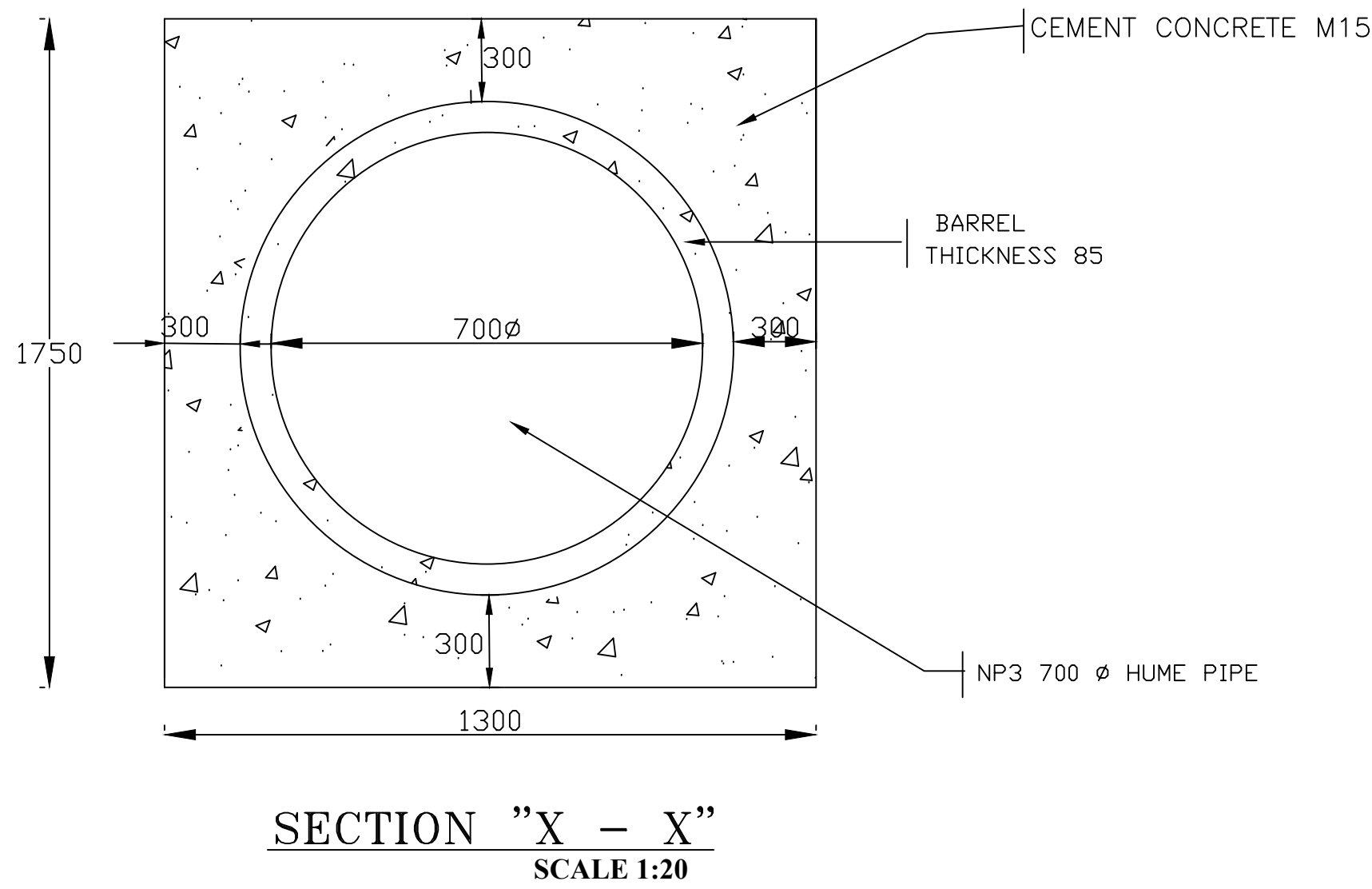
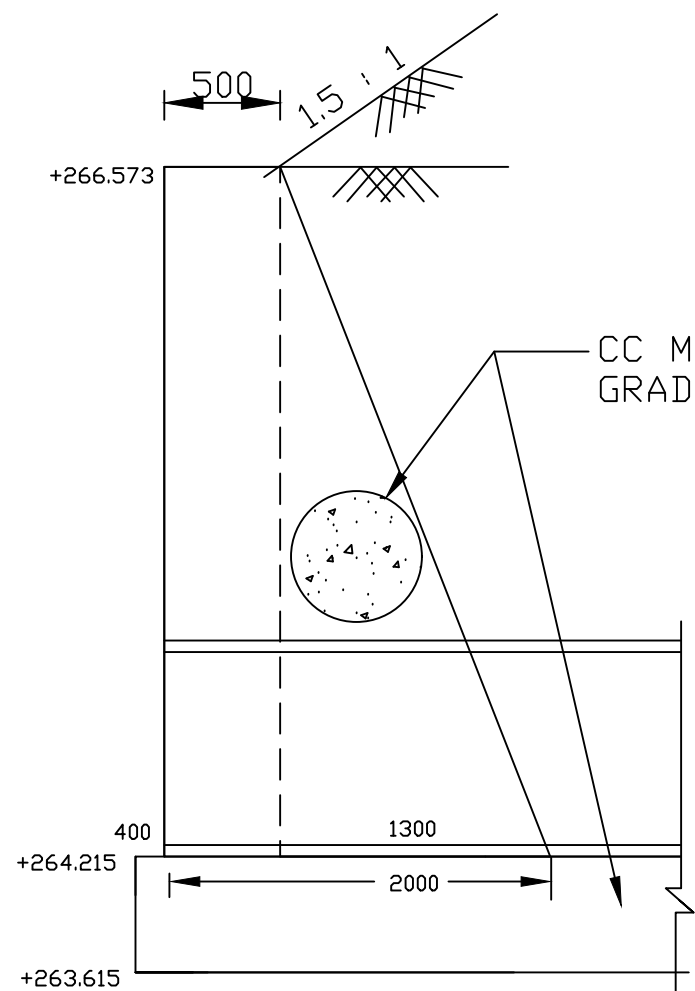


