTION AT 2-2

(SCALE A)



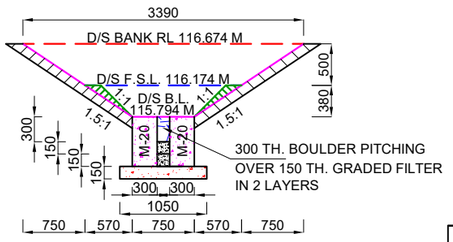
SECTION AT 3-3

(SCALE A)



SECTION AT 1-1

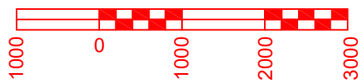
(SCALE A)



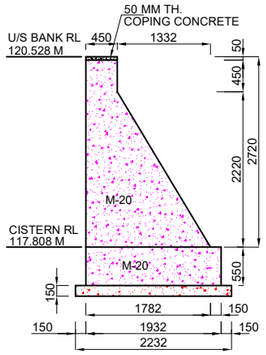
SECTION AT 4-4

(SCALE A)

SCALE A:-

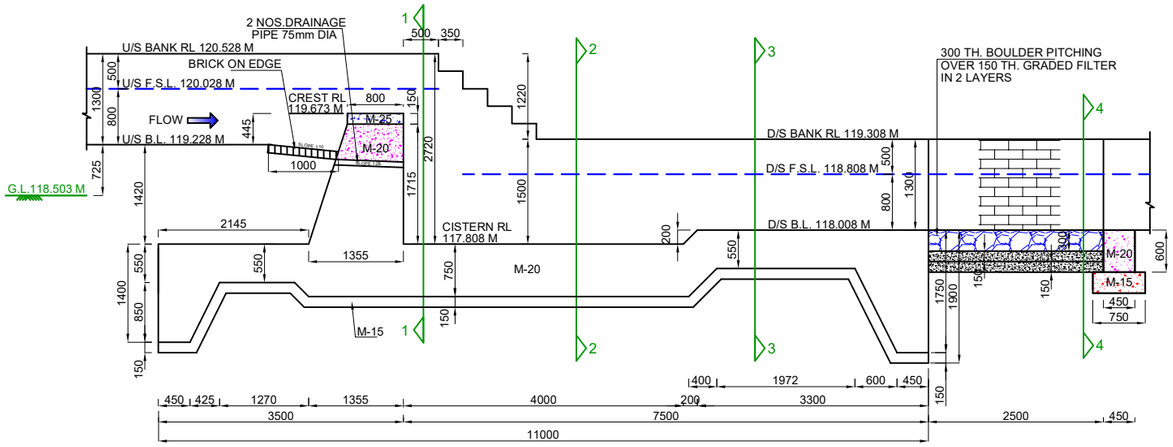


Prepared by :- WAPCOS LTD.	Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
	Drawing Title :-	SHARDA TYPE 0.914 M HT. FALL AT KM. 1.500 OF SALAIYA MR. (OFFTAKE FROM RD - 11+070 KM. (L), CHAIN NAWADA SUB-DY.)
	Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34-02/ FALL 1 of 1



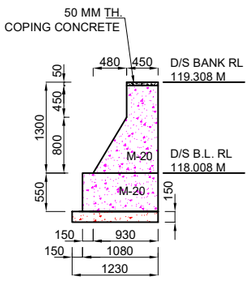
SECTION AT 5-5

(SCALE A)



SECTION A-A

(SCALE A)



SECTION AT 6-6

(SCALE A)

NOTES:-

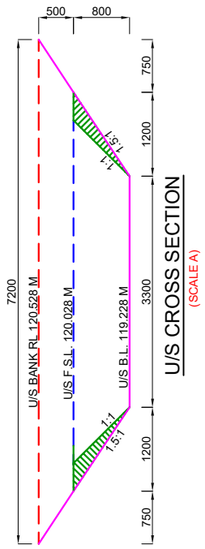
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FLOOR	M 20
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PCC UNDER FLOOR	M 15
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4. ANY OVER DIGGING SHALL BE FILLED BY CONCRETE 1:3:6 GRADE.
5. SKIN REINFORCEMENT SHALL BE PROVIDED IN FLOOR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