HALF PLAN AT TOP AND HALF PLAN AT BOTTOM  
SCALE 1:100

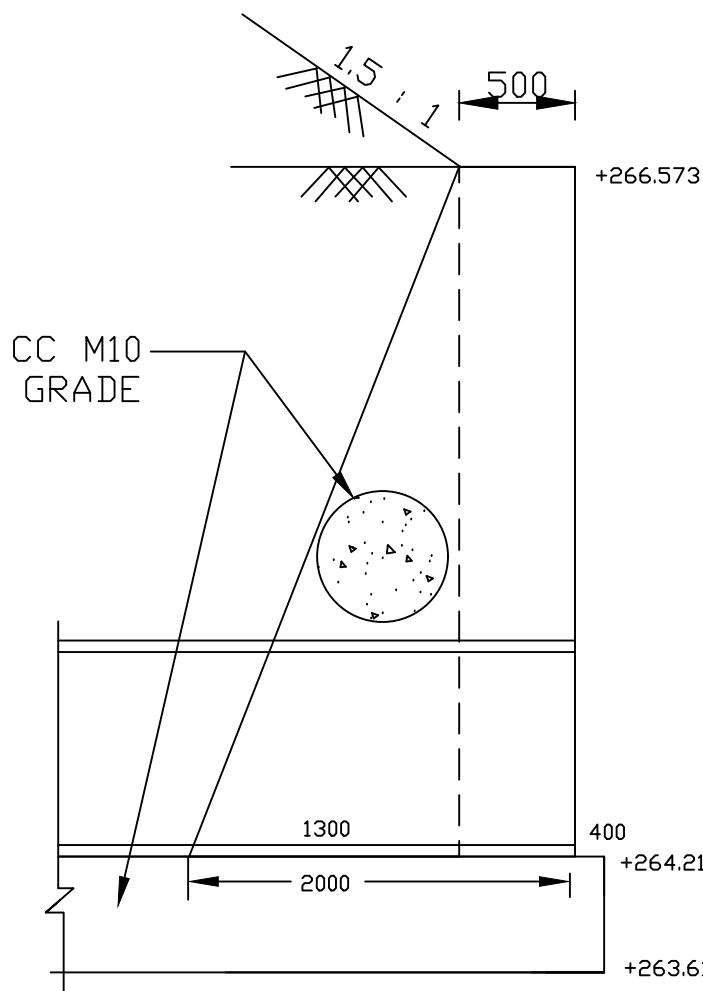


SECTION "X - X"  
SCALE 1:20



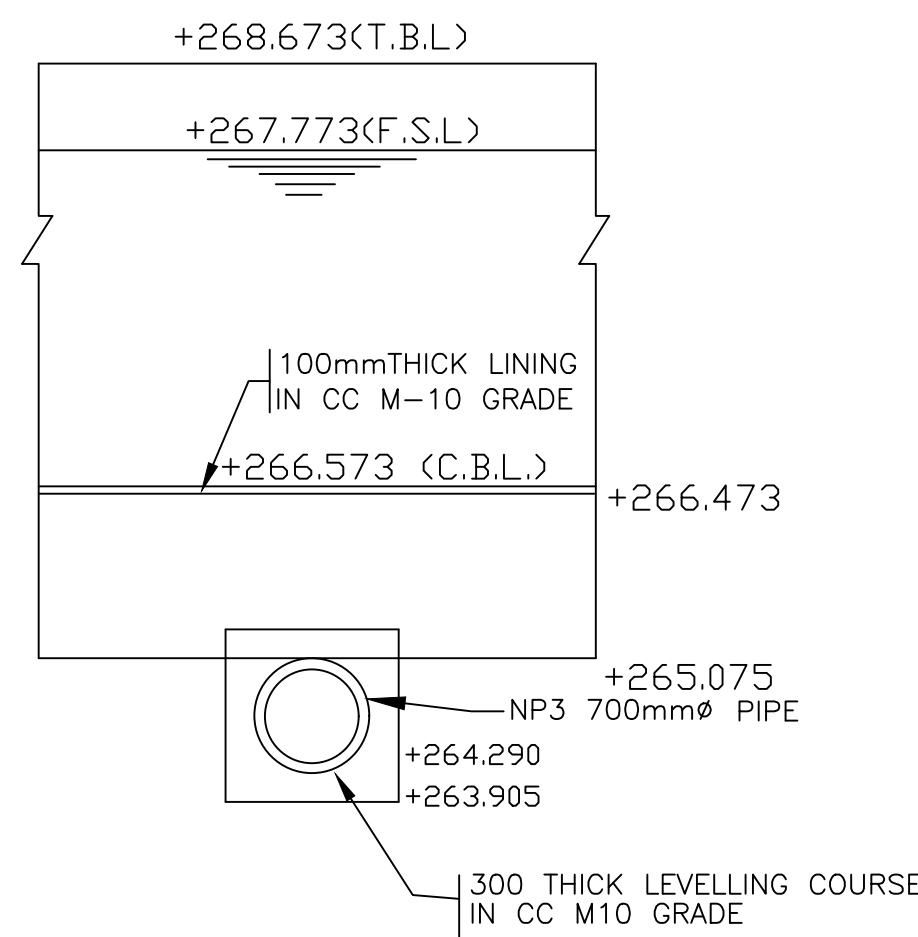
U/S HEAD WALL

SCALE 1:50

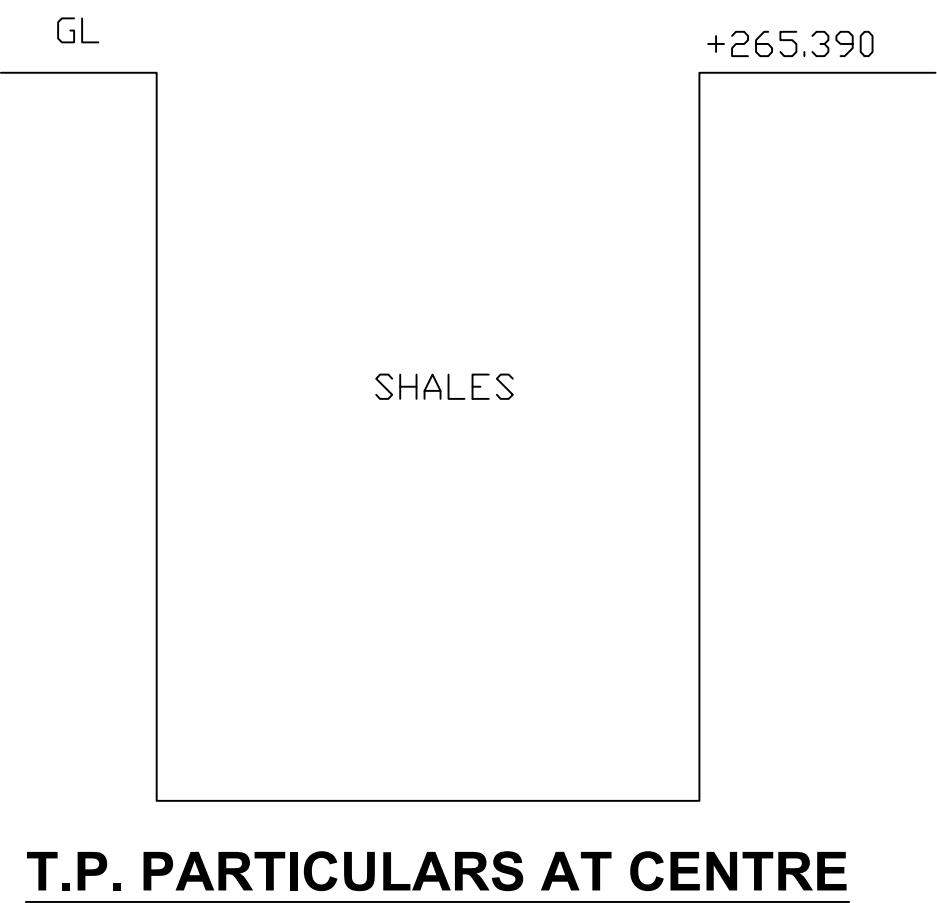


D/S HEAD WALL

SCALE 1:50



C/S UNDER CANAL TROUGH  
SCALE 1:100



- NOTES**
- ALL DIMENSIONS ARE IN MILLIMETRES AND ALL LEVELS ARE IN METRES. ALL DIAMETERS OF BARS AND SPACING ARE IN MILLIMETERS.
  - DO NOT SCALE THE DRAWING . ONLY FIGURED DIMENSIONS SHALL BE CONSIDERED
  - FOUNDATION CONCRETE SHALL BE OF M10 GRADE WITH 40 MM MAXIMUM SIZE GRADED COARSE AGGREGATE.
  - FLOOR CONCRETE IN TRANSITIONS SHALL BE OF M10 GRADE WITH 40 MM MAXIMUM SIZE GRADED COARSE AGGREGATE. THE WEARING COAT IN THE TRANSITIONS SHALL BE 75MM THICK IN CC M20 GRADE WITH 20MM MAX SIZE GRADED COARSE AGGREGATE.
  - WINGS ,RETURNS, HEAD WALLS AND DROP WALLS SHALL BE IN VCC M15 GRADE USING 40MM MAXIMUM SIZE GRADED COARSE AGGREGATE.
  - THE PIPES SHALL BE 1000MM INTERNAL DIA OF NP2 CLASS AND THE SPECIFICATION SHALL BE FOLLOWED AS PER IS458-1988.
  - LAYING AND JOINING OF PIPES SHALL BE FOLLOWED AS PER IS783-1985.
  - THE CANAL LINING BOTH FOR BED AND SIDES SHALL BE 100MM THICK IN CC M10 GRADE USING 20MM MAXIMUM SIZE GRADED COARSE AGGREGATE, AND THIS LINING SHALL BE EXTENDED ATLEAST FOR 5 METRES ON EITHER SIDE OF STRUCTURE.
  - TOE WALLS SHALL BE IN CC M10
  - THE QUALITY AND GRADING OF AGGREGATES SHALL CONFORM TO IS 383-1970.
  - WEEP HOLES OF SIZE 75MMX150MM WITH REVERSE FILTERS ON REAR SIDE ARE TO BE PROVIDED AT 1500MM C/C BOTH WAYS AND STAGGERED IN WINGS,RETURNS AND HEAD WALLS ABOVE M.F.L.
  - THE BED PITCHING AND SIDE REVETMENT SHALL BE PROVIDED IN THE DRAIN AT THE EXIT AND ENTRANCE OF THE STRUCTURE AS SHOWN IN THE DRAWING. THE WEIGHT OF STONE FOR PROTECTION WORK SHALL NOT BE LESS THAN 40Kg.
  - THE QUALITY AND WORKMANSHIP OF CONCRETE SHALL CONFORM TO IS 456- 2000