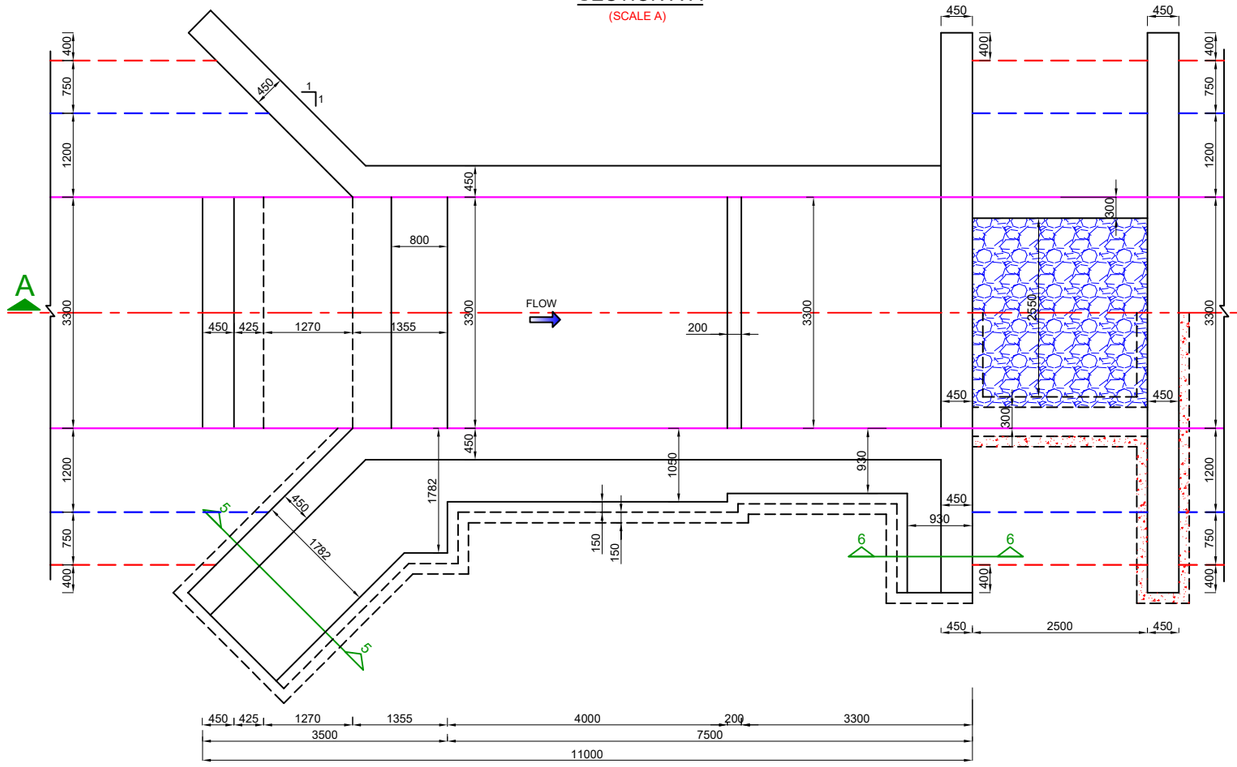
HYDRAULIC:- DATA

	U/S	D/S	UNIT
FULL SUPPLY DISCHARGE	1.190	1.190	CUMEC
VERTICAL DROP	1.220	1.220	METRE
FULL SUPPLY DEPTH	0.800	0.800	METRE
BED WIDTH	3.300	3.300	METRE
BED SLOPE	1 : 5000	1 : 5000	



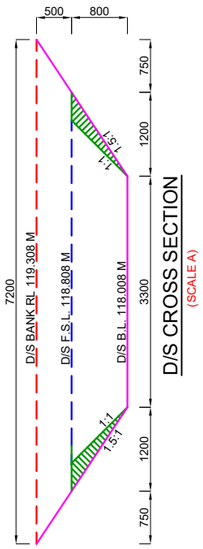
U/S CROSS SECTION

(SCALE A)



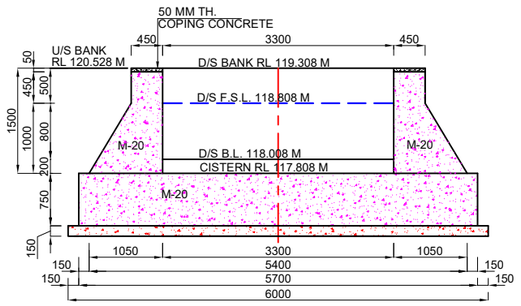
HALF TOP / HALF FOUNDATION PLAN

(SCALE A)



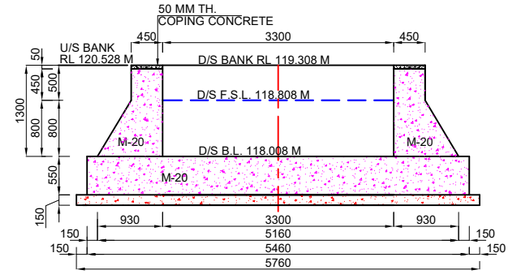
D/S CROSS SECTION

(SCALE A)



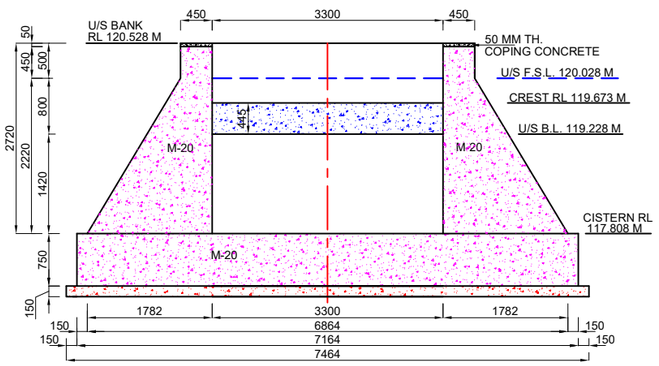
SECTION AT 2-2

(SCALE A)



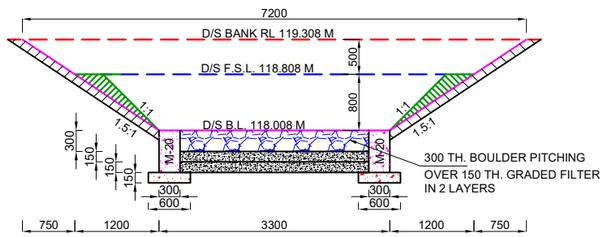
SECTION AT 3-3

(SCALE A)



SECTION AT 1-1

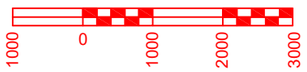
(SCALE A)



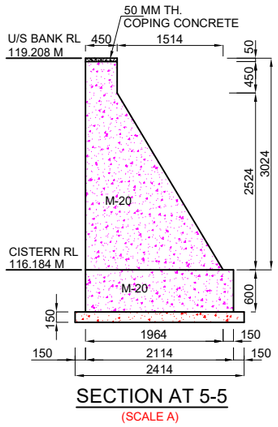
D/S CROSS SECTION

(SCALE A)

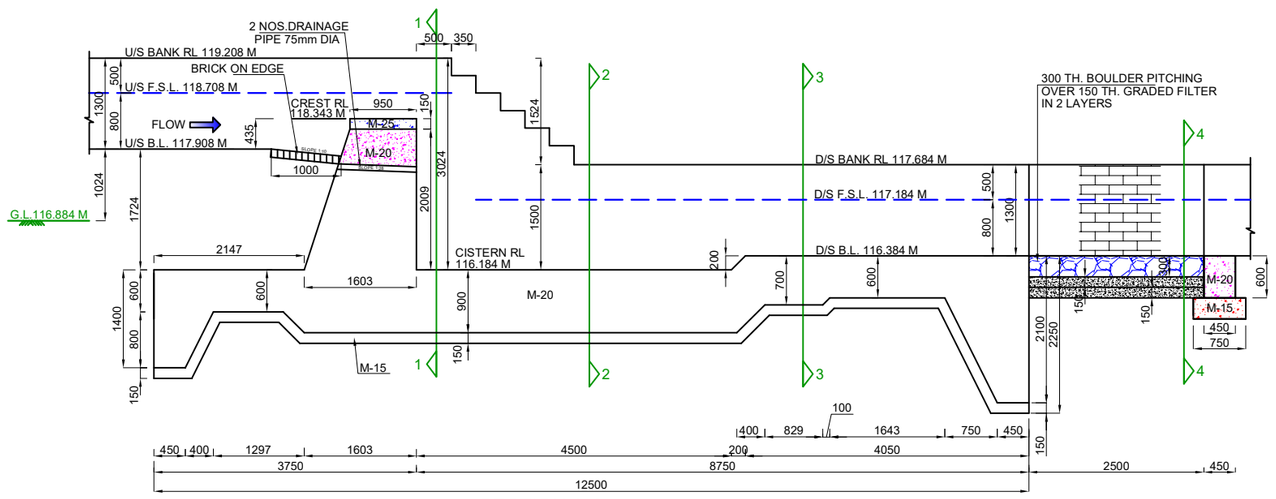
SCALE A:-



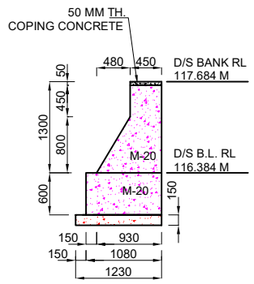
Prepared by :- WAPCOS LTD.	Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
	Drawing Title :-	SHARDA TYPE 1.220 M HT. FALL AT KM. 3.300 OF DHAMANI SUB-DY. (OFFTAKE FROM RD - 13+800 KM. (L), CHAIN NAWADA SUB-DY.)
	Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34-03/ FALL 1 of 1



SECTION AT 5-5
(SCALE A)



SECTION A-A
(SCALE A)



SECTION AT 6-6
(SCALE A)

NOTES:-

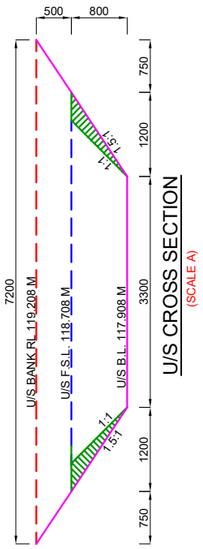
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FLOOR	M 20
FOUNDATION OF ABUTMENTS & WING WALL	M 20
PCC UNDER FLOOR	M 15
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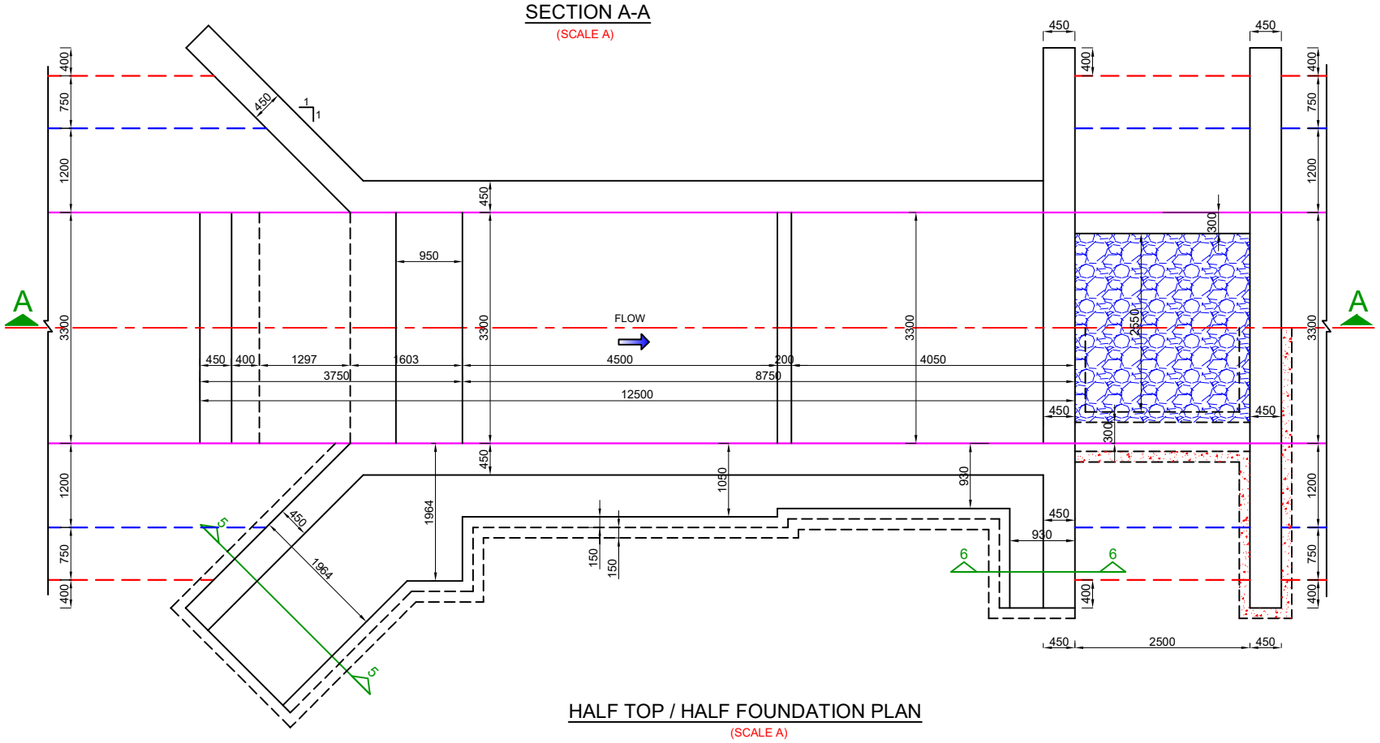
4. ANY OVER DIGGING SHALL BE FILLED BY CONCRETE 1:3:6 GRADE.
5. SKIN REINFORCEMENT SHALL BE PROVIDED IN FLOOR AND ABUTMENT OF 12 MM DIA BARS @ 250 MM.

HYDRAULIC:- DATA

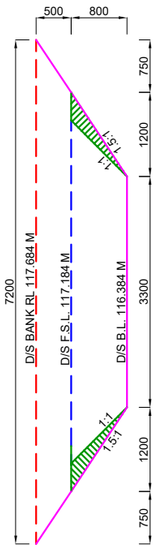
	U/S	D/S	UNIT
FULL SUPPLY DISCHARGE	1.190	1.190	CUMEC
VERTICAL DROP	1.524	1.524	METRE
FULL SUPPLY DEPTH	0.800	0.800	METRE
BED WIDTH	3.300	3.300	METRE
BED SLOPE	1 : 5000	1 : 5000	



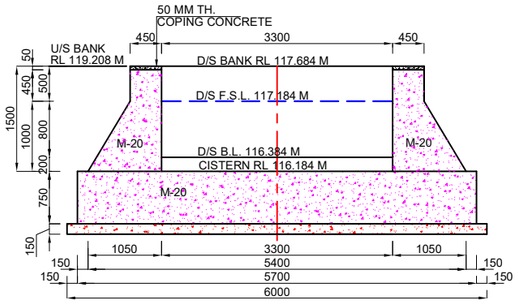
U/S CROSS SECTION
(SCALE A)



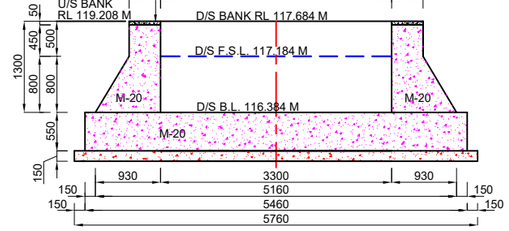
HALF TOP / HALF FOUNDATION PLAN
(SCALE A)



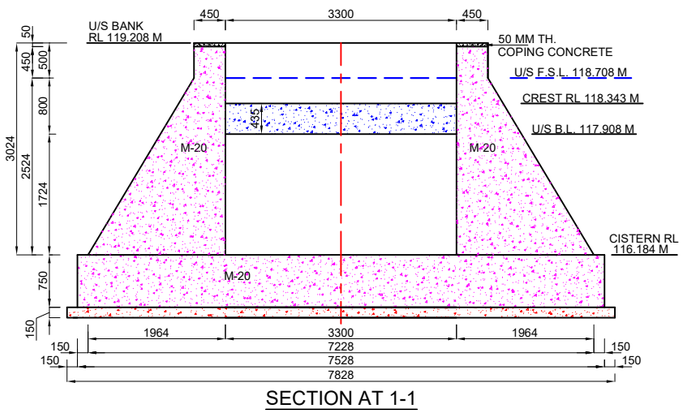
D/S CROSS SECTION
(SCALE A)



SECTION AT 2-2
(SCALE A)



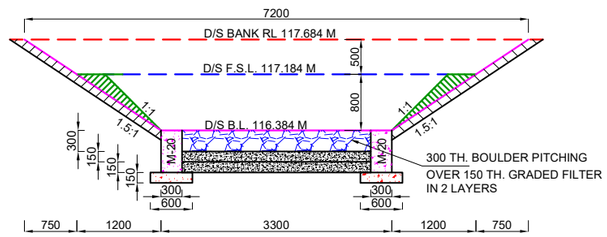
SECTION AT 3-3
(SCALE A)



SECTION AT 1-1
(SCALE A)

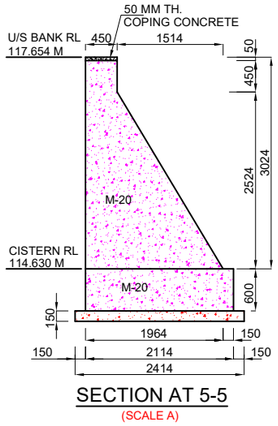
SCALE A:-

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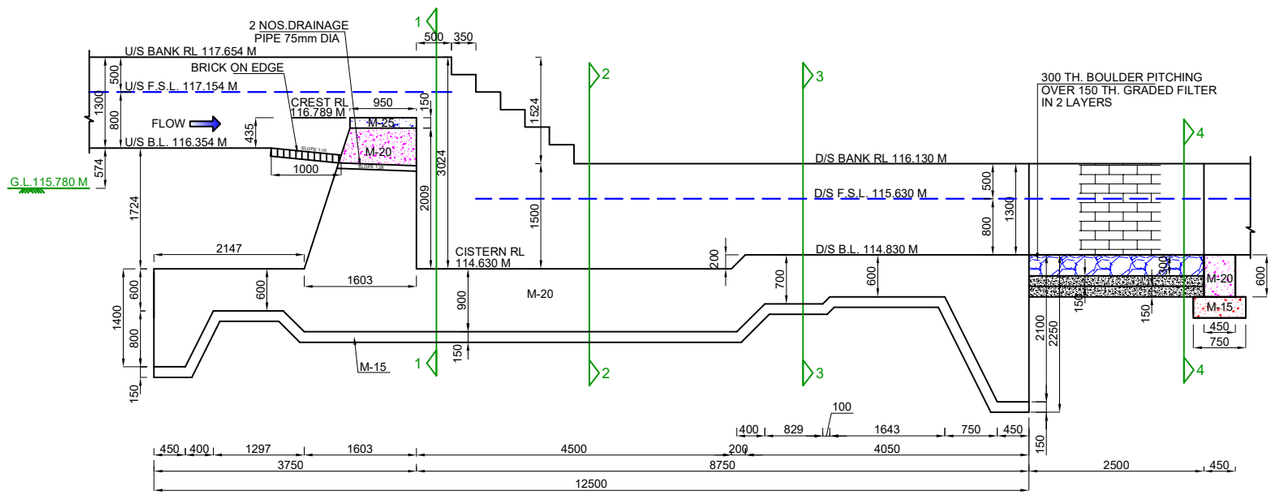


D/S CROSS SECTION
(SCALE A)

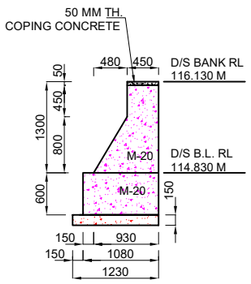
Prepared by :- WAPCOS LTD.	Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
	Drawing Title :-	SHARDA TYPE 1.524 M HT. FALL AT KM. 3.800 OF DHAMANI SUB-DY. (OFFTAKE FROM RD - 13+800 KM. (L), CHAIN NAWADA SUB-DY.)
	Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34-03/ FALL 1 of 1



SECTION AT 5-5
(SCALE A)



SECTION A-A
(SCALE A)



SECTION AT 6-6
(SCALE A)

NOTES:-

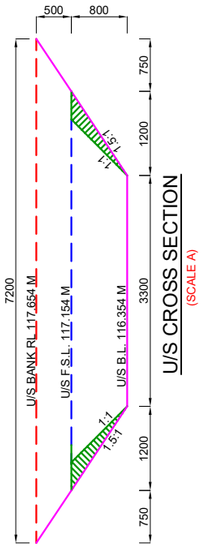
1. ALL DIMENSIONS ARE IN mm AND LEVELS IN METRES EXCEPT OTHERWISE MENTIONED.
2. THE DRAWING SHALL NOT BE SCALED OFF, ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED.
3. ALL CONCRETE WORK SHALL CONFORM TO IS: 456 -2000. GRADE OF CONCRETE IN DIFFERENT COMPONENTS SHALL BE AS FOLLOWS,

FLOOR	M 20
FOUNDATION OF ABUTMENTS & WING WALL	M 20
PCC UNDER FLOOR	M 15
ABUTMENTS / WING WALLS	M 20

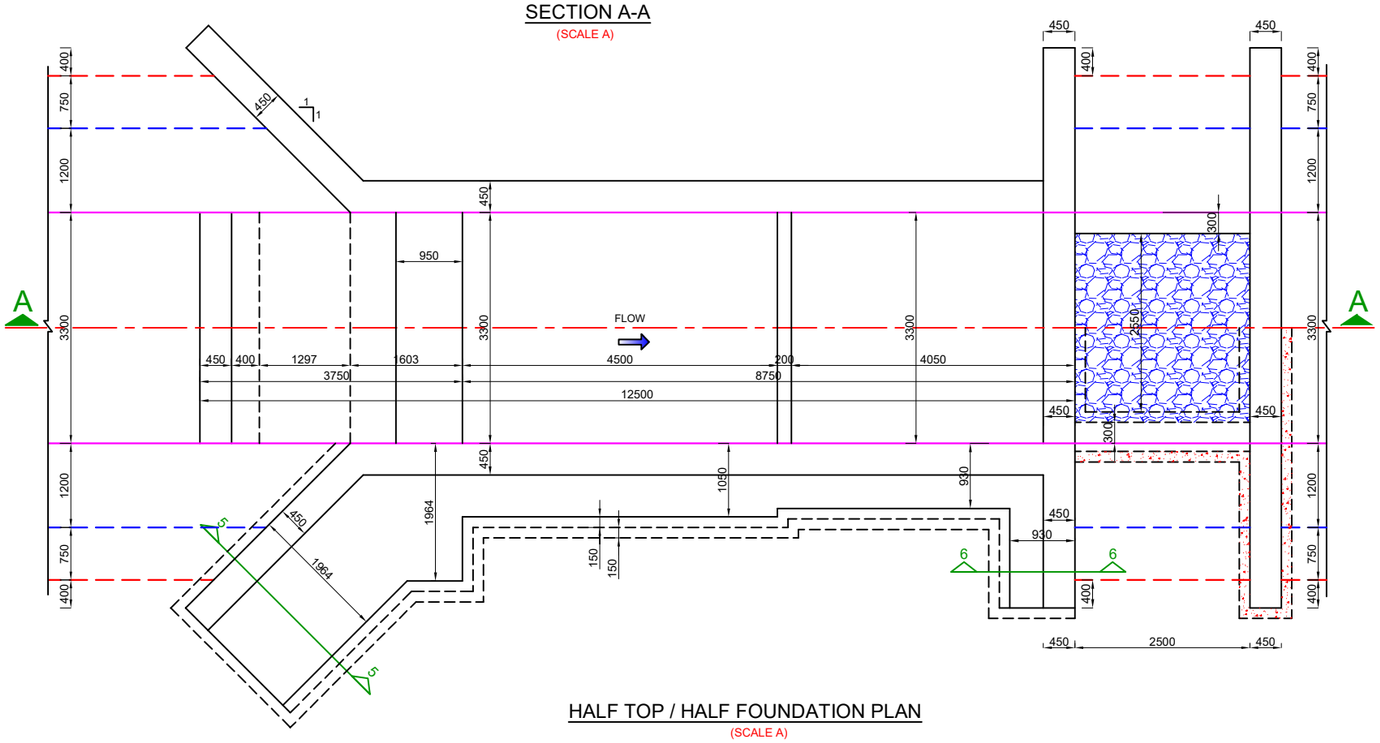
4. ANY OVER DIGGING SHALL BE FILLED BY CONCRETE 1:3:6 GRADE.
5. SKIN REINFORCEMENT SHALL BE PROVIDED IN FLOOR AND ABUTMENT OF 12 MM DIA BARS @ 250 MM.

HYDRAULIC:- DATA

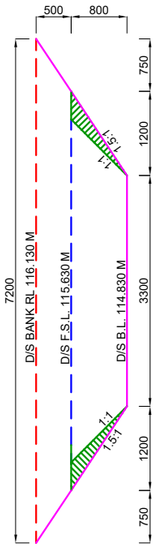
	U/S	D/S	UNIT
FULL SUPPLY DISCHARGE	1.190	1.190	CUMEC
VERTICAL DROP	1.524	1.524	METRE
FULL SUPPLY DEPTH	0.800	0.800	METRE
BED WIDTH	3.300	3.300	METRE
BED SLOPE	1 : 5000	1 : 5000	



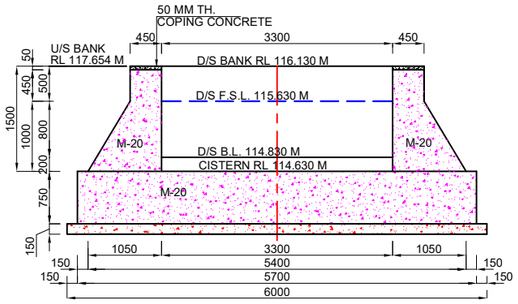
U/S CROSS SECTION
(SCALE A)



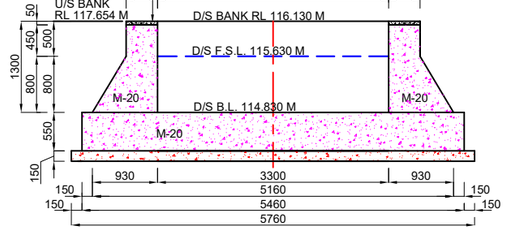
HALF TOP / HALF FOUNDATION PLAN
(SCALE A)



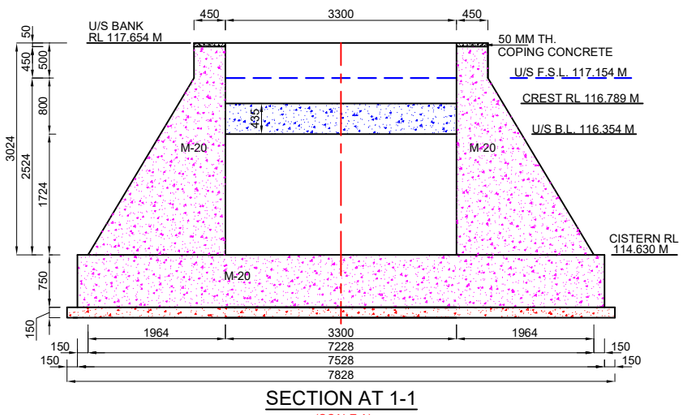
D/S CROSS SECTION
(SCALE A)



SECTION AT 2-2
(SCALE A)

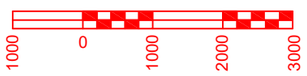


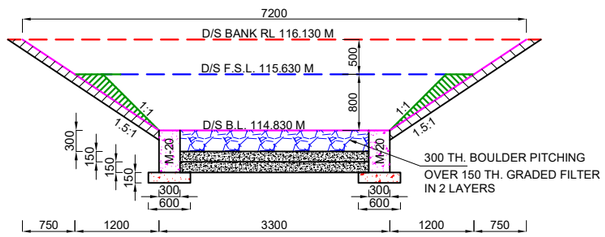
SECTION AT 3-3
(SCALE A)



SECTION AT 1-1
(SCALE A)

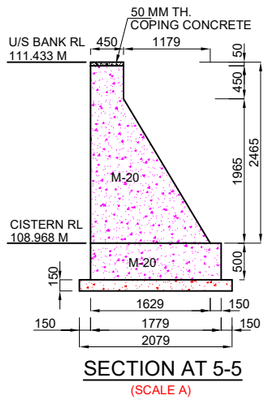
SCALE A:-



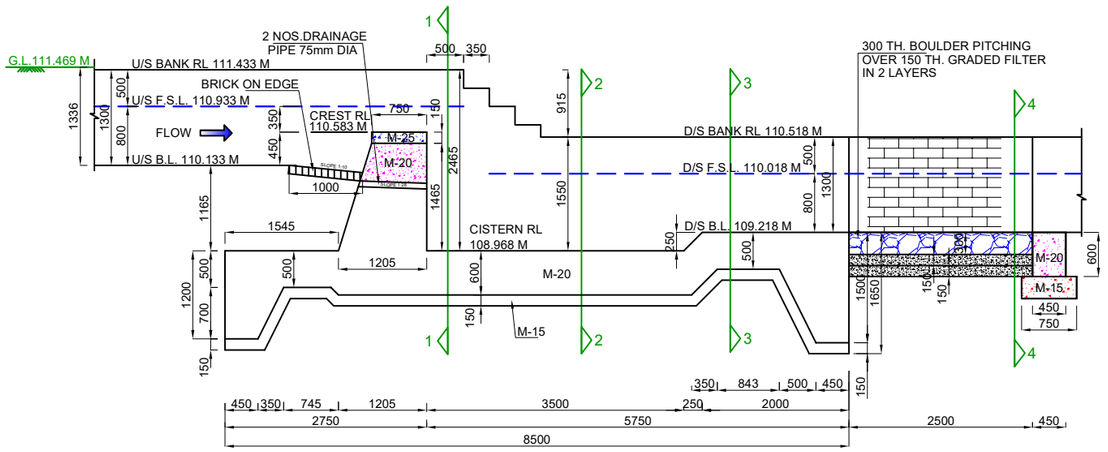


D/S CROSS SECTION
(SCALE A)

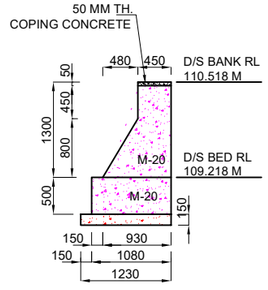
Prepared by :- WAPCOS LTD.	Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
	Drawing Title :-	SHARDA TYPE 1.524 M HT. FALL AT KM. 3.950 OF DHAMANI SUB-DY. (OFFTAKE FROM RD - 13+800 KM. (L), CHAIN NAWADA SUB-DY.)
	Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34-03/ FALL 1 of 1



SECTION AT 5-5
(SCALE A)



SECTION A-A
(SCALE A)



SECTION AT 6-6
(SCALE A)

NOTES:-

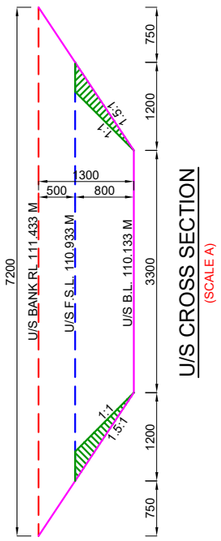
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FLOOR	M 20
FOUNDATION OF ABUTMENTS & WING WALL	M 20
PCC UNDER FLOOR	M 15
ABUTMENTS / WING WALLS	M 20

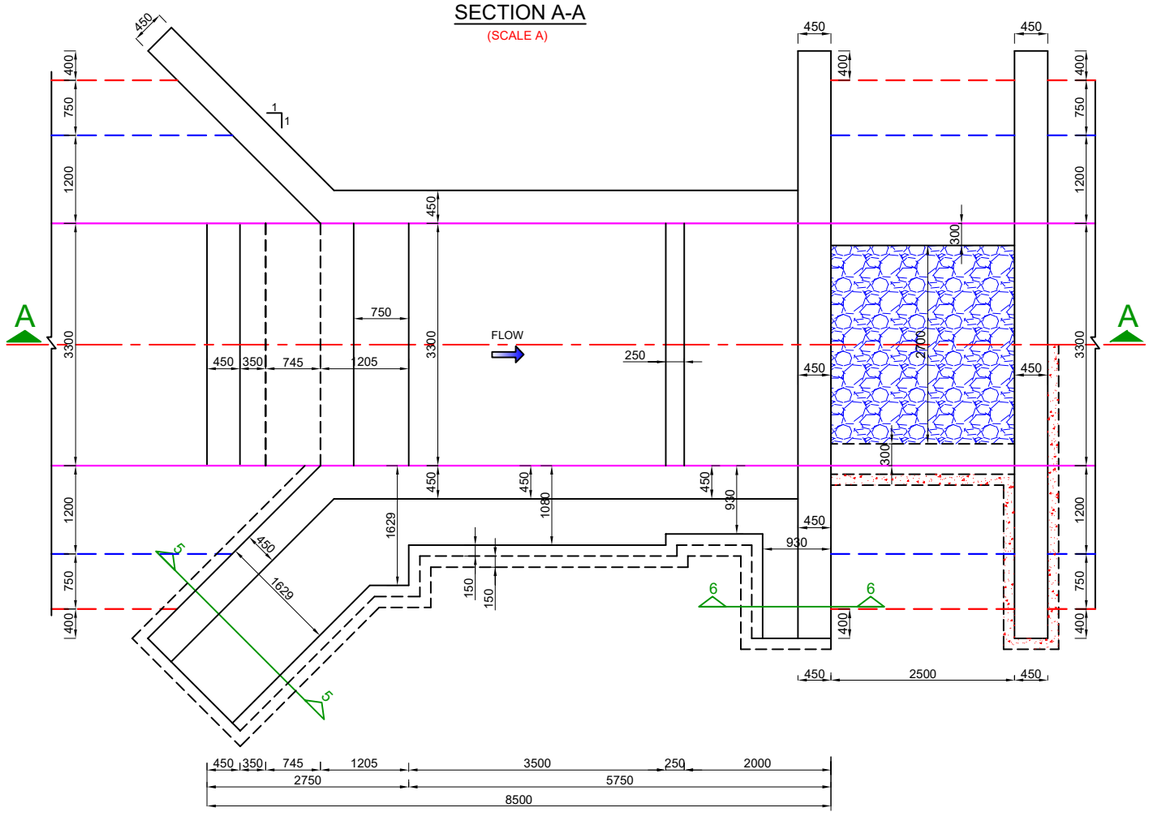
4. ANY OVER DIGGING SHALL BE FILLED BY CONCRETE 1:3:6 GRADE.
5. SKIN REINFORCEMENT SHALL BE PROVIDED IN FLOOR AND ABUTMENT OF 12 MM DIA BARS @ 250 MM.

HYDRAULIC:- DATA

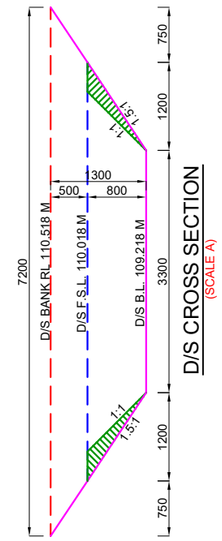
	U/S	D/S	UNIT
FULL SUPPLY DISCHARGE	1.190	1.190	CUMEC
VERTICAL DROP	0.915	0.915	METRE
FULL SUPPLY DEPTH	0.800	0.800	METRE
BED WIDTH	3.300	3.300	METRE
BED SLOPE	1 : 3600	1 : 3600	



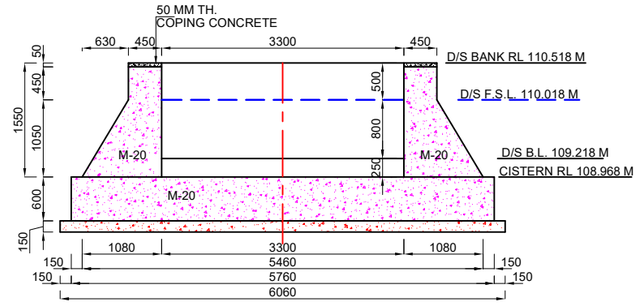
U/S CROSS SECTION
(SCALE A)



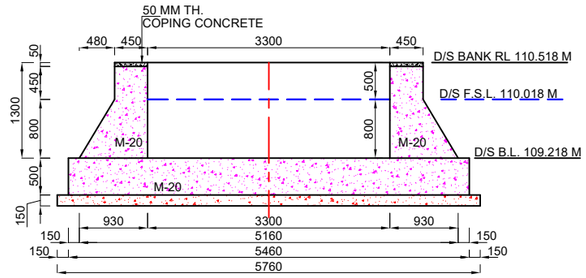
HALF TOP / HALF FOUNDATION PLAN
(SCALE A)



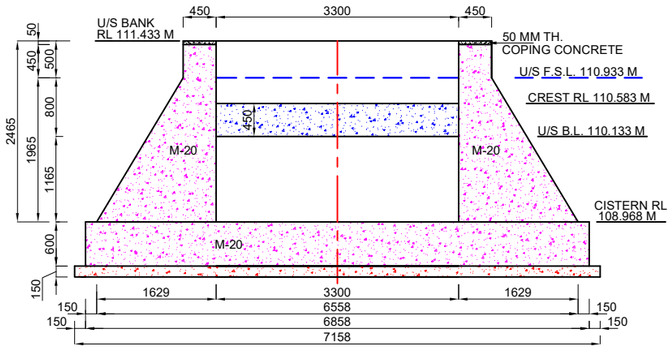
D/S CROSS SECTION
(SCALE A)



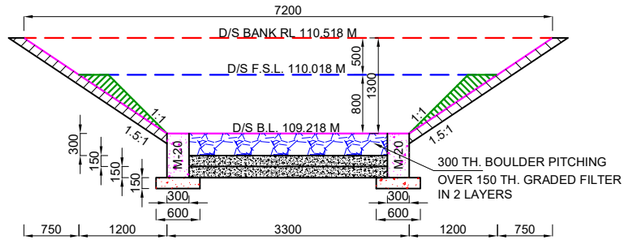
SECTION AT 2-2
(SCALE A)



SECTION AT 3-3
(SCALE A)

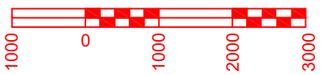


SECTION AT 1-1
(SCALE A)

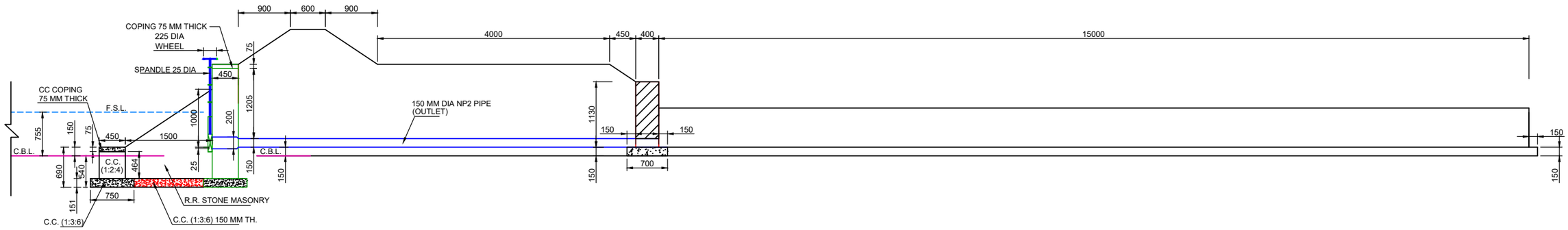


SECTION AT 4-4
(SCALE A)

SCALE A:-

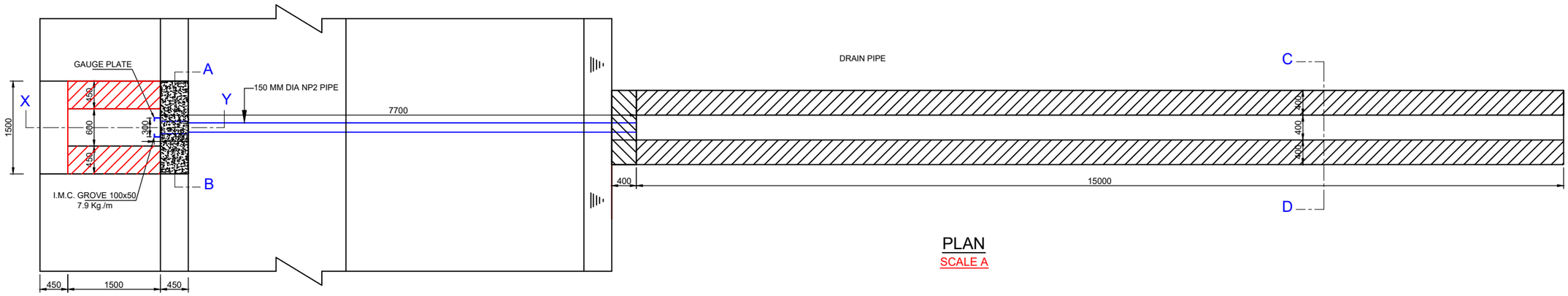


Prepared by :- WAPCOS LTD.	
Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
Drawing Title :-	SHARDA TYPE 0.915 M HT. FALL AT KM. 4.595 OF DHAMANI SUB-DY. (OFFTAKE FROM RD - 13+800 KM. (L), CHAIN NAWADA SUB-DY.)
Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-34-03/ FALL 1 of 1

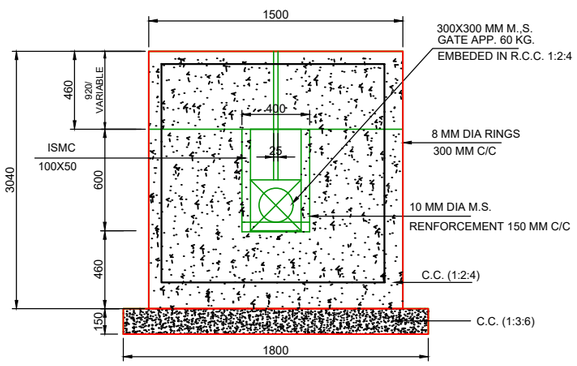


SECTION X-Y
SCALE A

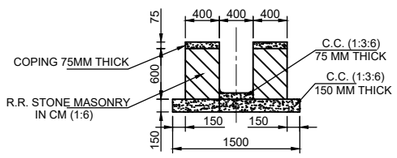
ELEVATION
SCALE A



PLAN
SCALE A



SECTION A-B
SCALE B



SECTION C-D
SCALE A

NOTES

1. ALL DIMENSIONS ARE IN MM EXCEPT LEVELS IN METRES UNLESS OTHERWISE SPECIFIED. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED. NO DIMENSION SHALL BE SCALED OFF.
2. ALL MASONRY WORKS SHALL BE DONE AS PER SPECIFICATION OF GOVT. OF JHARKHAND
3. THIS DWG. IS FOR OUTLET PIPE OF 150 MM DIA EMBEDED IN MASONRY.
4. 300X300 MM SIZE GATE SHALL BE FIXED IN ISMC. 100X50 FRAME.
5. THE GATE SHALL BE LIFTED THROUGH SPANDLE, THIS SPANDLE SHALL BE KEY LOCKED TO AVOID UNNECCESSARY OPERATION BY UN-AUTHORIZED PERSON.
6. THE 600 MM DIA DRAIN PIPE SHALL BE PROVIDED BELOW GULE DRAIN IF REQUIRED AT THE LOCATION.

SCALE A:- 0 1000 2000 3000 4000MM

SCALE B:- 0 2000 4000 6000 8000MM

Prepared by :- WAPCOS LTD.	Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
	Drawing Title :-	TYPICAL OUTLET DRAWING
	Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ OUTLET 1 of 1
	Drawn by:-	Checked by:- / Approved by:-