  - IF THE STRATA MET WITH AT FOUNDATION LEVEL DURING EXECUTION IS DIFFERENT FROM WHAT IS CONSIDERED IN THE DESIGN AND IS NOT CAPABLE OF TAKING THE DESIGNED STRESSES (SHOWN IN THE STRESS TABLE), THE FIELD OFFICERS INCHARGE OF EXECUTION SHALL REPORT THE ACTUAL STRATA ENCOUNTERED, TO THE DESIGN OFFICE FOR REVIEW AND REDESIGN IF NECESSARY.
  - THE HEAD WALLS, WING WALLS AND RETURN WALLS ARE DESIGNED FOR EARTH PRESSURE BASED ON TVA PROCEDURE WITH BACK FILL SOILS OF NON-COHESIVE NATURE AND AN ANGLE OF INTERNAL FRICTION  $\phi=28$  DEGREES AND WITH UNIT WEIGHT OF SATURATED EARTH AS 2.1 T/CUM. THE BACKFILLING OF THESE WALLS SHALL BE WITH SOILS HAVING THE PROPERTIES AS ABOVE AND PROPERLY COMPACTED TO MAXIMUM DRY DENSITY AT O.M.C. AND SHALL BE DONE CONCURRENTLY WITH RAISING OF STRUCTURE. THE REAR FACES OF THESE WALLS SHALL BE CONSTRUCTED IN STEPS.
  - A TAIL CHANNEL WITH A BED WIDTH OF 2.50M, SIDE SLOPES OF 1.5:1 AND HAVING A BED FALL OF 1 IN 3000 SHALL BE FORMED TILL IT MEETS THE VAGU COURSE
  - THE U/S & D/S CUT OFF WALL SHALL BE IN CC M15 GRADE USING 40MM MAX SIZE GRADED COARSE AGGREGATE. THIS CUT OFF WALL SHALL EXTEND UPTO THE END OF U/S AND D/S RETURN WALLS.

HYDRAULIC PARTICULARS @ K.M.0.160 OF MALAYALA CANAL

S.NO	DESCRIPTION	UNITS	PARTICULARS
1	DISCHARGE (Q)	CUM	3.60
2	BED WIDTH	M	3.40
3	FULL SUPPLY DEPTH	M	1.20
4	VELDCITY	M/S	0.65
5	SIDE SLOPES ( I/O )	-	1:1/1.5:1
6	BED FALL	-	1 IN 5500
7	RUGDSITY COEFFICIENT	-	0.018
8	FREE BOARD	M	0.90
9	CANAL BED LEVEL	M	+266.573
10	FULL SUPPLY LEVEL	M	+267.773
11	TDP OF BANK LEVEL	M	+268.673
12	GROUND LEVEL<CENTRE>	M	+265.390
13	TDP WIDTH OF BUND<L/R>	M	2.5/5.00

STRESS TABLE

SL NO	DESCRIPTION	STRESS IN CONCRETE		STRESS ON SOIL	
		MAX T/SQ.M	MIN T/SQ.M	MAX T/SQ.M	MIN T/SQ.M
1	U/S HEAD WALL	17.152	-3.282	11.778	2.542
2	D/S HEAD WALL	17.152	-3.282	11.778	2.542
3	U/S WING WALL @ JN WITH HEAD WALL	12.292	-0.735	7.231	3.703
4	U/S WING WALL AND RETURNS	12.292	-0.735	7.231	3.703
3	D/S WING WALL @ JN WITH HEAD WALL	11.810	-1.529	6.749	2.954
4	D/S WING WALL AND RETURNS	6.124	-0.278	2.869	2.837

HYDRAULIC PARTICULARS OF DRAIN:

1	CATCHMENT AREA	0.020 SQ.K.M
2	MAXIMUM FLOOD DISCHARGE OF DRAIN <COMPUTED>	1.031 CUMEC'S

GOVERNMENT OF ANDHRA PRADESH  
I & C.A.D. DEPT., GODAVARI WATERS CIRCLE

GANDIKOTA LIFT IRRIGATION SCHEME  
U.T. AT KM 0.160 OF MALAYALA CANAL  
(HUME PIPE ONE VENT OF 700mmØ)  
GENERAL PLAN, ELEVATION ,SECTION & NOTES

DRAWN BY:	RECOMMENDED BY:
CHECKED BY:	APPROVED BY:
SUBMITTED BY:	
SCALE AS INDICATED	FILE NO: AUGUST 2008 DRG.NO: