

Draft Environmental Impact Assessment

Project Number: 43253-026
June 2018

India: Karnataka Integrated and Sustainable Water Resources Management Investment Program – Project 2 Vijayanagara Channels

Annex 3 (Part 5)

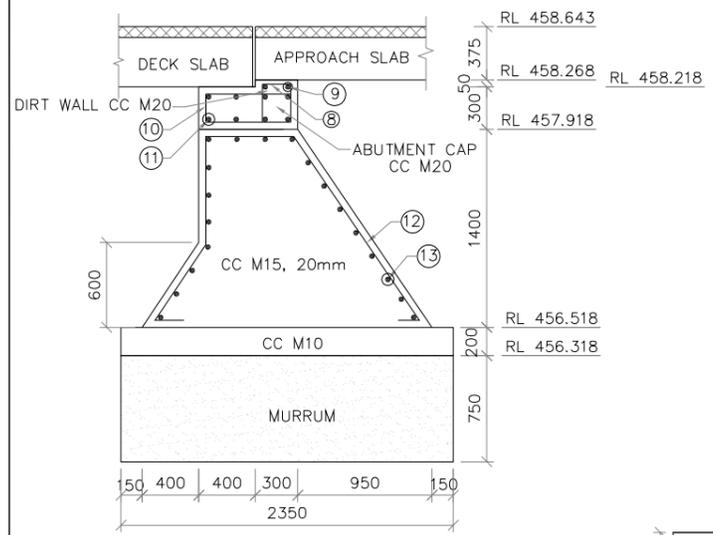
Prepared by the Karnataka Neeravari Nigam Limited for the State Government of Karnataka and the Asian Development Bank.

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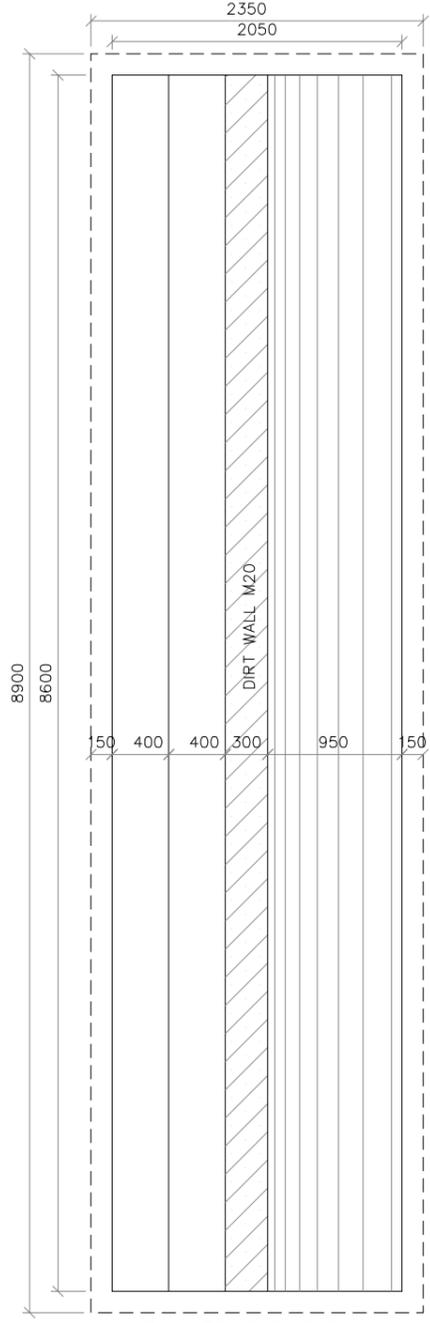
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Annexure 3

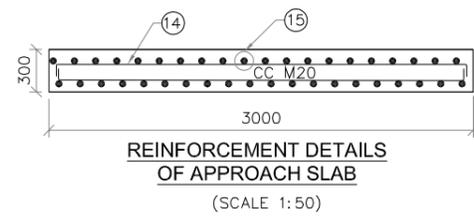
**STRUCTURES UNDERGOING
REHABILITATION AND
TYPICAL DRAWINGS**



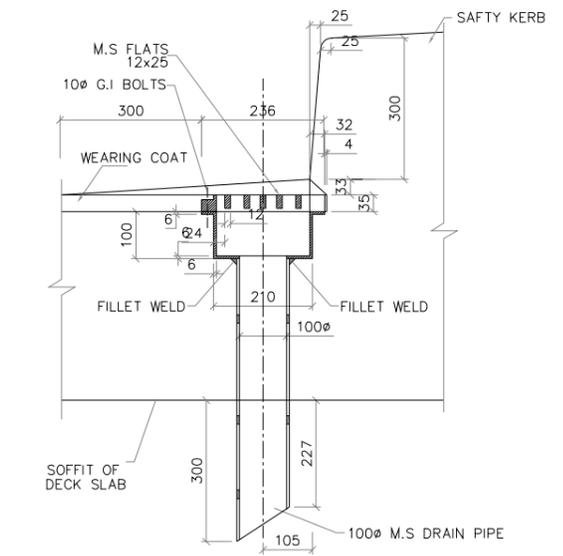
**ABUTMENT DETAILS
U/S & D/S
(SCALE 1:50)**



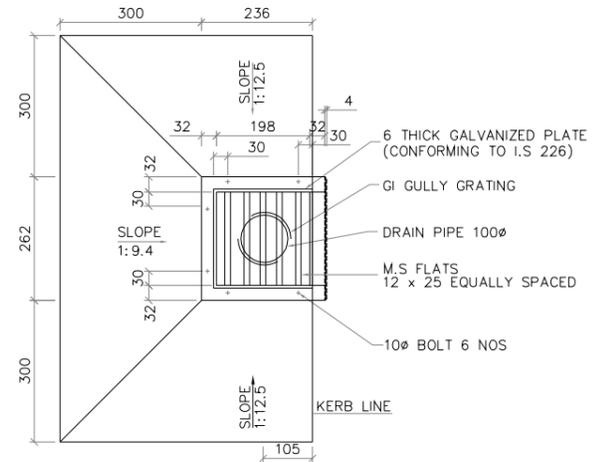
**PLAN OF ABUTMENT
(SCALE 1:50)**



**REINFORCEMENT DETAILS
OF APPROACH SLAB
(SCALE 1:50)**

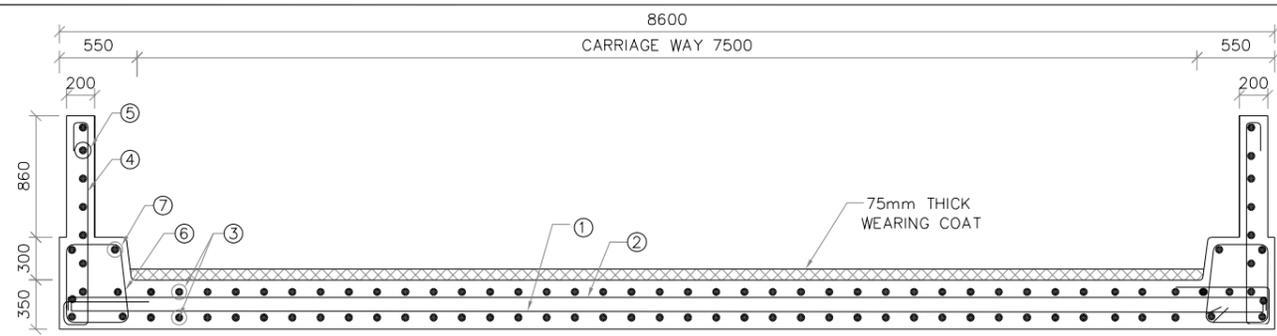


**SECTION OF DRAINAGE
SPOUT AND COLLECTION PIT
(SCALE 1:15)**

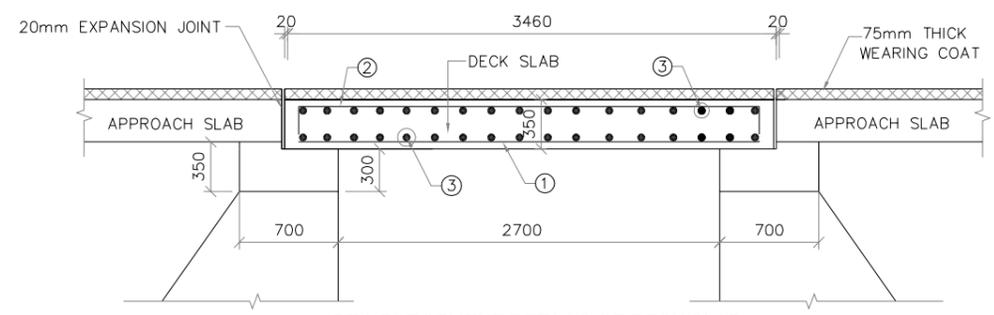


**PLAN DETAILS OF DRAINAGE
SPOUT AND COLLECTION PIT
(SCALE 1:15)**

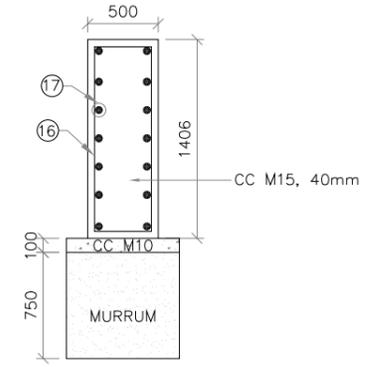
#ONE WATER SPOUT PER 20SQ.M.
OF DECK AREA IS CONSIDERED ADEQUATE



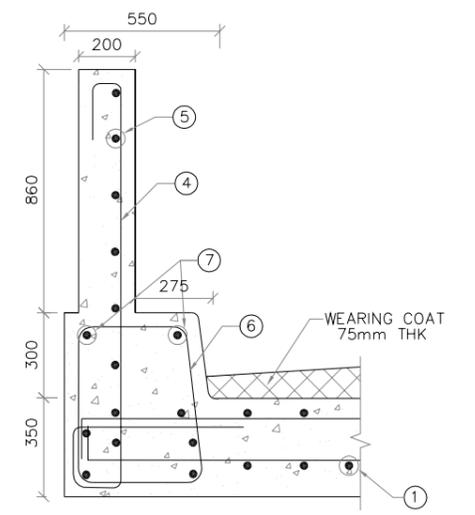
**REINFORCEMENT DETAILS OF DECK SLAB
(SCALE 1:50)**



**REINFORCEMENT DETAILS OF DECK SLAB
(SCALE 1:50)**



**SECTION OF FIN WALL
(SCALE 1:50)**



**REINFORCEMENT DETAILS OF SIDE WALL
(SCALE 1:25)**

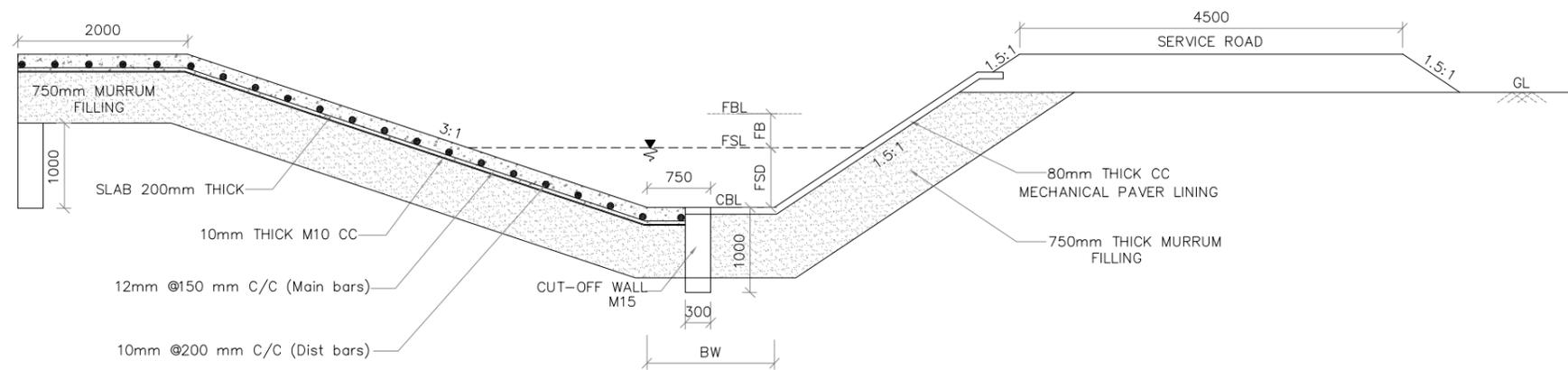
SCHEDULE OF REINFORCEMENT

MEMBER	BAR MARK	DIA OF BAR (mm)	SPACING OF BAR (mm)	NO. OF BAR	SHAPE OF BARS (DIMENSION ARE IN MM) (NOT TO SCALE)	LENGTH OF EACH BAR (mm)	TOTAL LENGTH IN METRES	UNIT WEIGHT IN Kg/m	TOTAL WEIGHT IN Kg
SLAB	1	16	150	58	200-3360-200	3760	218.08	1.58	344.56
	2	16	150	58	200-3360-200	3760	218.08	1.58	344.56
	3	12	150	24X2	8500	2500	408	0.89	363.12
SIDE WALLS	4	10	200	18X2	100-1410-100-250-400-100	2360	84.96	0.62	52.67
	5	10	200	7X2	3360	3360	47.04	0.62	29.164
KERB	6	10	200	18X2	400-650-450-450	2165	77.94	0.62	48.32
	7	10	-	4X2	3360	3360	26.88	0.62	16.66
DIRT WALL	8	10	200	44X2	200-250-200	900	79.20	0.62	49.104
	9	10	200	2X2	8500	8500	34.00	0.62	21.08
ABUTMENT CAP	10	10	200	44X2	200-600-200	1800	158.40	0.62	98.20
	11	10	200	9X2	8500	8500	153	0.62	94.86
ABUTMENT	12	10	200	44X2	1590-600-750-670-100-100	3810	335.28	0.62	207.87
	13	10	200	20X2	8500	8500	340	0.62	210.80
APPROACH SLAB	14	12	150	58X4	100-2900-100	3100	719.20	0.89	640.08
	15	10	150	21X4	100-8500-100	8700	730.80	0.62	453.096
FIN WALL	16	10	200	11X4	400-1860-400	3400	149.60	0.62	92.75
	17	10	200	18X4	1860	1860	133.92	0.62	83.03

TOTAL = 3161.80 Kg
5% WASTAGE = 158.09 kg
TOTAL = 3319.89 Kg
SAY = 3320 Kg

- NOTES**
- 1) ALL DIMENSIONS ARE IN MILLIMETRES AND REDUCED LEVELS ARE IN METRES.
 - 2) DO NOT SCALE THE DRAWING. WRITTEN DIMENSIONS ONLY SHALL BE FOLLOWED.

0	For Approval					
Rev.	Description.	Date.	Drw.	Pre.	Chk.	App.
<p>CLIENT KARNATAKA NEERAVARI NIGAM LIMITED (A GOVT. OF KARNATAKA UNDERTAKING) BANGALORE - 560 001</p> <p>CONSULTANT E I Technologies Pvt. Ltd., (ISO 9001 : 2008 Certified) # 1149, 26th Main, Jayanagar 4th 'T' Block, Bengaluru-560 041, India. Ph. +91.80.40914714, Fax: +91.80.26650912 info@eitech.in, www.eitech.in</p>						
<p>PROJECT TITLE MODERNISATION OF VIJAYANAGARA CHANNELS IN TUNGABHADRA PROJECT</p>						
<p>DRAWING TITLE CONSTRUCTION OF VILLAGE ROAD BRIDGE AT CH: 4+000Km FOR HULUGI CHANNEL</p>						
Date	Drw.	Pre.	Chk.	App.	Scale.	Drawing Status.
					AS SHOWN	FOR APPROVAL
Project No.	Drawing No.	Sheet No.	Rev.			
	KNNL-VNC-HC-TYP-STR-VRB-005	01 of 02	0			
<p>Consultant E I Technologies Pvt. Ltd. Bangalore</p>		<p>Asst. Executive Engineer VNC Sub-Division Kamalahalli</p>		<p>Executive Engineer TR Division No.1 Munirabad</p>		
<p>Superintending Engineer Tungabhadra Project Circle Munirabad</p>			<p>Chief Engineer Irrigation Central Zone Munirabad</p>			



DETAILS OF CATTLE RAMP
SCALE (1:75)

NOTES

- 1) ALL DIMENSIONS ARE IN MILLIMETRES AND REDUCED LEVELS ARE IN METRES.
- 2) DO NOT SCALE THE DRAWING. WRITTEN DIMENSIONS ONLY SHALL BE FOLLOWED.

STRUCTURE DETAILS		
Sl.No.	CHAINAGE	15569.00m
1	Bed Width (BW)	1.50m
2	Full Supply Depth(FSD)	0.70m
3	Side Slope(H:V)	1.5:1
4	Free Board Level(FBL)	0.40m
5	Service Road (SR)	4500mm
6	Inspection Path (IP)	2500mm

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0	For Approval

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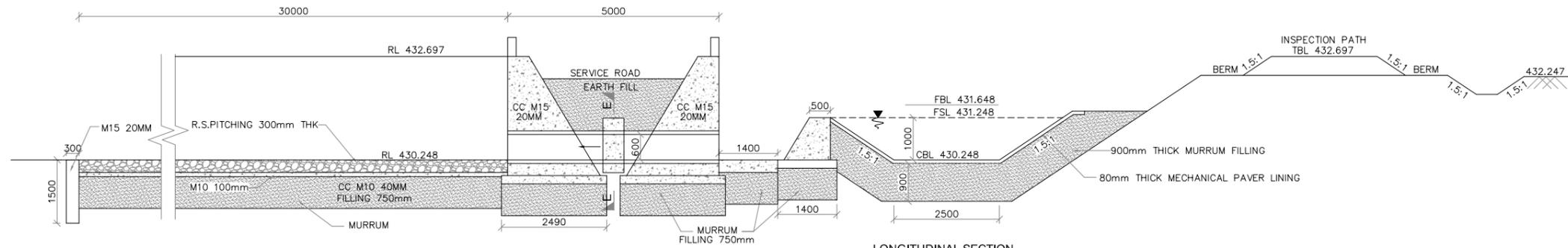
PROJECT TITLE
**MODERNISATION OF VIJAYANAGARA CHANNELS
 IN TUNGABHADRA PROJECT**

DRAWING TITLE
**TYPICAL DRAWING FOR THE CONSTRUCTION
 OF CATTLE RAMP FOR ANEGUNDI CHANNEL**

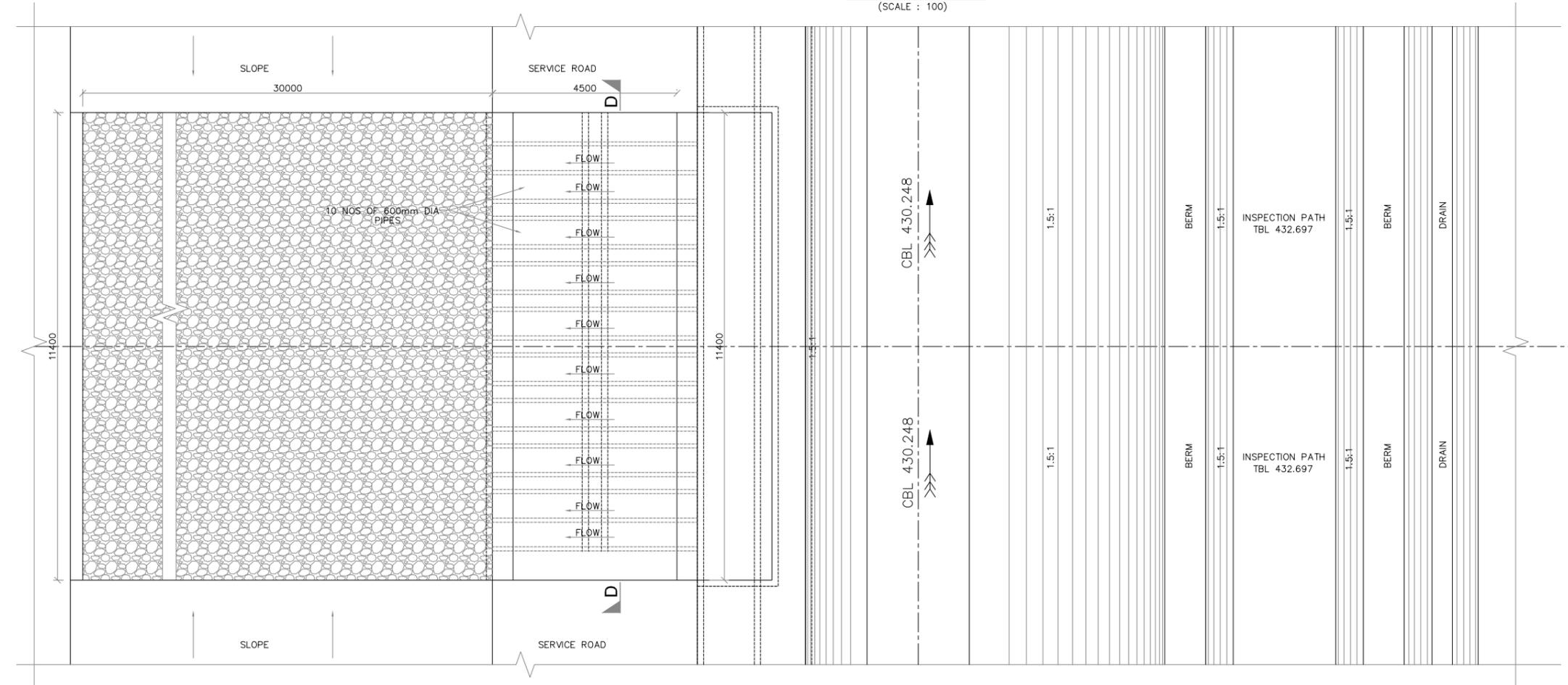
Date	Drw.	Pre.	Chk.	App.	Scale	Drawing Status
.	AS SHOWN	FOR APPROVAL

Project No.	Drawing No.	Sheet No.	Rev.
.	KNNL-VNC-AC-TYP-STR-CTLR-006	01 of 01	0

 Consultant E I Technologies Pvt. Ltd. Bangalore	 VNC Sub-Division Kamelapur	 Executive Engineer TR Division No.1 Munirabad
 Superintending Engineer Tungabhadra Project Circle Munirabad	 Chief Engineer Irrigation Central Zone Munirabad	



LONGITUDINAL SECTION
(SCALE : 100)



PLAN
(SCALE : 100)

NOTES

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- 2) DO NOT SCALE THE DRAWING. WRITTEN DIMENSIONS ONLY SHALL BE FOLLOWED.
- 3) GRADE OF CONCRETE :
 - (I). CC M10 WITH 40mm DOWNSIZE METAL - FOUNDATION BED CONCRETE.
 - (II). CC M15 WITH 40mm DOWN SIZE METAL - HEAD WALLS SILT TRAP
 - (III). CC M15 WITH 20mm DOWN SIZE METAL - BELOW SILT TRAP, CUT OFF WALLS, CANAL PORTION.
 - (IV). CC M20 WITH 20mm DOWN SIZE METAL FOR DECK SLAB AND KERB - TROUGH
- 4) SKIN REINFORCEMENT OF 10 ϕ AT 200mm C/C BOTH WAYS IS PROVIDED.
- 5) MINIMUM CLEAR COVER TO THE REINFORCEMENT SHALL BE 50mm UNLESS OTHERWISE MENTIONED.
- 6) DRY STONE PITCHING IS PROVIDED WHEREVER NECESSARY.
- 7) CNS LINING IS PROVIDED WHEREVER CONCRETE TOUCHES THE GROUND

0	For Approval					
Rev.	Description	Date	Drw.	Pre.	Chk.	App.

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BANGALORE - 560 001

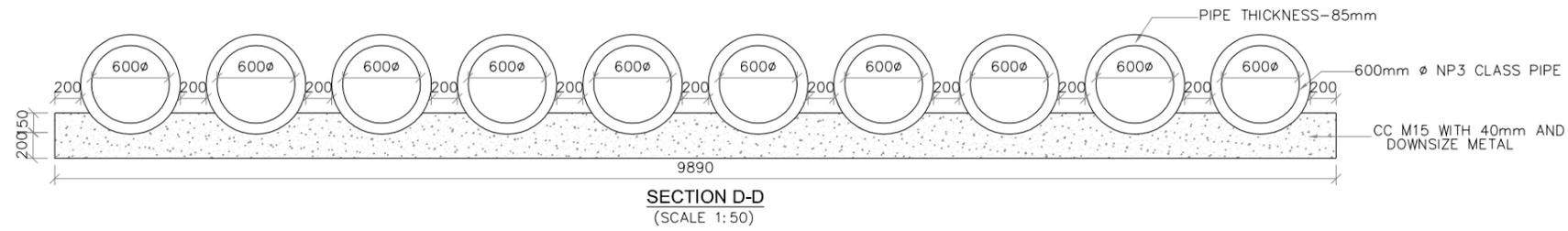
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info@eitech.in, www.eitech.in

PROJECT TITLE
**MODERNISATION OF VIJAYANAGARA CHANNELS
IN TUNGABHADRA PROJECT**

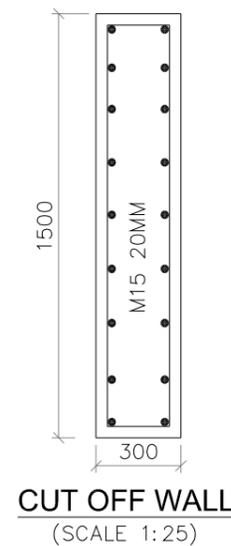
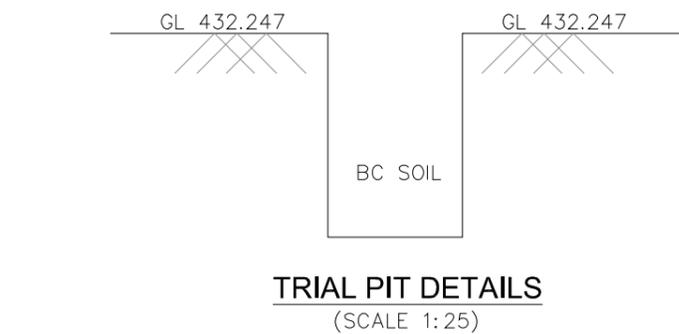
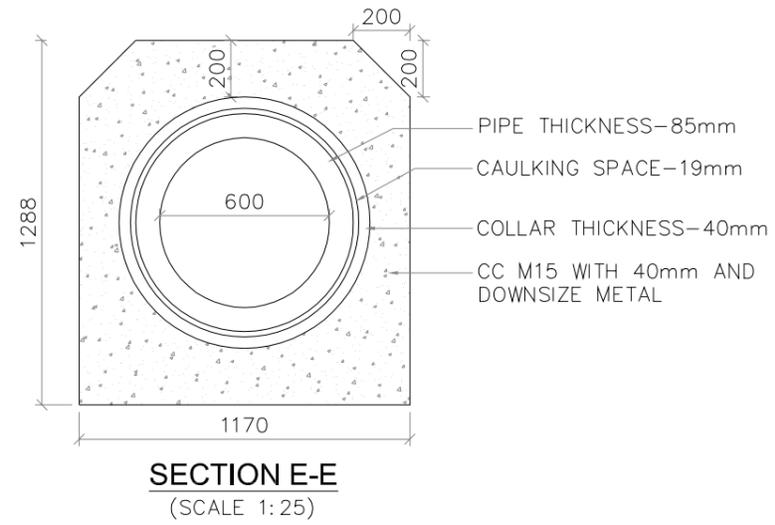
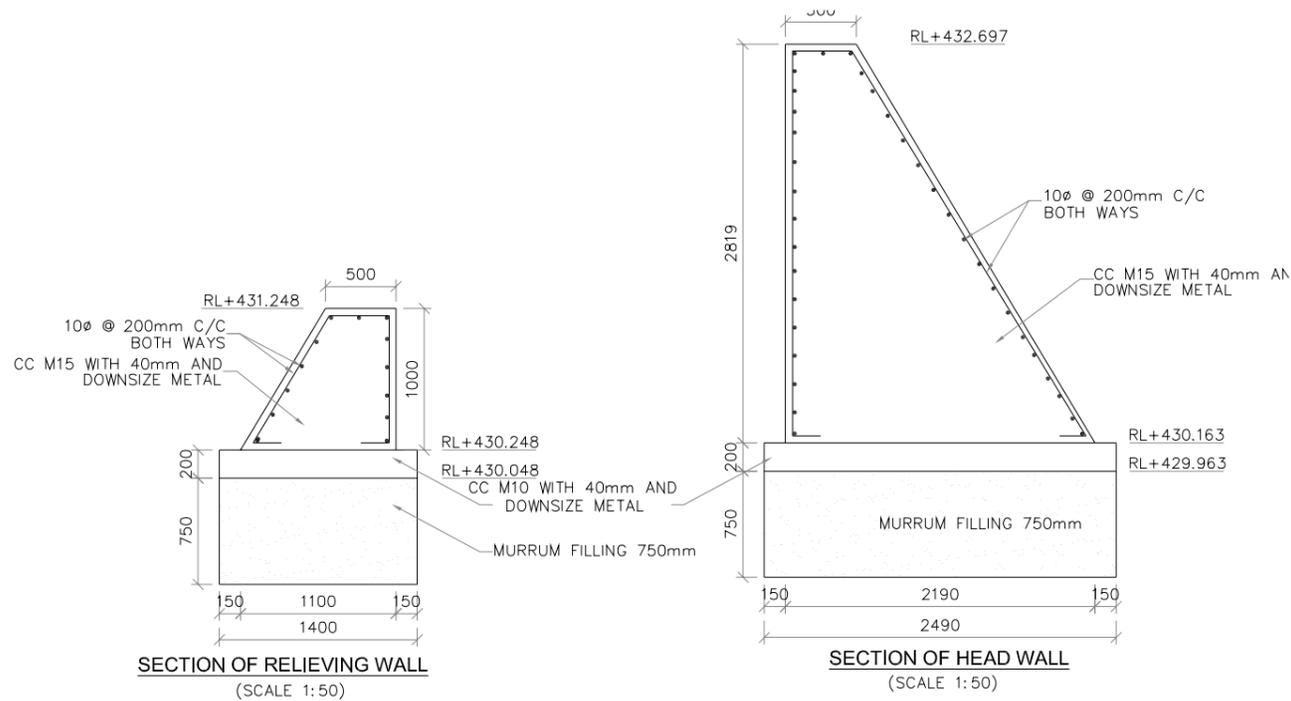
DRAWING TITLE
**Construction of Relieving Weir at CH: 0+880km of
Ramsagar canal**

Date	Drw.	Pre.	Chk.	App.	Scale	Drawing Status
					AS SHOWN	FOR APPROVAL
Project No.	Drawing No.				Sheet No.	Rev.
	KNNL-VNC-TC-STR-RW-008				01 of 02	0

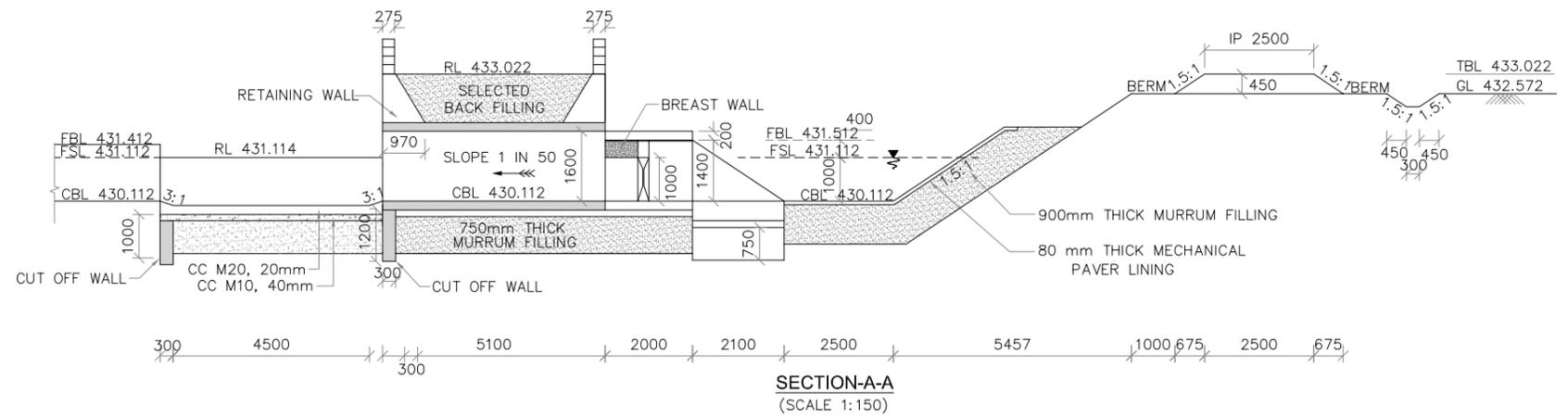
 Consultant E I Technologies Pvt. Ltd. Bangalore	 Asst. Executive Engineer VNC Sub-Division Kamalapur	 Executive Engineer TR Division No.1 Munirabad
 Superintending Engineer Tungabhadra Project Circle Munirabad		 Chief Engineer Irrigation Central Zone Munirabad



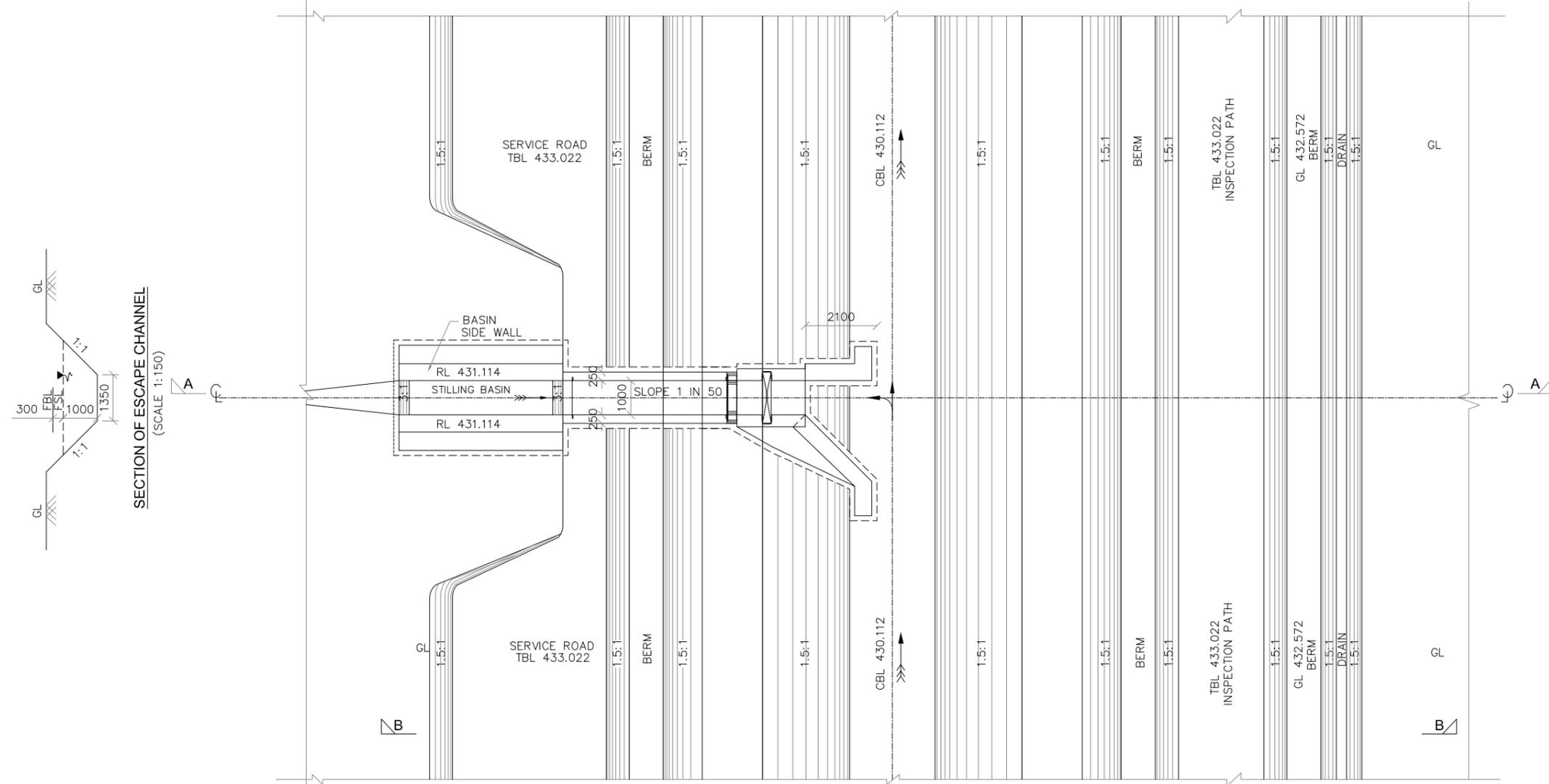
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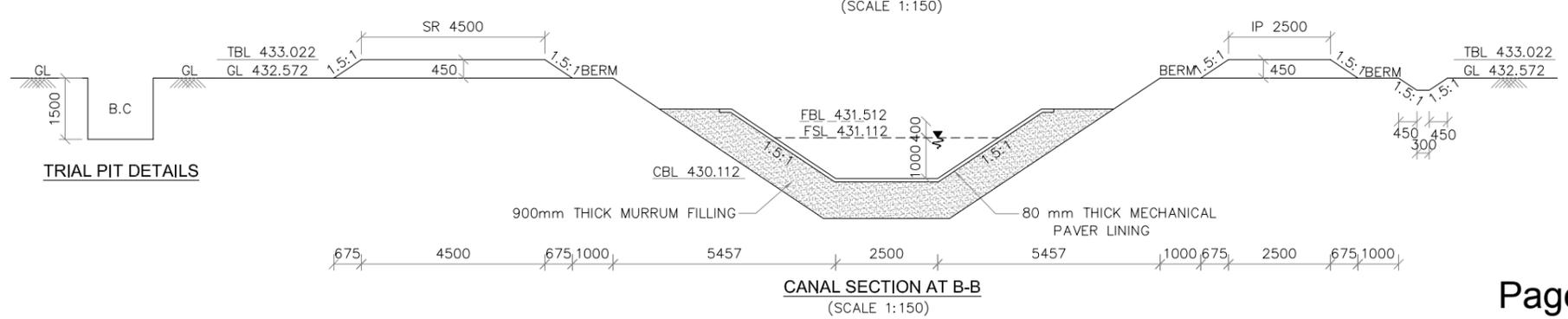
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					AS SHOWN	FOR APPROVAL
Project No.	Drawing No.	Sheet No.		Rev.		
	KNNL-VNC-TC-STR-RW-008	02 of 02		0		
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Superintending Engineer Tungabhadra Irrigation Central Zone Murirabad				Chief Engineer Irrigation Central Zone Murirabad		



SECTION-A-A
(SCALE 1:150)

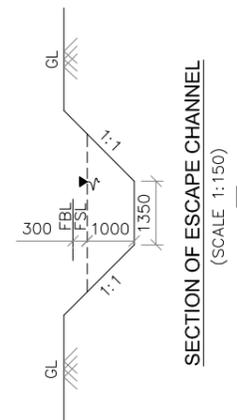


PLAN
(SCALE 1:150)



CANAL SECTION AT B-B
(SCALE 1:150)

TRIAL PIT DETAILS



SECTION OF ESCAPE CHANNEL
(SCALE 1:150)

- NOTES**
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 - 3) GRADE OF CONCRETE :
(I). CC M10 WITH 40mm DOWNSIZE METAL - FOUNDATION BED CONCRETE.
(II). CC M15 WITH 40mm DOWN SIZE METAL - GUIDE WALLS, U/S & D/S HEAD WALLS, SHEAR KEY WALL, BASIN SIDE WALLS, TRANSITION WALLS, RETURN WALLS & CRADLE CONCRETE BELOW PIPE.
(III). CC M15 WITH 20mm DOWN SIZE METAL - U/S BASIN, STILLING BASIN, SLAB, STEPS, AND CANAL LINING.
 - 4) 80mm THICK CC LINING IS PROVIDED FOR MAIN CANAL, 75mm THICK CC LINING IS PROVIDED FOR DISTRIBUTARY CANAL.
 - 5) SKIN REINFORCEMENT OF 10# AT 200mm C/C BOTH WAYS IS PROVIDED.
 - 6) MINIMUM CLEAR COVER TO THE REINFORCEMENT SHALL BE 50mm UNLESS OTHERWISE MENTIONED.
 - 7) NP3 CLASS HUMER PIPES ARE PROPOSED.
 - 8) CATCH WATER DRAIN SHOULD BE SUITABLY DIVERTED TO NATURAL STREAM OR NALAS.
 - 9) DRY STONE PITCHING IS PROVIDED WHEREVER NECESSARY.

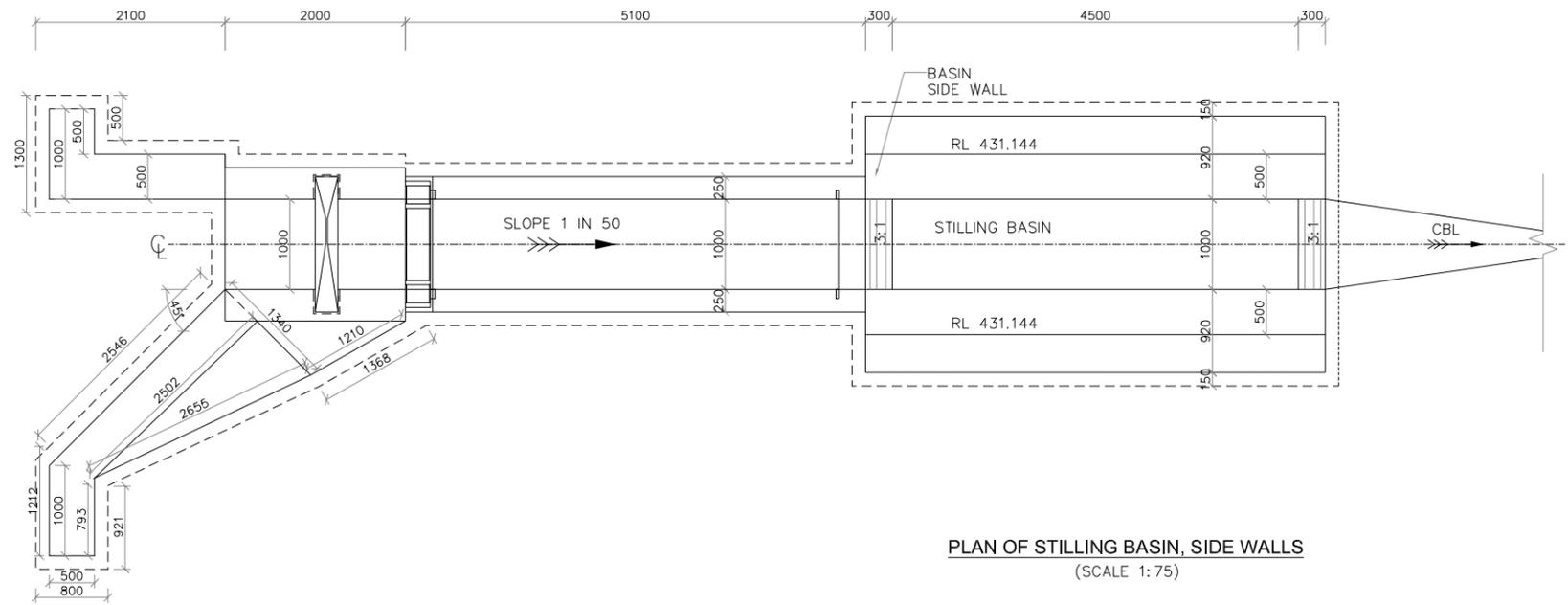
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PROJECT TITLE
MODERNISATION OF VIJAYANAGARA CHANNELS IN TUNGABHADRA PROJECT

DRAWING TITLE
Construction of Scouring sluice at CH: 1+221 km of Ramsagar Channel

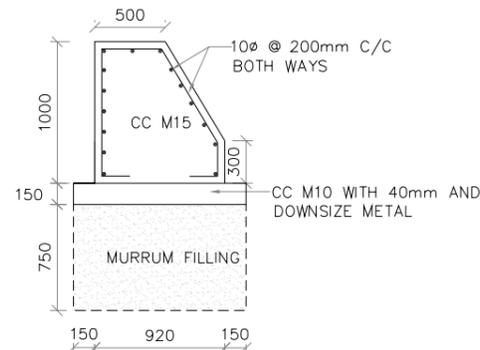
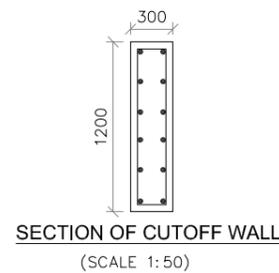
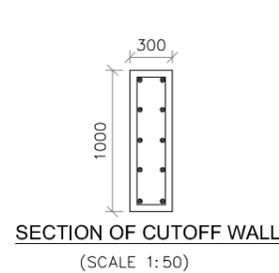
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.	KNNL-VNC-TC-STR-SS-005	01 of 03		0		

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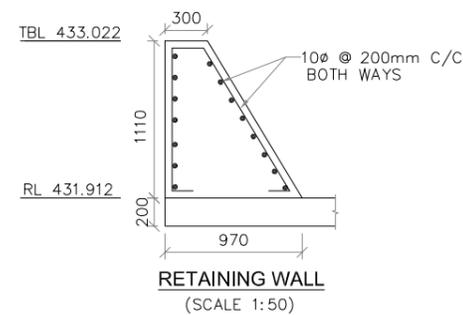


PLAN OF STILLING BASIN, SIDE WALLS
(SCALE 1: 75)

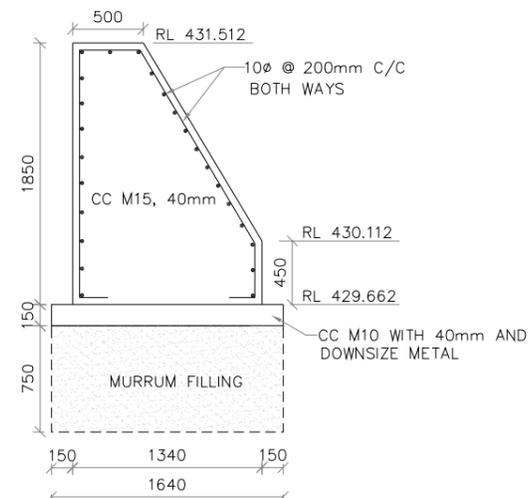
PLAN OF GUIDE WALL, BOX
(SCALE 1: 75)



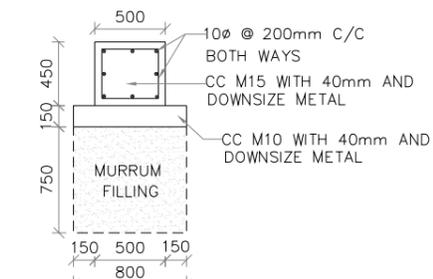
SECTION OF BASIN SIDE WALL
(SCALE 1: 50)



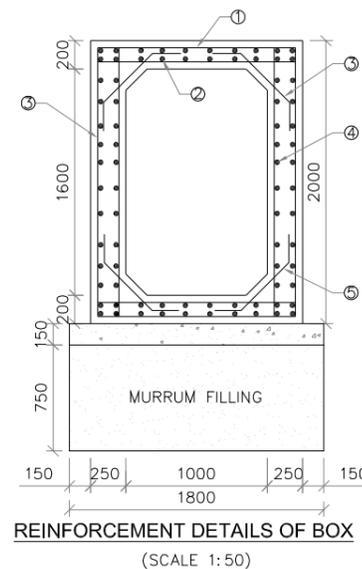
RETAINING WALL
(SCALE 1: 50)



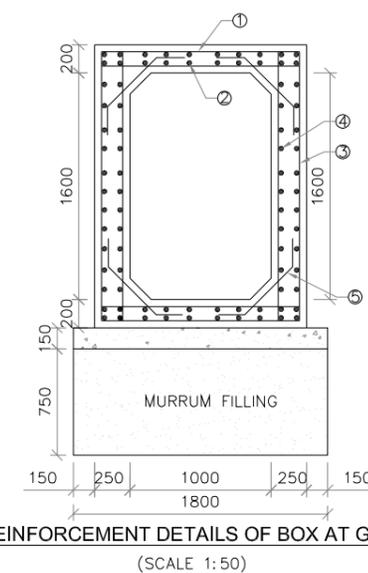
SECTION OF GUIDE WALL
AT MAXIMUM HEIGHT
(SCALE 1: 50)



SECTION OF GUIDE WALL
AT MINIMUM HEIGHT
(SCALE 1: 50)



REINFORCEMENT DETAILS OF BOX
(SCALE 1: 50)



REINFORCEMENT DETAILS OF BOX AT GATE
(SCALE 1: 50)

NOTES

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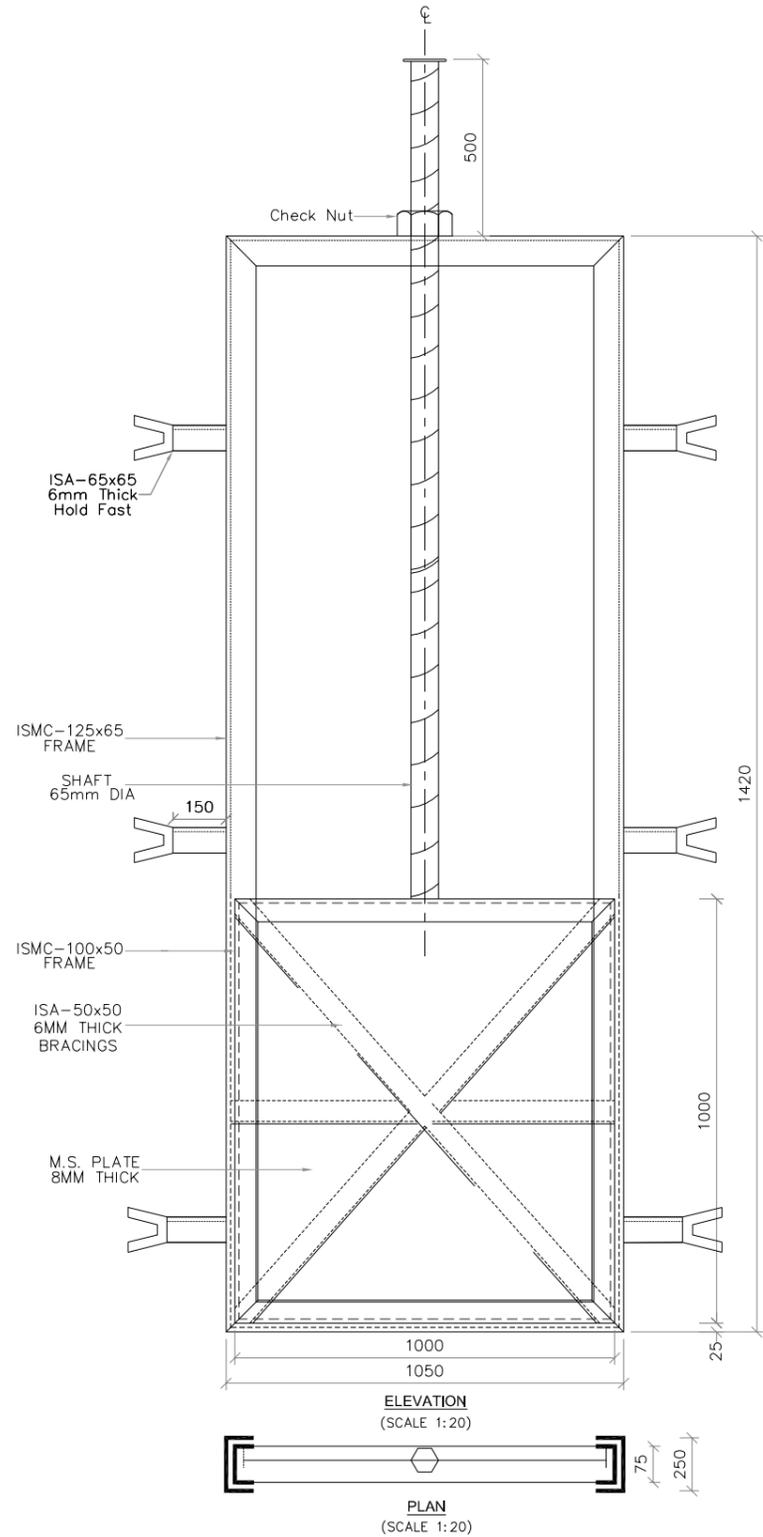
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DRAWING TITLE
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SL. NO.	ITEMS	UNIT	DIMENSION	WT./M (kg/sqm)	TOTAL WT. (kg)
1	ISMC-125 X 65 FRAME	RMT	4.95	12.70	62.86
2	ISMC-100 X 50 FRAME	RMT	4.00	9.20	36.80
3	ISA-5050; 6MM THICK. FOR BRACINGS.	RMT	3.83	4.50	17.24
4	ISA-6565; 6MM THICK. FOR HOLD-FASTS	RMT	1.80	5.80	10.44
5	M.S. PLATE 8MM THICK	SQM	1.00	62.80	62.80
6	SHAFT 65MM Ø M.S.	RMT	0.9	26.05	23.44
7	CHECK NUT M.S.	NO.	1.00	4.00	4.00
8	WHEEL M.S.	NO.	1.00	30.00	30.00

TOTAL Wt. = 247.580 Kgs
SAY = 248.000 Kgs
= 0.248 MT

SCHEDULE OF REINFORCEMENT FOR BOX

MEMBER	BAR MARK	DIA OF BAR (mm)	SPACING OF BAR (mm)	NO. OF BAR	SHAPE OF BARS (DIMENSION ARE IN MM) (NOT TO SCALE)	LENGTH OF EACH BAR (mm)	TOTAL LENGTH IN METRES	UNIT WEIGHT IN Kg/m	TOTAL WEIGHT IN Kg
BOX	1	12	150	35X4		1600	224.00	0.888	197.120
	2	10	200	8X4		5100	163.20	0.620	101.18
SIDE WALLS	3	12	150	35X4		2200	80.00	0.888	271.04
	4	10	200	11X4		5000	220.00	0.620	136.40
HAUNCH	5	10	150	35X4		1790	250.60	0.620	155.372

TOTAL=861.112 Kg
5% WASTAGE=43.06 Kg
GRAND TOTAL=904.172 Kg
SAY=905 Kg

SCHEDULE OF REINFORCEMENT FOR BOX AT GATE

MEMBER	BAR MARK	DIA OF BAR (mm)	SPACING OF BAR (mm)	NO. OF BAR	SHAPE OF BARS (DIMENSION ARE IN MM) (NOT TO SCALE)	LENGTH OF EACH BAR (mm)	TOTAL LENGTH IN METRES	UNIT WEIGHT IN Kg/m	TOTAL WEIGHT IN Kg
BOX	1	12	150	14X4		1600	89.60	0.888	79.56
	2	10	200	8X4		2000	64.00	0.620	39.68
SIDE WALLS	3	12	150	14X4		2200	123.20	0.888	109.40
	4	10	200	11X4		1900	83.60	0.620	51.83
HAUNCH	5	10	150	14X4		1790	100.24	0.620	62.15

TOTAL=342.62 Kg
5% WASTAGE=17.13 Kg
GRAND TOTAL=359.751 Kg
SAY=360 Kg

NOTES

- 1) ALL DIMENSIONS ARE IN MM AND REDUCED LEVELS ARE IN METRES.
- 2) DRAWING SHALL NOT BE SCALED OR MEASURED.

0	For Approval					
Rev.	Description	Date	Drw.	Pre.	Chk.	App.

CLIENT
KARNATAKA NEERAVARI NIGAM LIMITED
(A GOVT. OF KARNATAKA UNDERTAKING)
BANGALORE - 560 001

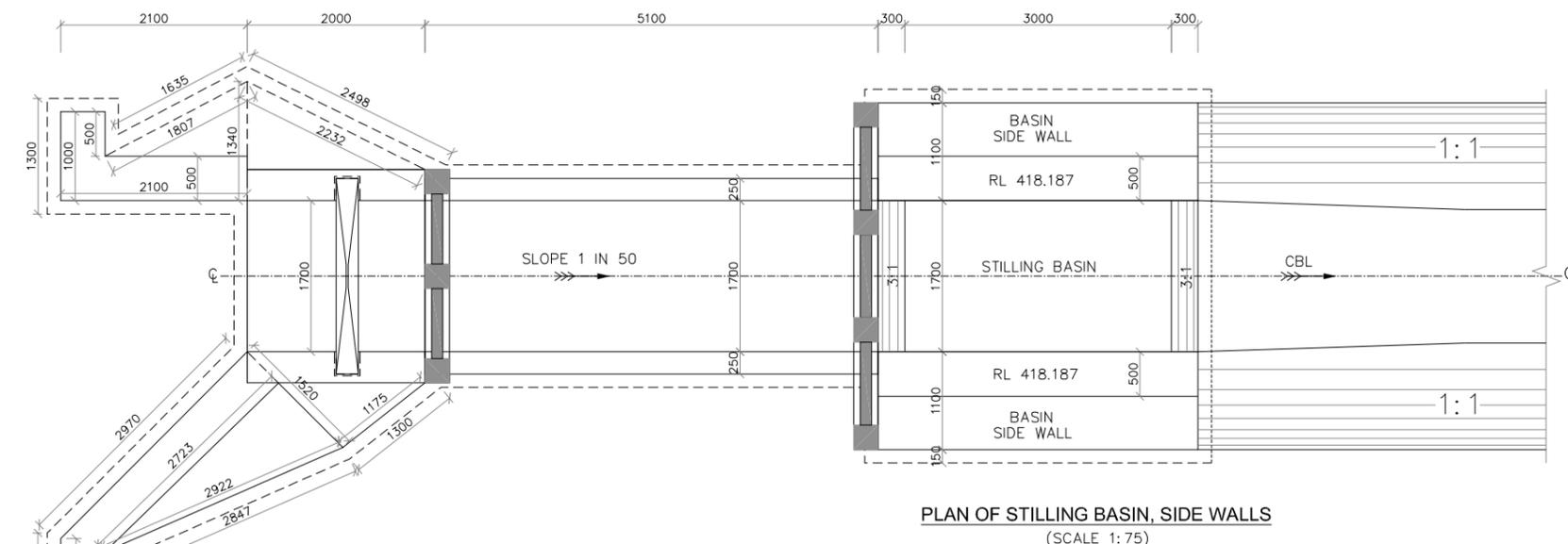
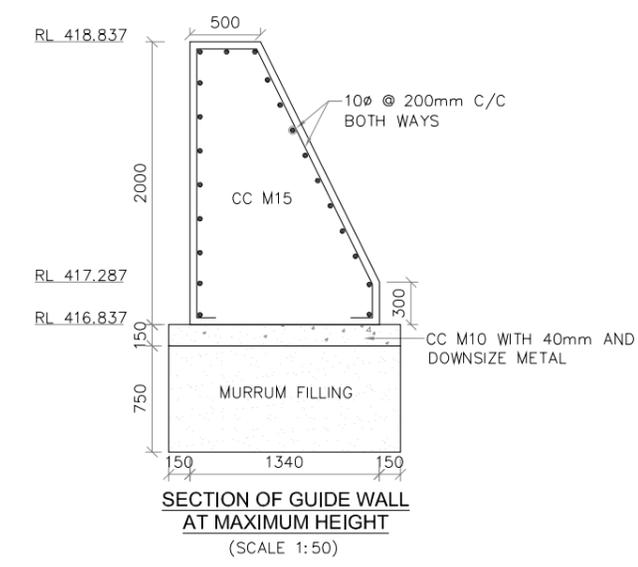
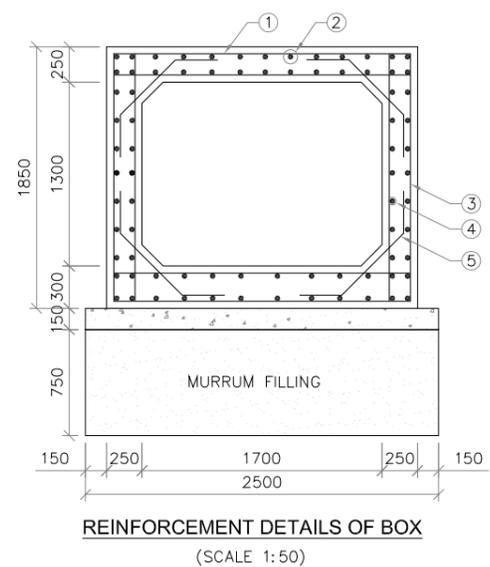
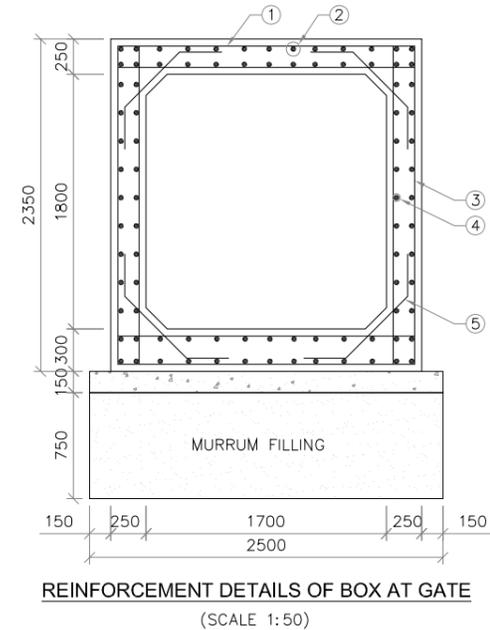
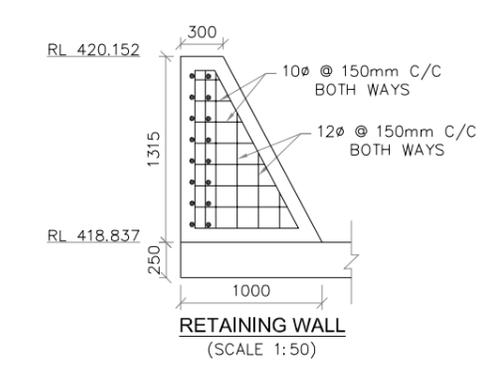
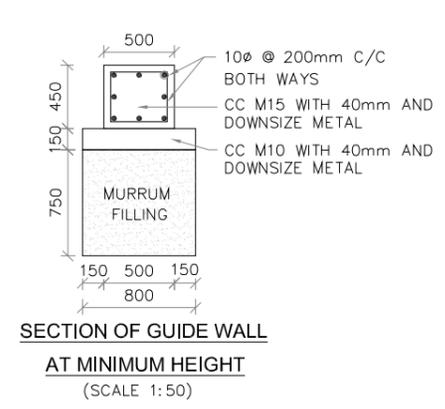
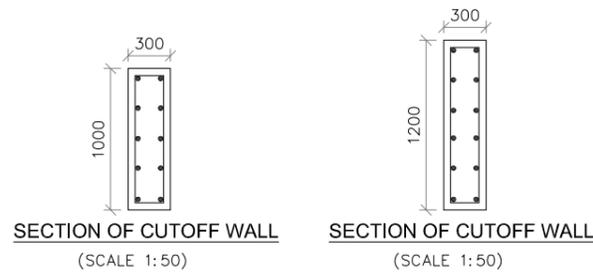
CONSULTANT
E I Technologies Pvt. Ltd.,
(ISO 9001 : 2008 Certified)
1149, 26th Main, Jayanagar 4th 'T' Block,
Bengaluru-560 041, India.
Ph.+91.80.40914714, Fax: +91.80.26650912
info@eitech.in www.eitech.in

PROJECT TITLE
**MODERNISATION OF VIJAYANAGARA CHANNELS
IN TUNGABHADRA PROJECT**

DRAWING TITLE
**Construction of Scouring sluice at CH: 1+221 km of
Ramsagar Channel**

Date	Drw.	Pre.	Chk.	App.	Scale	Drawing Status
					AS SHOWN	FOR APPROVAL
Project No.	Drawing No.	Sheet No.	Rev.			
	KNNL-VNC-TC-STR-SS-005	03 of 03	0			

 Consultant E I Technologies Pvt. Ltd. Bangalore	 VNC Sub-Division Karnalapur	 Executive Engineer TR Division No.1 Munirabad
 Superintending Engineer Tungabhadra Project Circle Munirabad	 Chief Engineer Irrigation Central Zone Munirabad	

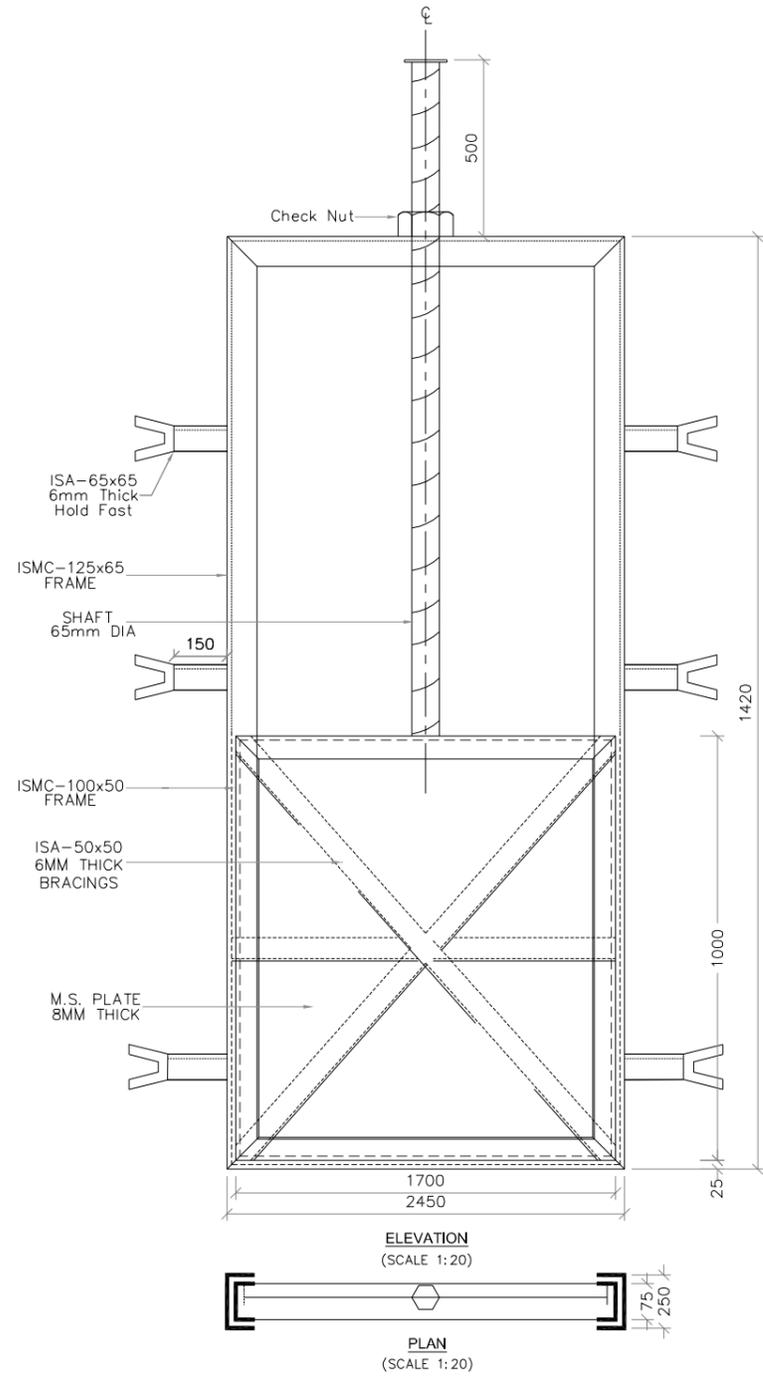


NOTES
 1) ALL DIMENSIONS ARE IN MILLIMETRES AND REDUCED LEVELS ARE IN METRES.
 2) DO NOT SCALE THE DRAWING. WRITTEN DIMENSIONS ONLY SHALL BE FOLLOWED.

0	For Approval					
Rev.	Description	Date	Drw.	Pre.	Chk.	App.
CLIENT KARNATAKA NEERAVARI NIGAM LIMITED (A GOVT. OF KARNATAKA UNDERTAKING) BANGALORE - 560 001						
CONSULTANT E I Technologies Pvt. Ltd., (ISO 9001 : 2008 Certified) # 1149, 26th Main, Jayanagar 4th 'T' Block, Bengaluru-560 041, India. Ph. +91.80.40914714, Fax: +91.80.26650912 info@eitech.in, www.eitech.in						
PROJECT TITLE MODERNISATION OF VIJAYANAGARA CHANNELS IN TUNGABHADRA PROJECT						
DRAWING TITLE Construction of Escape at CH: 10+900Km of Ramsagara Channel						
Date	Drw.	Pre.	Chk.	App.	Scale	Drawing Status
					AS SHOWN	FOR APPROVAL
Project No.	Drawing No.	Sheet No.	Rev.			
	KNNL-VNC-TC-STR-ES-006	02 of 03	0			
Consultant E I Technologies Pvt. Ltd. Bangalore		Asst. Executive Engineer VNC Sub-Division Kamalapur		Executive Engineer TR Division No.1 Muribad		
Superintending Engineer Tungabhadra Project Circle Muribad			Chief Engineer Irrigation Central Zone Muribad			

NOTES

- 1) ALL DIMENSIONS ARE IN MM AND REDUCED LEVELS ARE IN METRES.
- 2) DRAWING SHALL NOT BE SCALED OR MEASURED.



SCHEDULE OF REINFORCEMENT FOR RETAINING WALL

MEMBER	BAR MARK	DIA OF BAR (mm)	SPACING OF BAR (mm)	NO.OF BAR	SHAPE OF BARS (DIMENSION ARE IN mm) (NOT TO SCALE)	LENGTH OF EACH BAR (mm)	TOTAL LENGTH IN METRES	UNIT WEIGHT IN kg/m	TOTAL WEIGHT IN kg
BOX	1	12	150	15X2		1515	45.45	0.888	40.45
	2	10	150	9X2			2300	41.40	0.620	28.57
SIDE WALLS	3	12	150	9X4		925	33.30	0.888	29.63
	4	10	150	6X4			1060	25.44	0.620	15.77
									TOTAL = 114.41 kg 5% WASTAGE = 5.702 kg GRAND TOTAL = 120.130 kg SAY = 121 kg

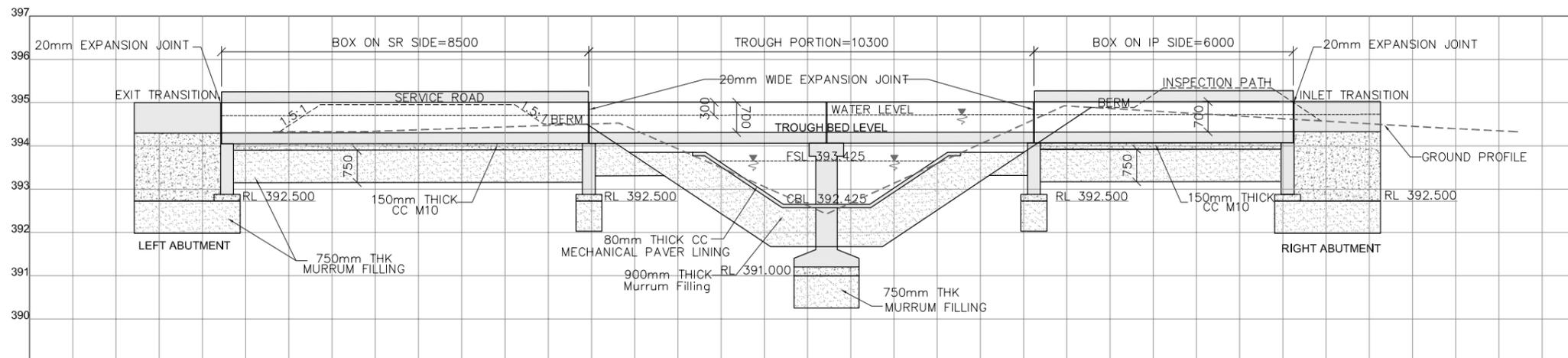
SCHEDULE OF REINFORCEMENT FOR BOX AT GATE

MEMBER	BAR MARK	DIA OF BAR (mm)	SPACING OF BAR (mm)	NO.OF BAR	SHAPE OF BARS (DIMENSION ARE IN mm) (NOT TO SCALE)	LENGTH OF EACH BAR (mm)	TOTAL LENGTH IN METRES	UNIT WEIGHT IN kg/m	TOTAL WEIGHT IN kg
BOX	1	12	120	16X4		2300	147.20	0.888	129.53
	2	10	200	11X4			1900	83.60	0.620	51.83
SIDE WALLS	3	12	120	16X4		2550	163.20	0.888	143.62
	4	10	200	12X4			1900	91.20	0.620	56.24
HAUNCH	5	10	150	14X4		1790	100.24	0.620	62.15
									TOTAL = 443.63 kg 5% WASTAGE = 22.18 kg GRAND TOTAL = 465.84 kg SAY = 466 kg

SCHEDULE OF REINFORCEMENT FOR BOX

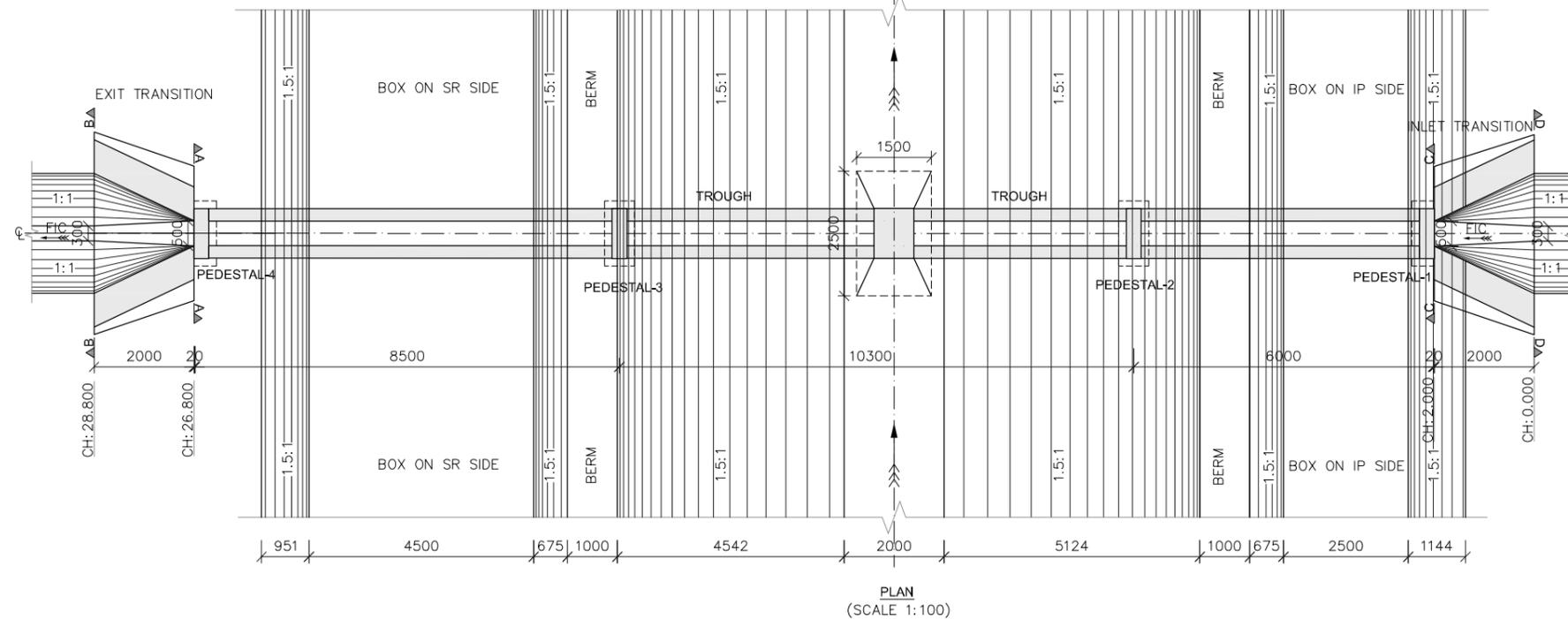
MEMBER	BAR MARK	DIA OF BAR (mm)	SPACING OF BAR (mm)	NO.OF BAR	SHAPE OF BARS (DIMENSION ARE IN mm) (NOT TO SCALE)	LENGTH OF EACH BAR (mm)	TOTAL LENGTH IN METRES	UNIT WEIGHT IN kg/m	TOTAL WEIGHT IN kg
BOX	1	12	120	42X4		2300	386.40	0.888	340.03
	2	10	200	11X4			5000	220.00	0.620	136.40
SIDE WALLS	3	12	120	42X4		2050	344.40	0.888	303.07
	4	10	200	9X4			5000	180.00	0.620	111.600
HAUNCH	5	10	150	42X4		1790	300.72	0.620	186.44
									TOTAL = 1077.54 kg 5% WASTAGE = 53.87 kg GRAND TOTAL = 1131.41 kg SAY = 1132 kg

0	For Approval								
Rev.	Description	Date	Drw.	Pre.	Chk.	App.			
<p>CLIENT KARNATAKA NEERAVARI NIGAM LIMITED (A GOVT. OF KARNATAKA UNDERTAKING) BANGALORE - 560 001</p> <p>CONSULTANT E I Technologies Pvt. Ltd., (ISO 9001 : 2008 Certified) # 1149, 26th Main, Jayanagar 4th 'T' Block, Bengaluru-560 041, India. Ph. +91.80.40914714, Fax: +91.80.26650912 info@eitech.in, www.eitech.in</p>									
<p>PROJECT TITLE MODERNISATION OF VIJAYANAGARA CHANNELS IN TUNGABHADRA PROJECT</p>									
<p>DRAWING TITLE Construction of Escape at CH: 10+900Km of Ramsagara Channel</p>									
Date	Drw.	Pre.	Chk.	App.	Scale	Drawing Status			
					AS SHOWN	FOR APPROVAL			
Project No.	Drawing No.				Sheet No.	Rev.			
	KNNL-VNC-TC-STR-ES-006				03 of 03	0			
<p>Consultant E I Technologies Pvt. Ltd. Bangalore</p>			<p>Asst. Executive Engineer VNC Sub-Division Karnalapur</p>			<p>Executive Engineer TR Division No.1 Munirabad</p>			
<p>Superintending Engineer Tungabhadra Project Circle Munirabad</p>					<p>Chief Engineer Irrigation Central Zone Munirabad</p>				

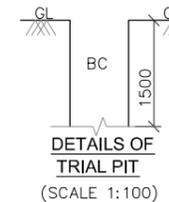


DATUM 389							
PARTICULARS	TRANSITION END	TRANSITION START	PEDESTAL	PIER	PEDESTAL	TRANSITION END	TRANSITION START
TROUGH BED LEVEL	394.071	394.073	394.082	394.087	394.092	394.098	394.100
GROUND LEVEL	394.100	394.200	394.700	392.200	394.300	394.100	394.100
CHAINAGE	28.800	26.800	18.300	12.800	8.000	2.000	0.000

LONGITUDINAL SECTION
(SCALE 1:100)



PLAN
(SCALE 1:100)



NOTES

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- DO NOT SCALE THE DRAWING. WRITTEN DIMENSIONS ONLY SHALL BE FOLLOWED.
- GRADE OF CONCRETE : CONFORMING TO IS 456-2000
 - PADDING GRADE OF CONCRETE IS - CC M10
 - FOR TRANSITION PORTION GRADE OF CONCRETE IS CC M15
 - PIER, RAFT BEAM, PEDESTAL AND FOOTING SLAB - CC M20
 - TROUGH PIERCAP, SLAB, SIDE WALL - CC M20
 - GAP OF 20mm TO BE ALLOWED BETWEEN SPANS WITH PVC WATER SEALING STRIP.
- BACK FILLING SHALL BE DONE SIMULTANEOUSLY WITH THE RAISING OF THE STRUCTURE WITH ϕ VALUE OF SOIL NOT LESS THAN 28°.
- ALL REINFORCEMENT SHALL BE OF HIGH YIELD STRENGTH DE FORMED BARS (GRADE DESIGNATION Fe415).
- SHARP EDGES OF CONCRETE SHALL BE CHAMFERED.
- FILLING BEHIND ABUTMENTS AND RETURNS SHALL BE AS PER RELEVANT IRC SPECIFICATIONS.

0	For Approval					
Rev.	Description	Date	Drw.	Pre.	Chk.	App.

CLIENT
KARNATAKA NEERAVARI NIGAM LIMITED
(A GOVT. OF KARNATAKA UNDERTAKING)
BANGALORE - 560 001

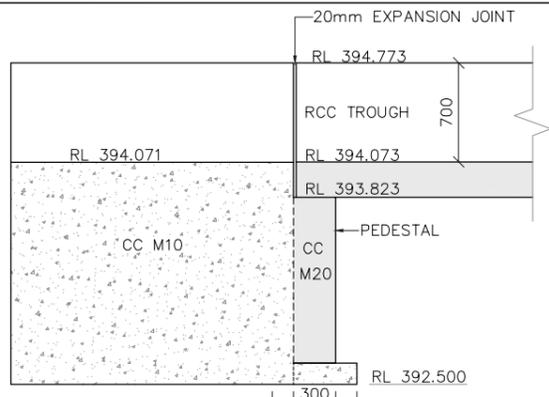
CONSULTANT
E I Technologies Pvt. Ltd.,
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Bengaluru-560 041, India.
Ph.+91.80.40914714, Fax: +91.80.26650912
info@eitech.in • www.eitech.in

PROJECT TITLE
**MODERNISATION OF VIJAYANAGARA CHANNELS
IN TUNGABHADRA PROJECT**

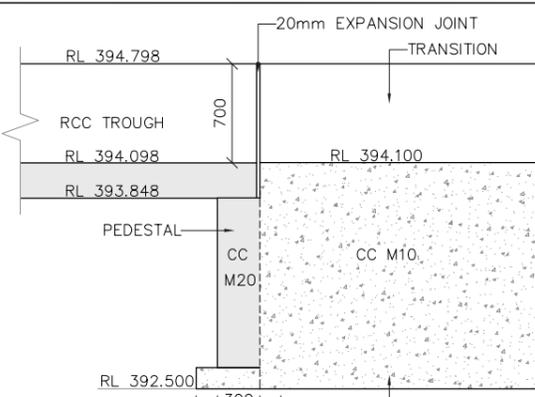
DRAWING TITLE
**CONSTRUCTION OF FIELD IRRIGATION
CHANNEL CROSSING AT CH 1+020 km FOR
KALAGHATTA CANAL**

Date	Drw.	Pre.	Chk.	App.	Scale	Drawing Status
					AS SHOWN	FOR APPROVAL
Project No.	Drawing No.	Sheet No.	Rev.			
	KNNL-VNC-KC-STR-FIC-008	01 of 04	0			

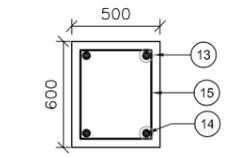
 Consultant E I Technologies Pvt. Ltd. Bangalore	 VNC Sub-Division Kamelapur	 Chief Engineer Irrigation Central Zone Muribad
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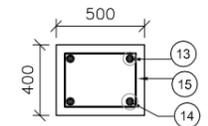
SECTION OF EXIT TRANSITION
(SCALE 1:50)



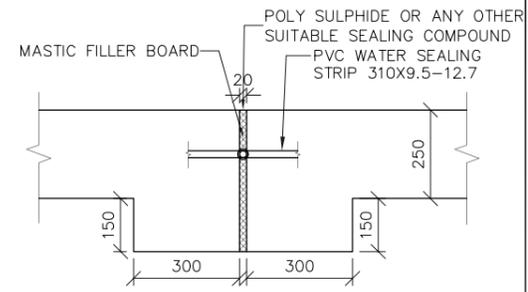
SECTION OF INLET TRANSITION
(SCALE 1:50)



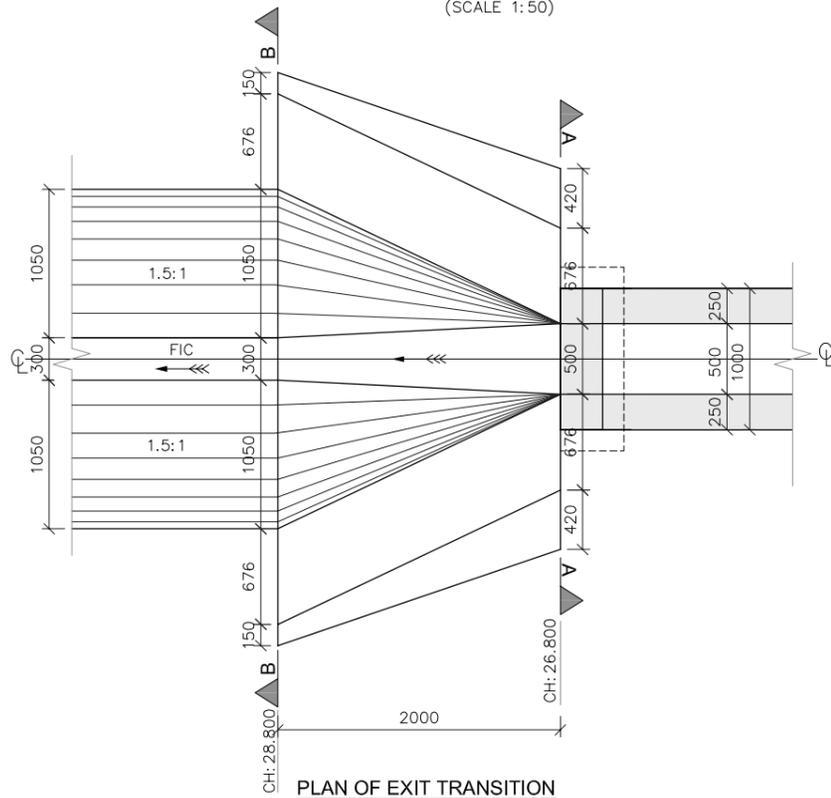
SECTION OF RAFT BEAM
AT A-A
(SCALE 1:40)



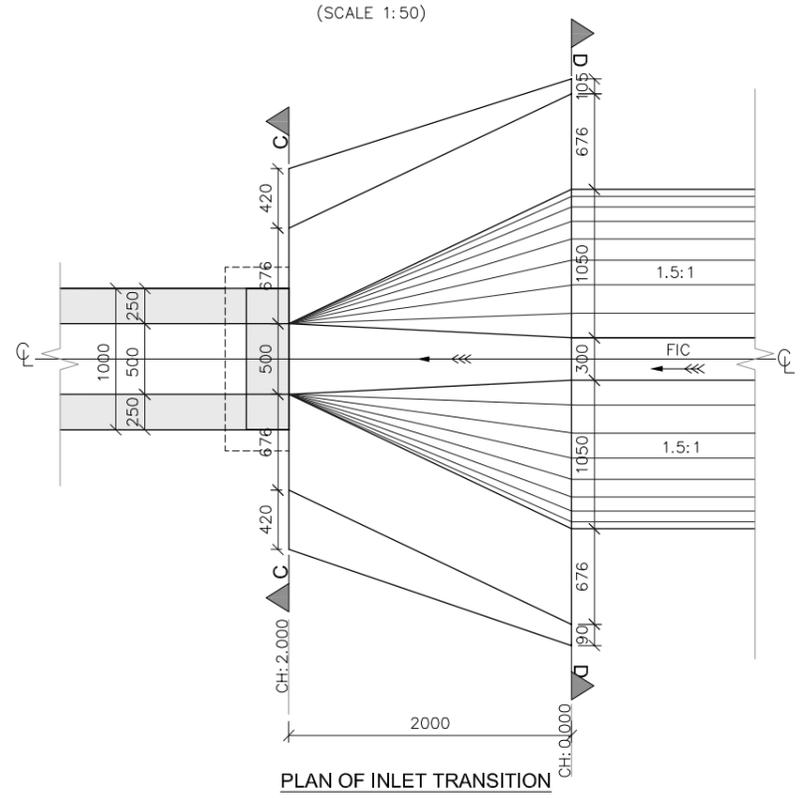
SECTION OF RAFT BEAM
AT B-B
(SCALE 1:40)



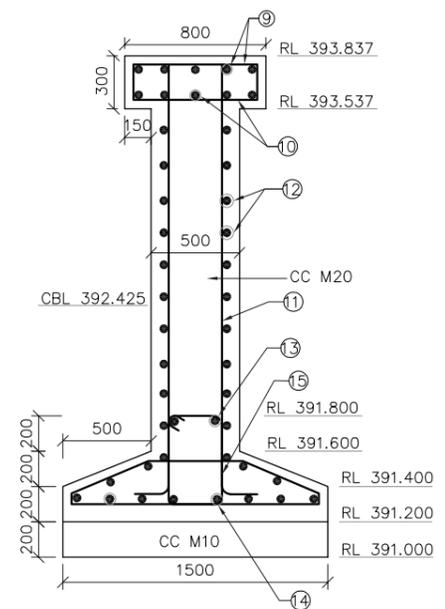
DETAILS OF CONTRACTION JOINT (L-SECTION)
(SCALE 1:20)



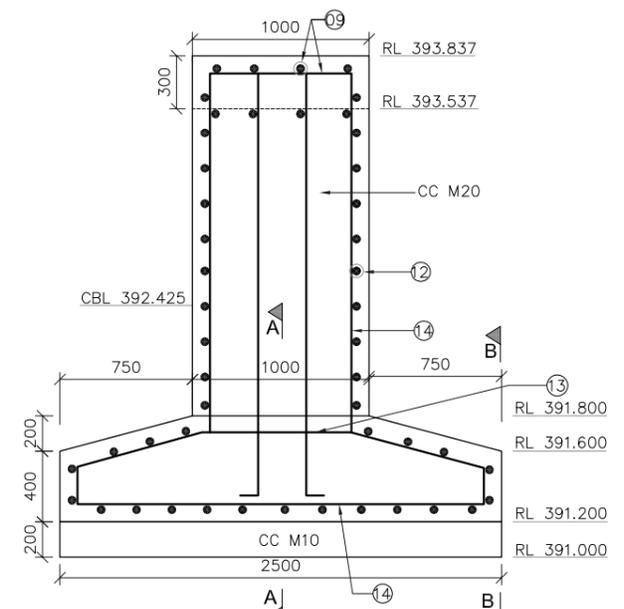
PLAN OF EXIT TRANSITION
(SCALE 1:50)



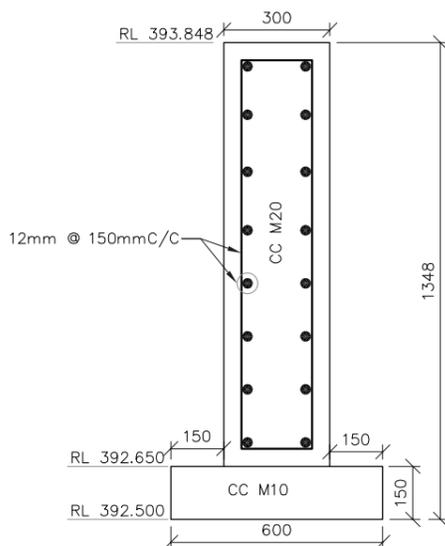
PLAN OF INLET TRANSITION
(SCALE 1:50)



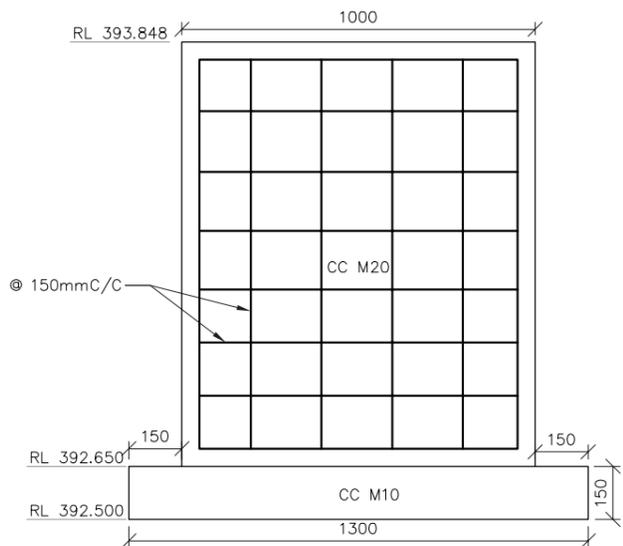
CROSS SECTION OF PIER
(SCALE 1:40)



LONGITUDINAL SECTION OF PIER
(SCALE 1:40)



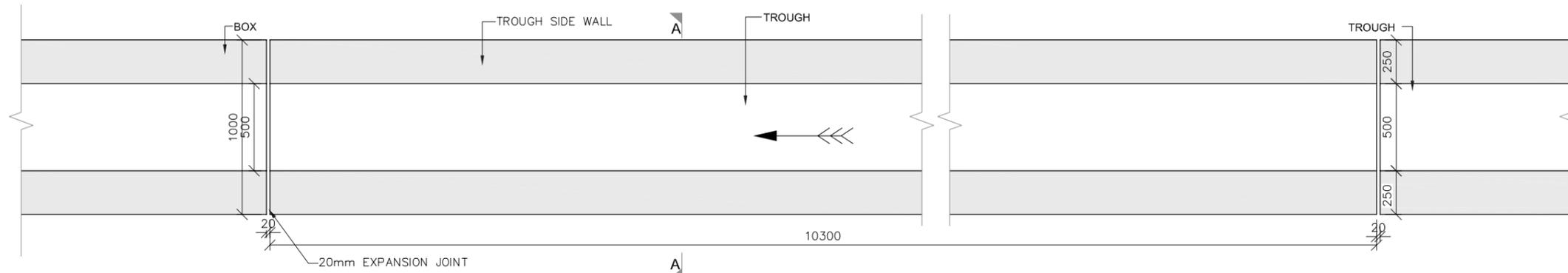
LONGITUDINAL SECTION OF PEDESTAL - 1
(SCALE = 1:20)



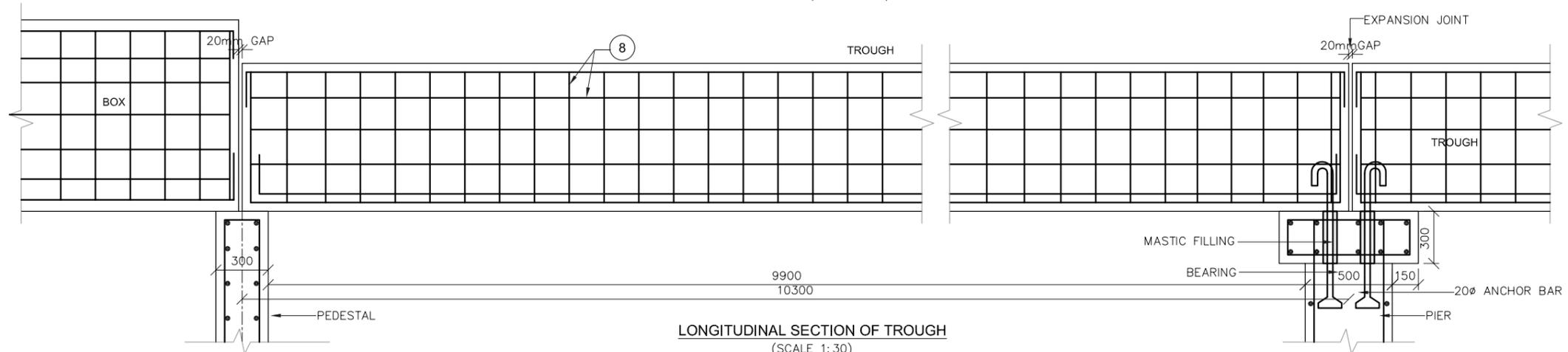
TRANSVERSE SECTION OF PEDESTAL - 1
(SCALE = 1:20)

- NOTES**
- 1) ALL DIMENSIONS ARE IN MILLIMETRES AND REDUCED LEVELS ARE IN METRES.
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 - 3) GRADE OF CONCRETE : CONFORMING TO IS 456-2000
 - (i) PADDING GRADE OF CONCRETE IS - CC M10
 - (ii) FOR TRANSITION PORTION GRADE OF CONCRETE IS CC M15
 - (iii) PIER, RAFT BEAM, PEDESTAL AND FOOTING SLAB - CC M20
 - (iv) TROUGH PIERCAP, SLAB, SIDE WALL - CC M20
 - (v) GAP OF 20mm TO BE ALLOWED BETWEEN SPANS WITH PVC WATER SEALING STRIP.
 - 4) BACK FILLING SHALL BE DONE SIMULTANEOUSLY WITH THE RAISING OF THE STRUCTURE WITH ϕ VALUE OF SOIL NOT LESS THAN 28°.
 - 5) ALL REINFORCEMENT SHALL BE OF HIGH YIELD STRENGTH DE FORMED BARS (GRADE DESIGNATION Fe415).
 - 6) SHARP EDGES OF CONCRETE SHALL BE CHAMFERED.
 - 7) FILLING BEHIND ABUTMENTS AND RETURNS SHALL BE AS PER RELEVANT IRC SPECIFICATIONS.

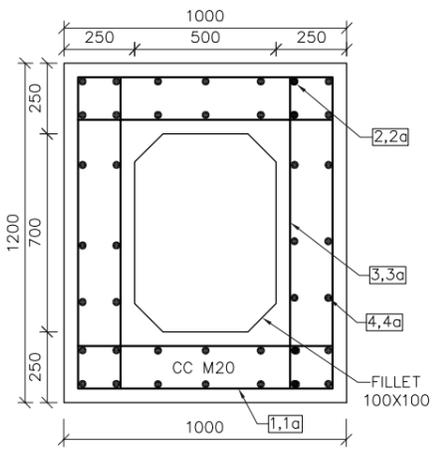
0	For Approval					
Rev.	Description.	Date.	Drw.	Pre.	Chk.	App.
CLIENT KARNATAKA NEERAVARI NIGAM LIMITED (A GOVT. OF KARNATAKA UNDERTAKING) BANGALORE - 560 001						
CONSULTANT E I Technologies Pvt. Ltd., (ISO 9001 : 2008 Certified) # 1149, 26th Main, Jayanagar 4th 'T' Block, Bengaluru-560 041, India. Ph. +91.80.40914714, Fax: +91.80.26650912 info@eitech.in • www.eitech.in						
PROJECT TITLE MODERNISATION OF VIJAYANAGARA CHANNELS IN TUNGABHADRA PROJECT						
DRAWING TITLE CONSTRUCTION OF FIELD IRRIGATION CHANNEL CROSSING AT CH 1+020 km FOR KALAGHATTA CANAL						
Date	Drw.	Pre.	Chk.	App.	Scale.	Drawing Status.
.	.	.	.	.	AS SHOWN	FOR APPROVAL
Project No.	Drawing No.	Sheet No.		Rev.		
	KNNL-VNC-KC-STR-FIC-008	02 of 04		0		
Consultant E I Technologies Pvt. Ltd. Bangalore		Asst. Executive Engineer VNC Sub-Division Kamalahallur		Executive Engineer TR Division No.1 Munirabad		
Superintending Engineer Tungabhadra Project Circle Munirabad				Chief Engineer Irrigation Central Zone Munirabad		



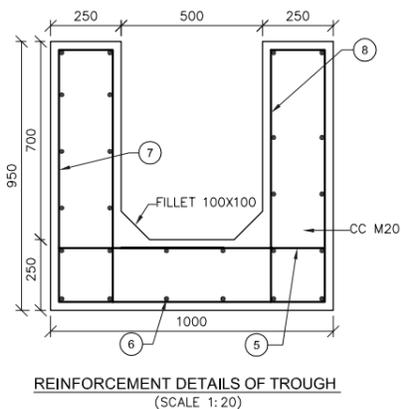
PLAN OF TROUGH
(SCALE 1:30)



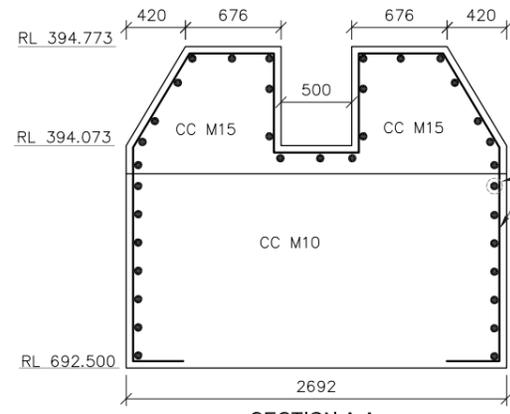
LONGITUDINAL SECTION OF TROUGH
(SCALE 1:30)



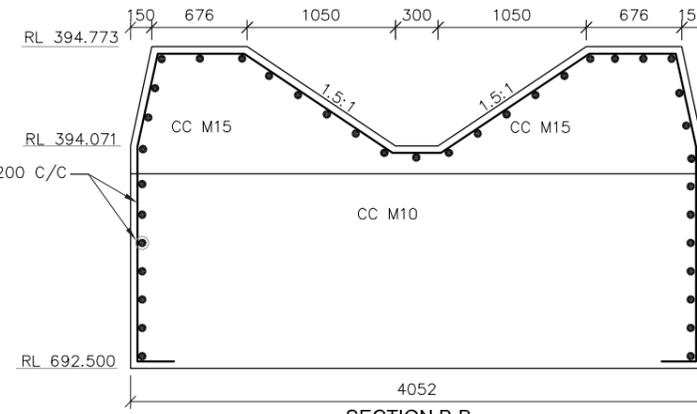
CROSS SECTION OF BOX
(SCALE 1:25)



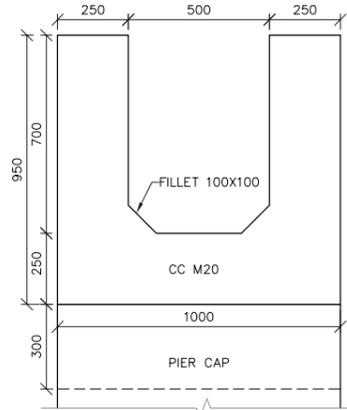
REINFORCEMENT DETAILS OF TROUGH
(SCALE 1:20)



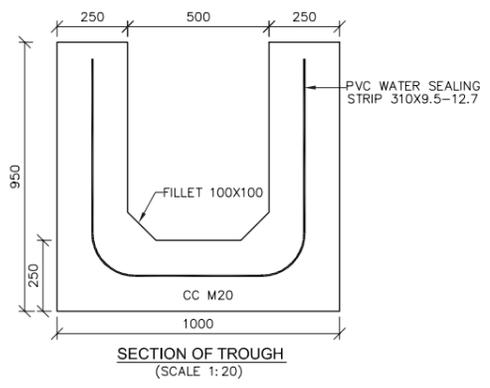
SECTION A-A
(SCALE 1:50)



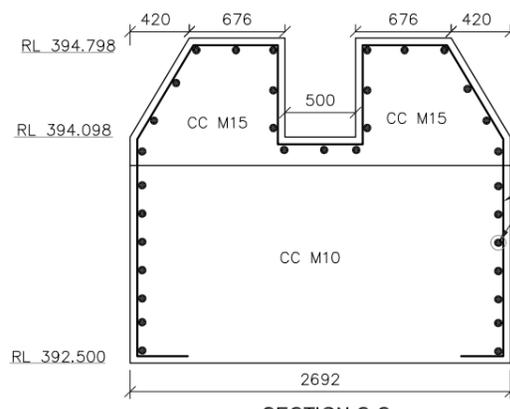
SECTION B-B
(SCALE 1:50)



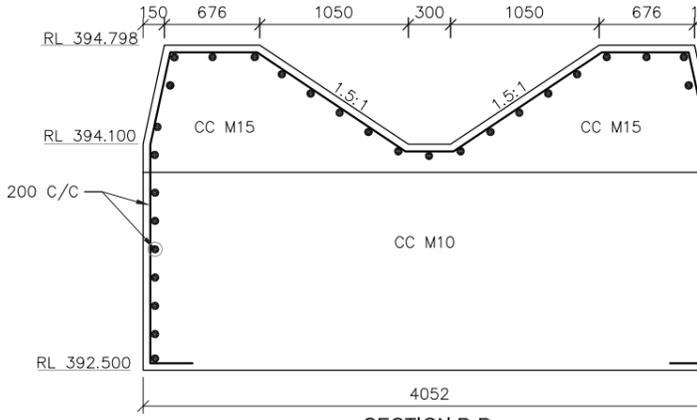
SECTION A-A
(SCALE 1:20)



SECTION OF TROUGH
(SCALE 1:20)



SECTION C-C
(SCALE 1:50)



SECTION D-D
(SCALE 1:50)

- NOTES**
- 1) ALL DIMENSIONS ARE IN MILLIMETRES AND REDUCED LEVELS ARE IN METRES.
 - 2) DO NOT SCALE THE DRAWING. WRITTEN DIMENSIONS ONLY SHALL BE FOLLOWED.
 - 3) GRADE OF CONCRETE : CONFORMING TO IS 456-2000
 - (i) PADDING GRADE OF CONCRETE IS - CC M10
 - (ii) FOR TRANSITION PORTION GRADE OF CONCRETE IS CC M15
 - (iii) PIER, RAFT BEAM, PEDESTAL AND FOOTING SLAB - CC M20
 - (iv) TROUGH PIERCAP, SLAB, SIDE WALL - CC M20
 - (v) GAP OF 20mm TO BE ALLOWED BETWEEN SPANS WITH PVC WATER SEALING STRIP.
 - 4) BACK FILLING SHALL BE DONE SIMULTANEOUSLY WITH THE RAISING OF THE STRUCTURE WITH ϕ VALUE OF SOIL NOT LESS THAN 28°.
 - 5) ALL REINFORCEMENT SHALL BE OF HIGH YIELD STRENGTH DE FORMED BARS (GRADE DESIGNATION Fe415).
 - 6) SHARP EDGES OF CONCRETE SHALL BE CHAMFERED.
 - 7) FILLING BEHIND ABUTMENTS AND RETURNS SHALL BE AS PER REVELENT IRC SPECIFICATIONS.

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Rev.	Description	Date	Drw.	Pre.	Chk.	App.
CLIENT						
KARNATAKA NEERAVARI NIGAM LIMITED (A GOVT. OF KARNATAKA UNDERTAKING) BANGALORE - 560 001						
CONSULTANT						
E I Technologies Pvt. Ltd., (ISO 9001 : 2008 Certified) # 1149, 26th Main, Jayanagar 4th 'T' Block, Bengaluru-560 041, India. Ph.+91.80.40914714, Fax: +91.80.26650912 info@eitech.in • www.eitech.in						
PROJECT TITLE						
MODERNISATION OF VIJAYANAGARA CHANNELS IN TUNGABHADRA PROJECT						
DRAWING TITLE						
CONSTRUCTION OF FIELD IRRIGATION CHANNEL CROSSING AT CH 1+020 km FOR KALAGHATTA CANAL						
Date	Drw.	Pre.	Chk.	App.	Scale	Drawing Status
					AS SHOWN	FOR APPROVAL
Project No.	Drawing No.	Sheet No.			Rev.	
	KNNL-VNC-KC-STR-FIC-008	03 of 04			0	
Consultant E I Technologies Pvt. Ltd. Bangalore		Asst. Executive Engineer VNC Sub-Division Kamalahpur		Executive Engineer TR Division No.1 Munirabad		
Superintending Engineer Tungabhadra Project Circle Munirabad				Chief Engineer Irrigation Central Zone Munirabad		

BAR BENDING SCHEDULE									
	BAR NO	BAR DIA (mm)	SPACING (mm)	No.OF BARS		LENGTH OF EACH BAR(mm)	TOTAL LENGTH (m)	UNIT WT (kg/m)	TOTAL WT (kg)
BOX TOP AND BOTTOM SLAB ON SR SIDE	1	12	200	43X2X2		1200	206.40	0.888	183.28
	2	10	200	6X2X2		8700	208.80	0.617	128.83
BOX TOP AND BOTTOM SLAB ON IP SIDE	1a	12	200	30X2X2		1200	144.00	0.888	127.87
	2a	10	200	6X2X2		6200	148.80	0.617	91.810
BOX SIDEWALLS ON SR SIDE	3	12	200	43X2X2		1400	240.00	0.888	213.830
	4	10	200	6X2X2		8700	208.80	0.617	128.830
BOX SIDEWALLS ON IP SIDE	3a	12	200	30X2X2		1300	156.00	0.888	138.520
	4a	10	200	6X2X2		6200	148.80	0.617	91.810
TROUGH BOTTOM SLAB	5	12	200	52X2		1200	124.80	0.888	110.820
	6	12	200	5X2		10500	105.00	0.888	93.240
TROUGH SIDE WALLS	7	10	200	52X4		1150	239.20	0.617	147.590
	8	10	200	5X4		10500	210.00	0.617	129.570
PIER CAP TOP BOTTOM	9	12	200	5		1700	8.50	0.888	7.548
	10	12	200	4		2100	8.40	0.888	7.45
PIER MAIN DIST	11	16	200	4X2		2900	23.20	1.578	36.610
	12	10	200	13X2		2100	54.60	0.617	33.680
RAFT BEAM	13	16	-	5		2700	13.50	1.578	21.303
	14	16	-	2		2900	5.80	1.578	9.152
	15	12	200	5		1800	9.00	0.888	7.992
TOTAL = 1709.754 kg									
ADD 5% Wastage = 85.480 kg									
TOTAL = 1795.241 kg									
SAY = 1796 kg									

NOTES

- 1) ALL DIMENSIONS ARE IN MILLIMETRES AND REDUCED LEVELS ARE IN METRES.
- 2) DO NOT SCALE THE DRAWING. WRITTEN DIMENSIONS ONLY SHALL BE FOLLOWED.
- 3) GRADE OF CONCRETE : CONFORMING TO IS 456-2000
 - (i) PADDING GRADE OF CONCRETE IS - CC M10
 - (ii) FOR TRANSITION PORTION GRADE OF CONCRETE IS CC M15
 - (iii) PIER, RAFT BEAM, PEDESTAL AND FOOTING SLAB - CC M20
 - (iv) TROUGH PIERCAP, SLAB, SIDE WALL - CC M20
 - (v) GAP OF 20mm TO BE ALLOWED BETWEEN SPANS WITH PVC WATER SEALING STRIP.
- 4) BACK FILLING SHALL BE DONE SIMULTANEOUSLY WITH THE RAISING OF THE STRUCTURE WITH ϕ VALUE OF SOIL NOT LESS THAN 28°.
- 5) ALL REINFORCEMENT SHALL BE OF HIGH YIELD STRENGTH DE FORMED BARS (GRADE DESIGNATION Fe415).
- 6) SHARP EDGES OF CONCRETE SHALL BE CHAMFERED.
- 7) FILLING BEHIND ABUTMENTS AND RETURNS SHALL BE AS PER RELEVANT IRC SPECIFICATIONS.

0	For Approval					
Rev.	Description	Date	Drw.	Pre.	Chk.	App.

CLIENT
KARNATAKA NEERAVARI NIGAM LIMITED
 (A GOVT. OF KARNATAKA UNDERTAKING)
 BANGALORE - 560 001

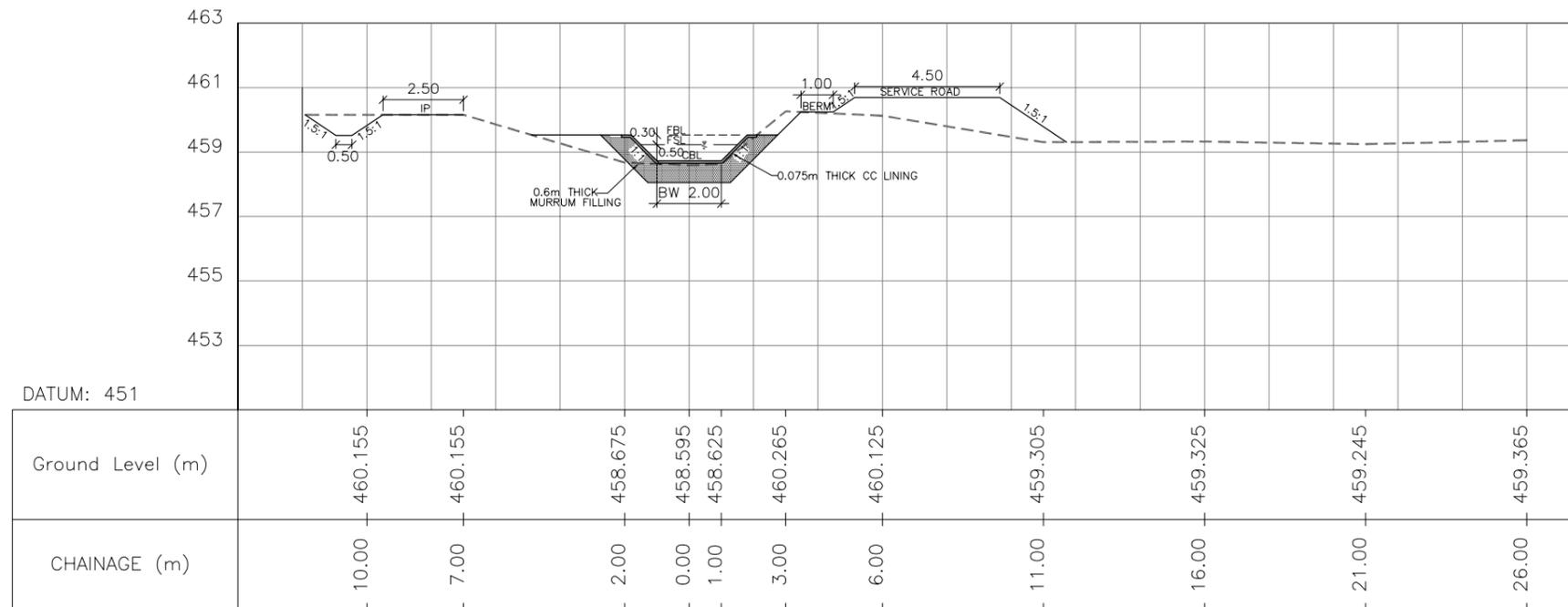
CONSULTANT
E I Technologies Pvt. Ltd.,
 (ISO 9001 : 2008 Certified)
 # 1149, 26th Main, Jayanagar 4th 'T' Block,
 Bengaluru-560 041, India.
 Ph. +91.80.40914714, Fax: +91.80.26650912
 info@eitech.in • www.eitech.in

PROJECT TITLE
**MODERNISATION OF VIJAYANAGARA CHANNELS
 IN TUNGABHADRA PROJECT**

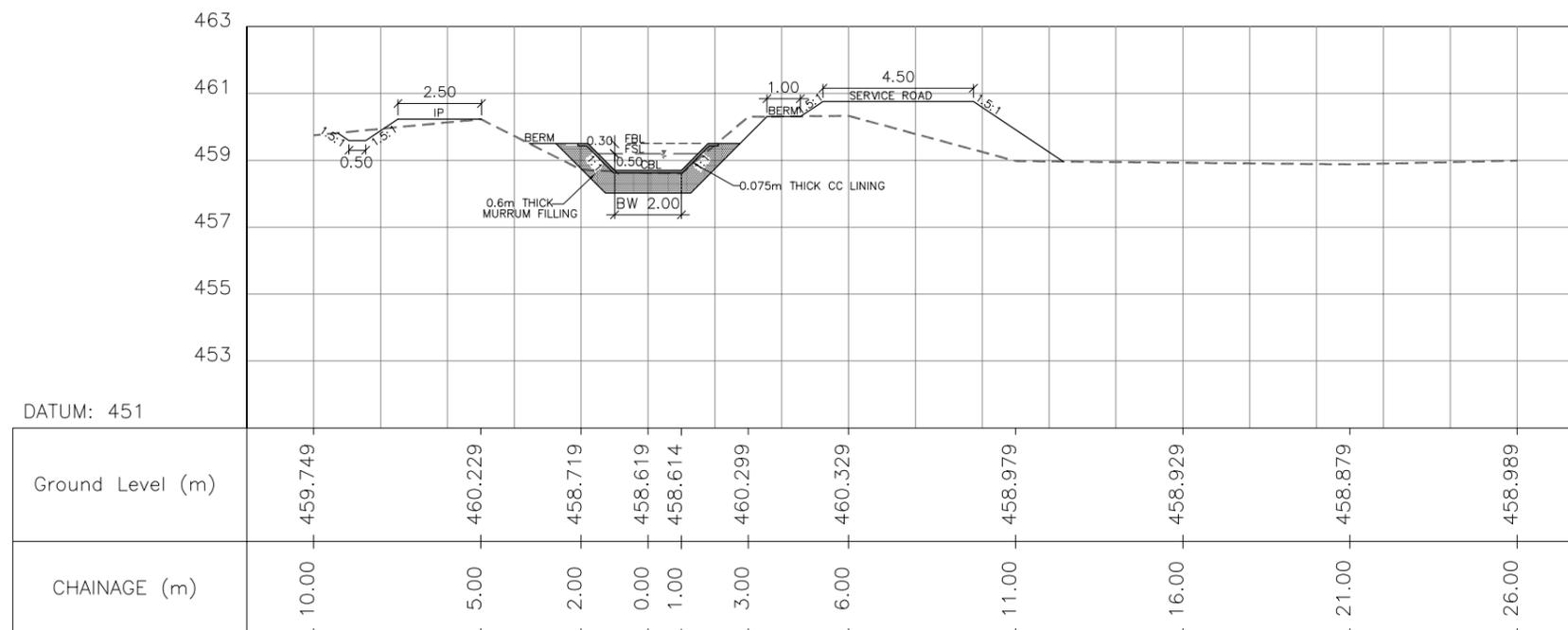
DRAWING TITLE
**CONSTRUCTION OF FIELD IRRIGATION
 CHANNEL CROSSING AT CH 1+020 km FOR
 KALAGHATTA CANAL**

Date	Drw.	Pre.	Chk.	App.	Scale.	Drawing Status.
.	.	.	.	.	AS SHOWN	FOR APPROVAL
Project No.	Drawing No.				Sheet No.	Rev.
.	KNNL-VNC-KC-STR-FIC-008				04 of 04	0

Consultant E I Technologies Pvt. Ltd. Bangalore	Asst. Executive Engineer VNC Sub-Division Kamalgapur	Executive Engineer TR Division No.1 Munirabad
Superintending Engineer Tungabhadra Project Circle Munirabad	Chief Engineer Irrigation Central Zone Munirabad	



CROSS SECTION AT CH 60.00 m



CROSS SECTION AT CH 90.00 m

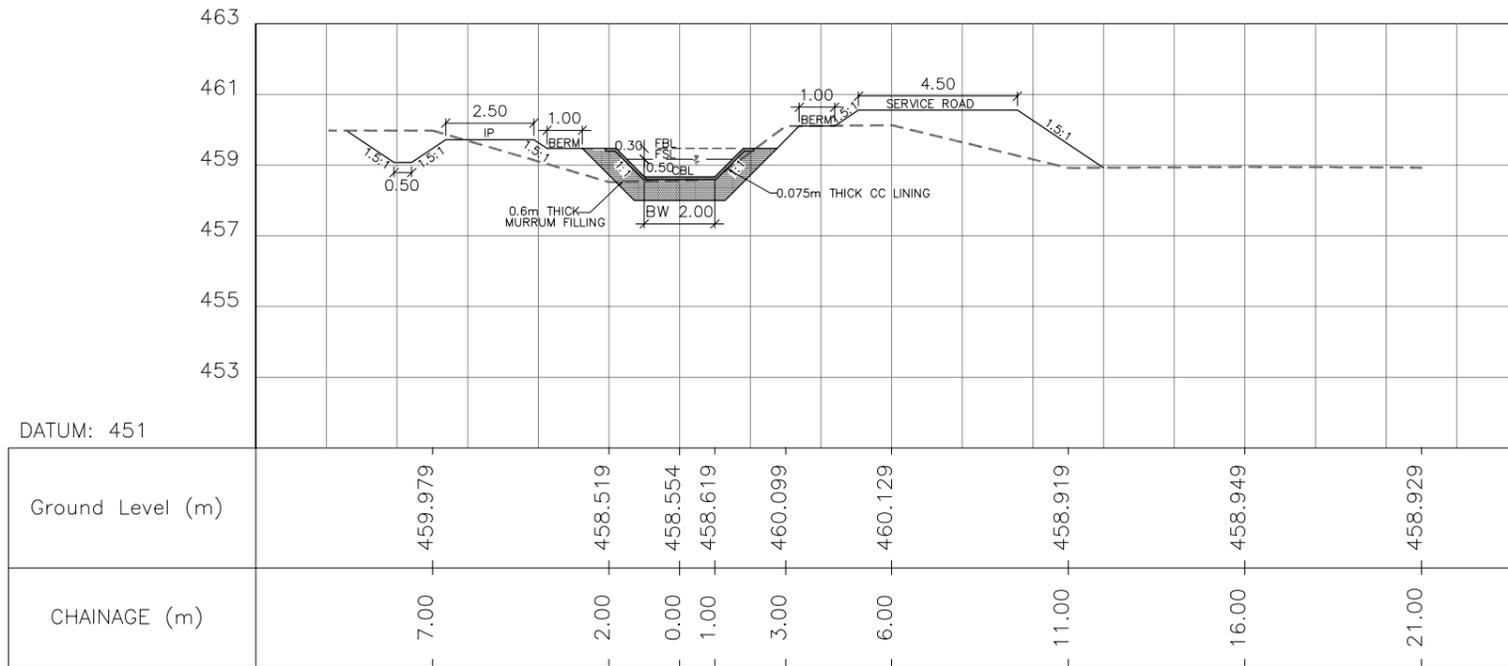
LEGEND

CANAL BED LEVEL	CBL
FULL SUPPLY LEVEL.....	FSL
FREE BOARD LEVEL.....	FBL
BED WIDTH.....	BW
GROUND LEVEL.....	---
CNS FILLING.....	

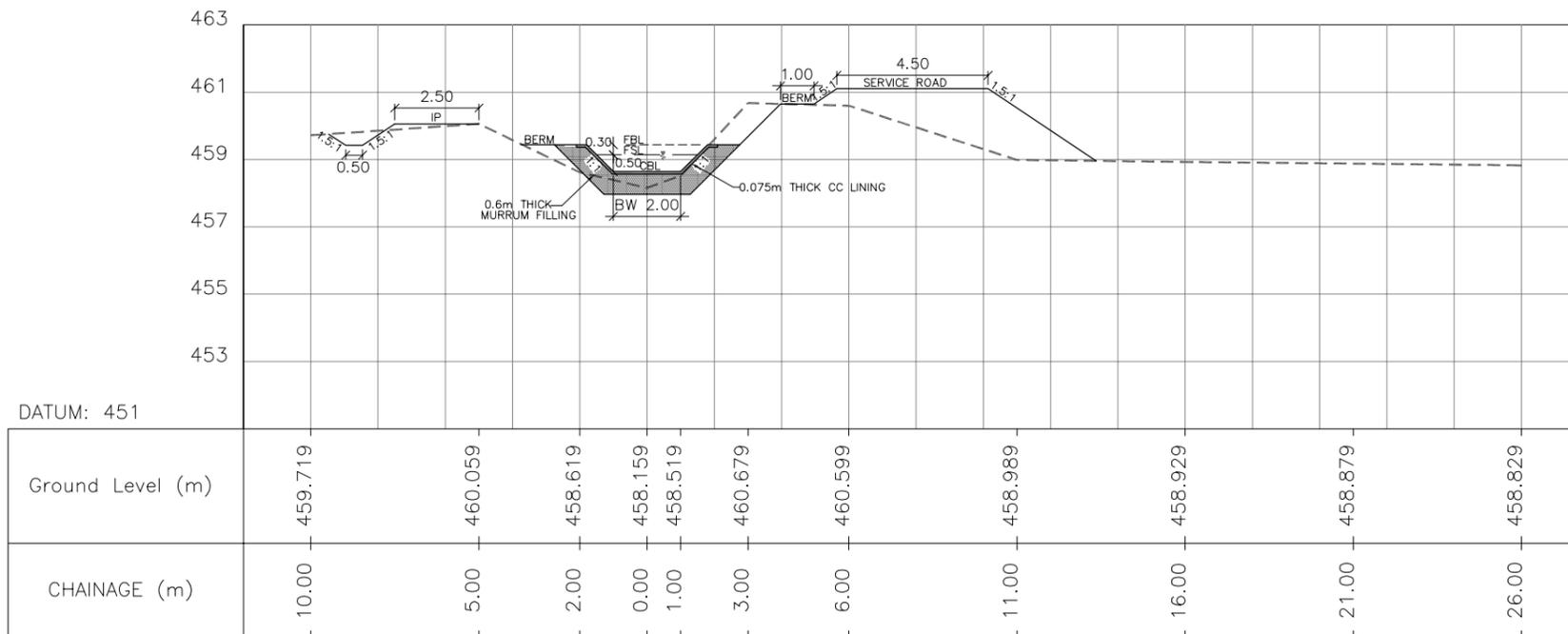
NOTES:-
 1) ALL LEVELS AND CHAINAGES ARE IN METRES.
 2) DO NOT SCALE THE DRAWING.

0	For Approval					
Rev.	Description.	Date.	Drw.	Pre.	Chk.	App.
CLIENT KARNATAKA NEERAVARI NIGAM LIMITED (A GOVT. OF KARNATAKA UNDERTAKING) BANGALORE - 560 001						
CONSULTANT E I Technologies Pvt. Ltd., (ISO 9001 : 2008 Certified) # 1149, 26th Main, Jayanagar 4th 'T' Block, Bengaluru-560 041, India. Ph.+91.80.40914714, Fax: +91.80.26650912 info@eitech.in • www.eitech.in						
PROJECT TITLE MODERNISATION OF VIJAYANAGARA CHANNELS IN TUNGABHADRA PROJECT						

DRAWING TITLE						
DETAILED CROSS SECTIONS OF NARASAPURA BRANCH CANAL						
Date	Drw.	Pre.	Chk.	App.	Scale.	Drawing Status.
					1:200	FOR APPROVAL
Project No.	Drawing No.	Sheet No.		Rev.		
	KNNL-VNC-BLC-NBC-CS-004	02 of 15		0		
 Consultant E I Technologies Pvt. Ltd. Bangalore		 Asst. Executive Engineer VNC Sub-Division Kamelapur		 Executive Engineer TR - Division No.1 Murirabad		
 Superintending Engineer Tungabhadra Project Circle Murirabad				 Chief Engineer Irrigation Central Zone Murirabad		



CROSS SECTION AT CH 120.00 m



CROSS SECTION AT CH 150.00 m

LEGEND

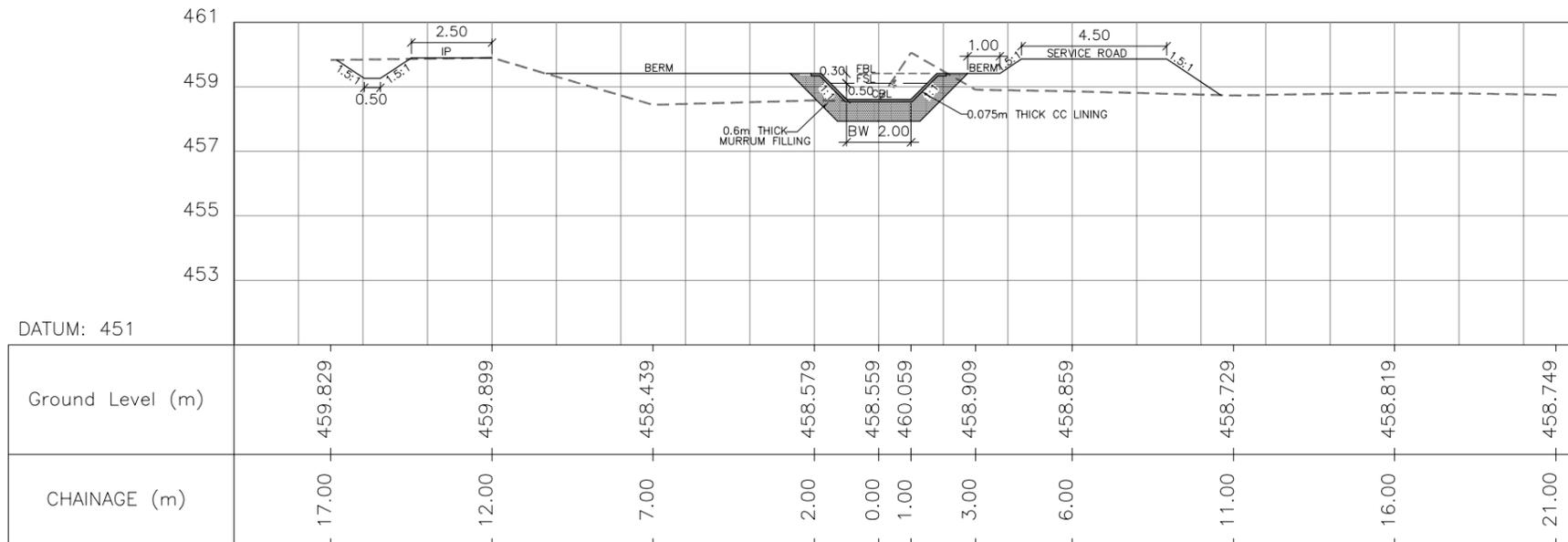
CANAL BED LEVEL	CBL
FULL SUPPLY LEVEL.....	FSL
FREE BOARD LEVEL.....	FBL
BED WIDTH.....	BW
GROUND LEVEL.....	---
CNS FILLING.....	

NOTES:-
 1) ALL LEVELS AND CHAINAGES ARE IN METRES.
 2) DO NOT SCALE THE DRAWING.

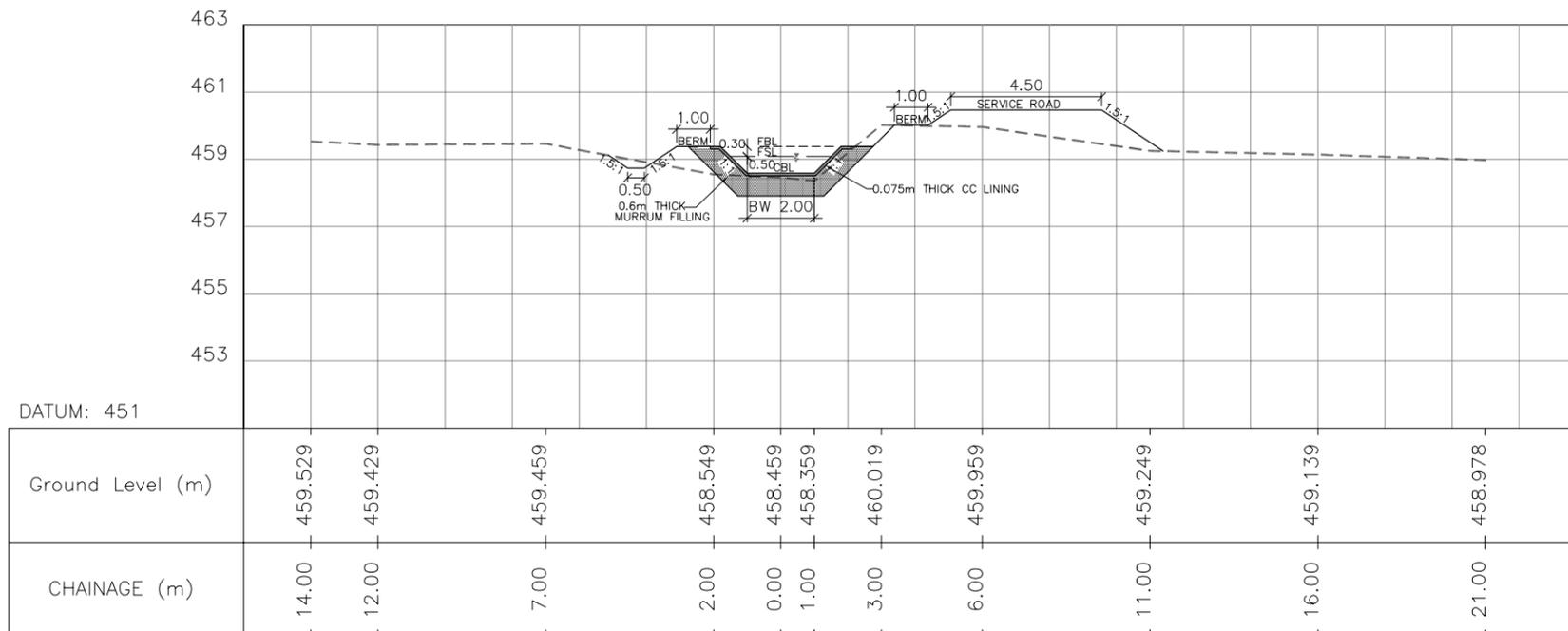
0	For Approval					
Rev.	Description.	Date.	Drw.	Pre.	Chk.	App.
CLIENT KARNATAKA NEERAVARI NIGAM LIMITED (A GOVT. OF KARNATAKA UNDERTAKING) BANGALORE - 560 001						
CONSULTANT E I Technologies Pvt. Ltd., (ISO 9001 : 2008 Certified) # 1149, 26th Main, Jayanagar 4th 'T' Block, Bengaluru-560 041, India. Ph.+91.80.40914714, Fax: +91.80.26650912 info@eitech.in • www.eitech.in						

PROJECT TITLE
 MODERNISATION OF VIJAYANAGARA CHANNELS
 IN TUNGABHADRA PROJECT

DRAWING TITLE						
DETAILED CROSS SECTIONS OF NARASAPURA BRANCH CANAL						
Date	Drw.	Pre.	Chk.	App.	Scale.	Drawing Status.
					1:200	FOR APPROVAL
Project No.	Drawing No.	Sheet No.		Rev.		
	KNNL-VNC-BLC-NBC-CS-004	03 of 15		0		
 Consultant E I Technologies Pvt. Ltd. Bangalore		 VNC Sub-Division Engineer Kamelapur		 Executive Engineer TB Division No.1 Murirabad		
 Superintending Engineer Tungabhadra Project Circle Murirabad			 Chief Engineer Irrigation Central Zone Murirabad			



CROSS SECTION AT CH 180.00 m



CROSS SECTION AT CH 210.00 m

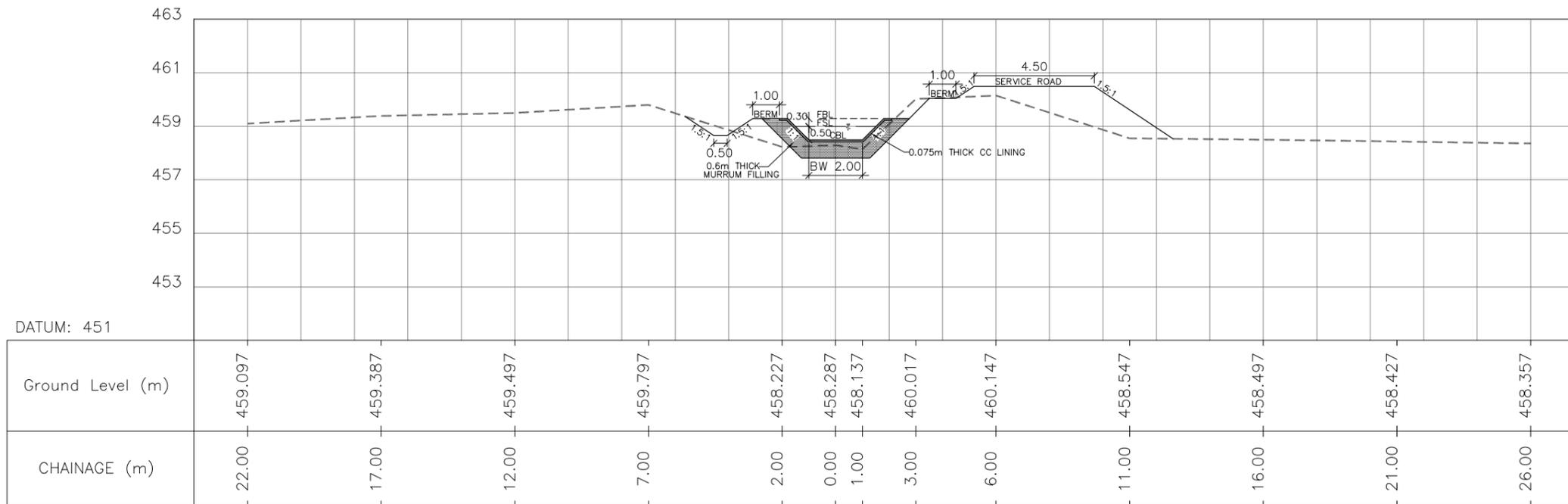
LEGEND

CANAL BED LEVEL	CBL
FULL SUPPLY LEVEL	FSL
FREE BOARD LEVEL	FBL
BED WIDTH	BW
GROUND LEVEL	---
CNS FILLING	

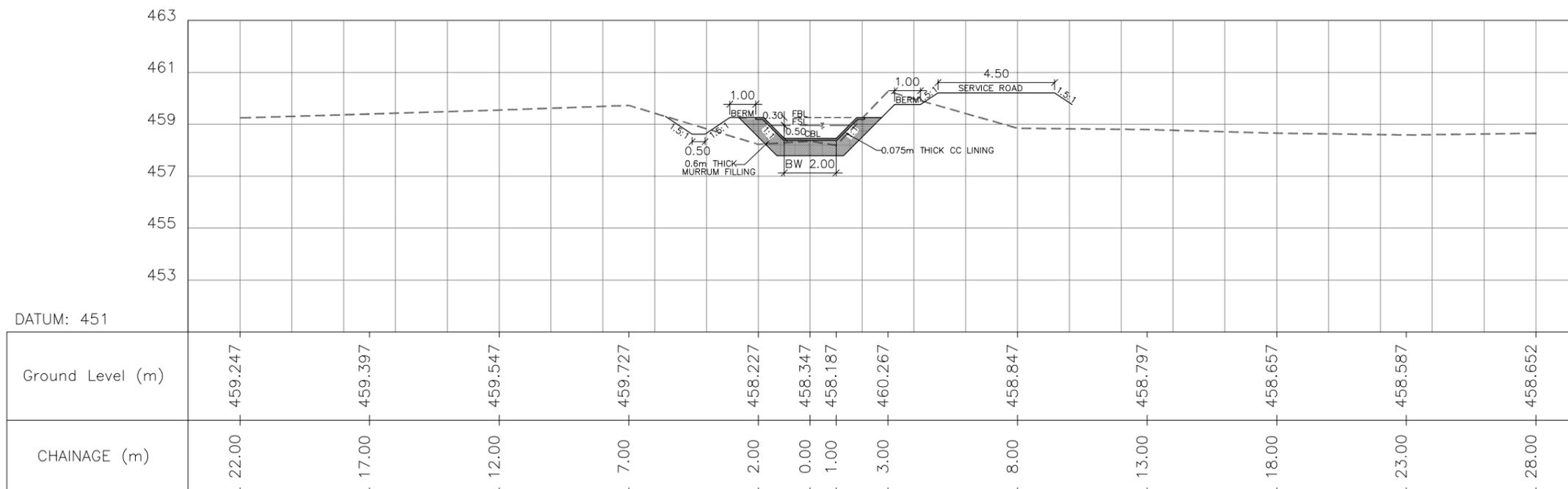
NOTES:-
 1) ALL LEVELS AND CHAINAGES ARE IN METRES.
 2) DO NOT SCALE THE DRAWING.

0	For Approval					
Rev.	Description.	Date.	Drw.	Pre.	Chk.	App.
CLIENT KARNATAKA NEERAVARI NIGAM LIMITED (A GOVT. OF KARNATAKA UNDERTAKING) BANGALORE - 560 001						
CONSULTANT E I Technologies Pvt. Ltd., (ISO 9001 : 2008 Certified) # 1149, 26th Main, Jayanagar 4th 'T' Block, Bengaluru-560 041, India. Ph.+91.80.40914714, Fax: +91.80.26650912 info@eitech.in • www.eitech.in						
PROJECT TITLE MODERNISATION OF VIJAYANAGARA CHANNELS IN TUNGABHADRA PROJECT						

DRAWING TITLE						
DETAILED CROSS SECTIONS OF NARASAPURA BRANCH CANAL						
Date	Drw.	Pre.	Chk.	App.	Scale.	Drawing Status.
					1:200	FOR APPROVAL
Project No.	Drawing No.				Sheet No.	Rev.
	KNNL-VNC-BLC-NBC-CS-004				04 of 15	0
 Consultant E I Technologies Pvt. Ltd. Bangalore		 Asst. Executive Engineer VNC Sub-Division Kamelapur		 Executive Engineer TB Division No.1 Murirabad		
 Superintending Engineer Tungabhadra Project Circle Murirabad				 Chief Engineer Irrigation Central Zone Murirabad		



CROSS SECTION AT CH 300.00 m



CROSS SECTION AT CH 330.00 m

LEGEND

CANAL BED LEVEL	CBL
FULL SUPPLY LEVEL.....	FSL
FREE BOARD LEVEL.....	FBL
BED WIDTH.....	BW
GROUND LEVEL.....	- - - -
CNS FILLING.....	[Pattern]

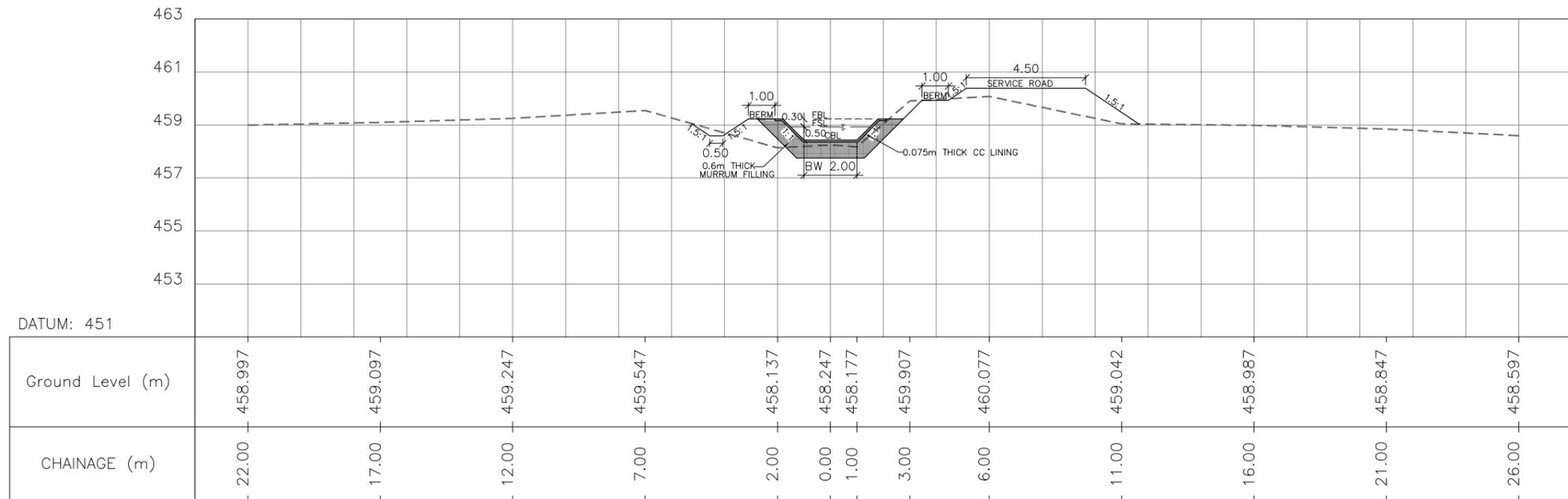
NOTES:-

- 1) ALL LEVELS AND CHAINAGES ARE IN METRES.
- 2) DO NOT SCALE THE DRAWING.

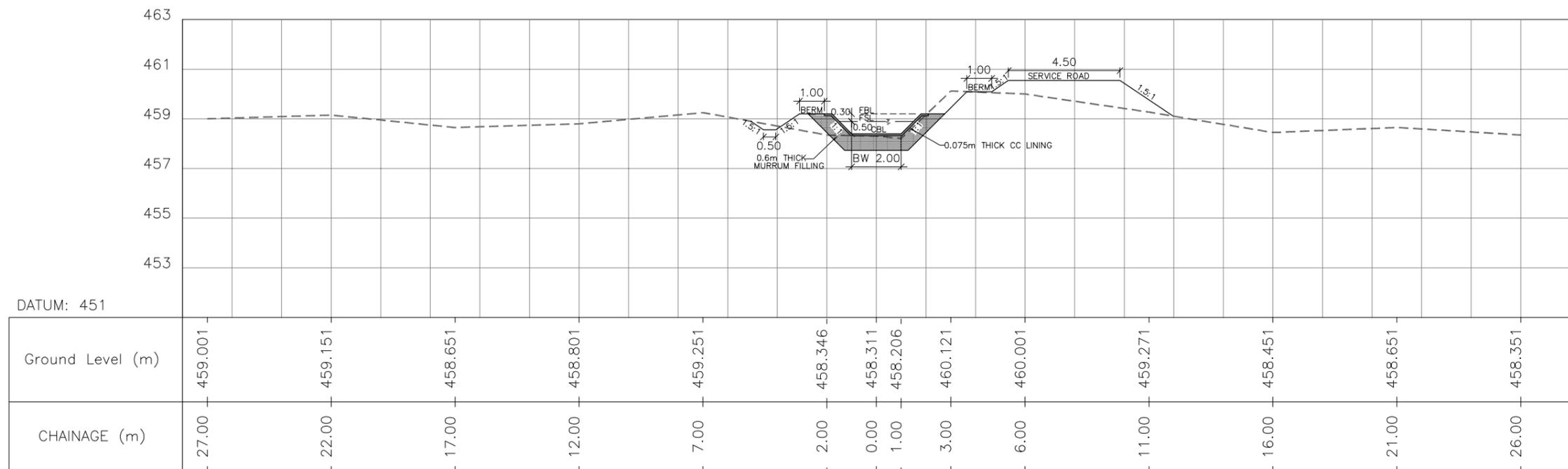
0	For Approval				
Rev.	Description.	Date.	Drw.	Pre.	Chk. App.
CLIENT KARNATAKA NEERAVARI NIGAM LIMITED (A GOVT. OF KARNATAKA UNDERTAKING) BANGALORE - 560 001					
CONSULTANT E I Technologies Pvt. Ltd., (ISO 9001 : 2008 Certified) # 1149, 26th Main, Jayanagar 4th 'T' Block, Bengaluru-560 041, India. Ph.+91.80.40914714, Fax: +91.80.26650912 info@eitech.in • www.eitech.in					

PROJECT TITLE
MODERNISATION OF VIJAYANAGARA CHANNELS
IN TUNGABHADRA PROJECT

DRAWING TITLE					
DETAILED CROSS SECTIONS OF NARASAPURA BRANCH CANAL					
Date	Drw.	Pre.	Chk.	App.	Drawing Status.
				1:200	FOR APPROVAL
Project No.	Drawing No.	Scale.	Sheet No.	Rev.	
	KNNL-VNC-BLC-NBC-CS-004		05 of 15	0	
 Consultant E I Technologies Pvt. Ltd. Bangalore		 Asst. Executive Engineer VNC Sub-Division Kamalapur		 Executive Engineer TB-Division No.1 Munirabad	
 Superintending Engineer Tungabhadra Project Circle Munirabad			 Chief Engineer Irrigation Central Zone Munirabad		



CROSS SECTION AT CH 360.00 m



CROSS SECTION AT CH 390.00 m

LEGEND

CANAL BED LEVEL	CBL
FULL SUPPLY LEVEL.....	FSL
FREE BOARD LEVEL.....	FBL
BED WIDTH.....	BW
GROUND LEVEL.....	- - - -
CNS FILLING.....	

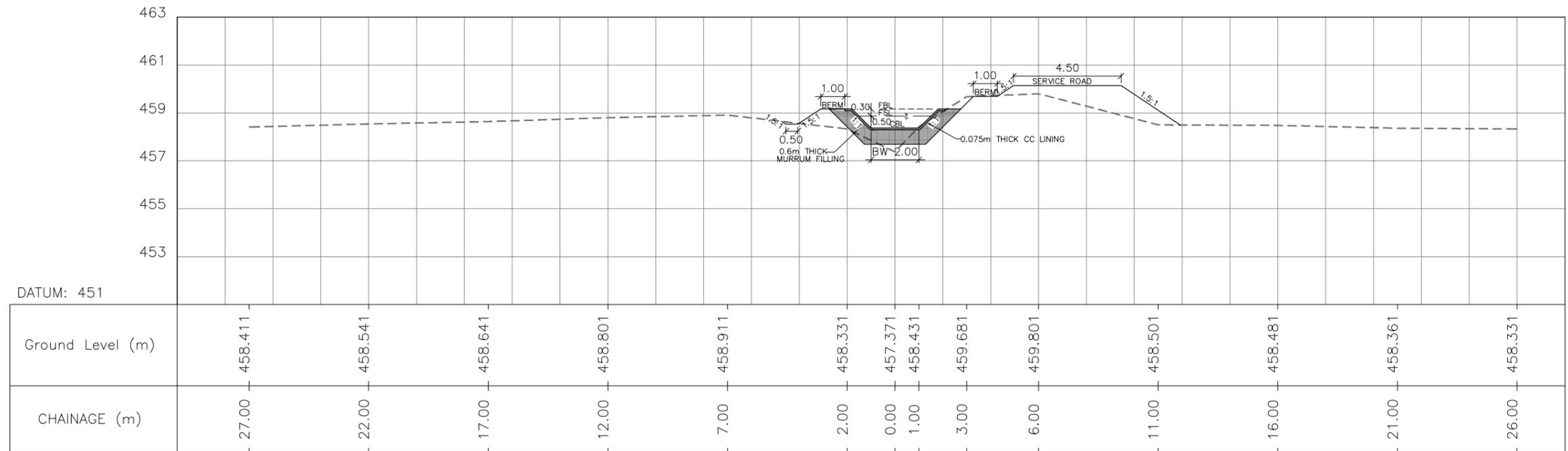
NOTES:-

- 1) ALL LEVELS AND CHAINAGES ARE IN METRES.
- 2) DO NOT SCALE THE DRAWING.

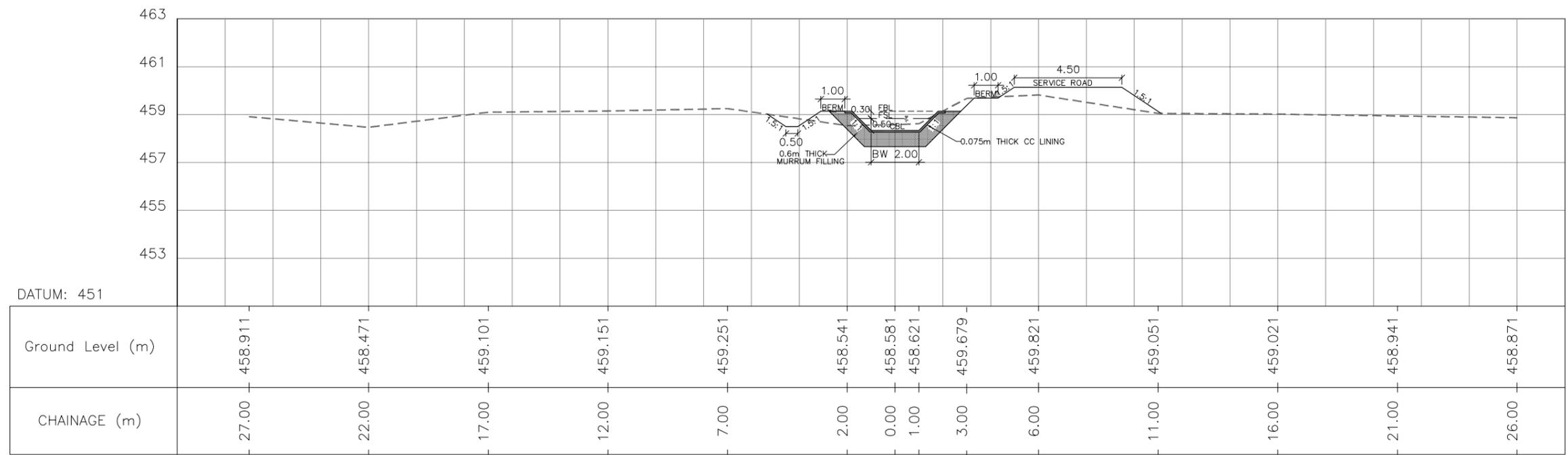
0	For Approval				
Rev.	Description.	Date.	Drw.	Pre.	Chk. App.
CLIENT KARNATAKA NEERAVARI NIGAM LIMITED (A GOVT. OF KARNATAKA UNDERTAKING) BANGALORE - 560 001					
CONSULTANT E I Technologies Pvt. Ltd., (ISO 9001 : 2008 Certified) # 1149, 26th Main, Jayanagar 4th 'T' Block, Bengaluru-560 041, India. Ph.+91.80.40914714, Fax: +91.80.26650912 info@eitech.in • www.eitech.in					

PROJECT TITLE
MODERNISATION OF VIJAYANAGARA CHANNELS
IN TUNGABHADRA PROJECT

DRAWING TITLE					
DETAILED CROSS SECTIONS OF NARASAPURA BRANCH CANAL					
Date	Drw.	Pre.	Chk.	App.	Drawing Status.
				1:200	FOR APPROVAL
Project No.	Drawing No.	Sheet No.	Rev.		
	KNNL-VNC-BLC-NBC-CS-004	06 of 15	0		
 Consultant E I Technologies Pvt. Ltd. Bangalore		 VNC Sub-Division Kamalapur		 Executive Engineer TR - Division No.1 Murirabad	
 Superintending Engineer Tungabhadra Project Circle Murirabad			 Chief Engineer Irrigation Central Zone Murirabad		



CROSS SECTION AT CH 420.00 m



CROSS SECTION AT CH 450.00 m

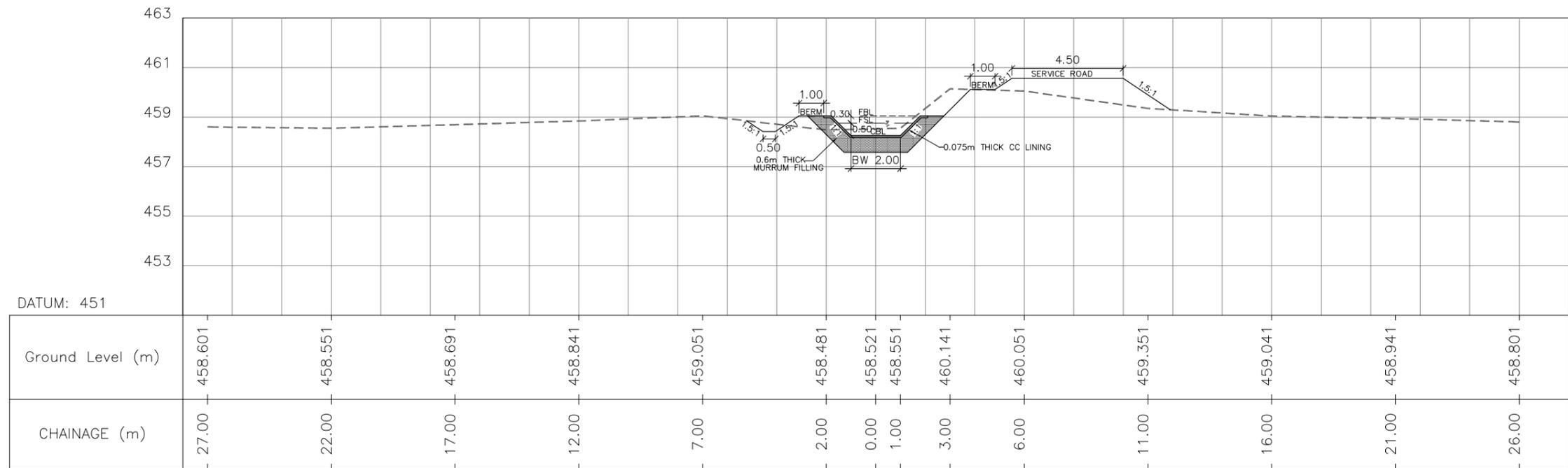
LEGEND

CANAL BED LEVEL	CBL
FULL SUPPLY LEVEL.....	FSL
FREE BOARD LEVEL.....	FBL
BED WIDTH.....	BW
GROUND LEVEL.....	---
CNS FILLING.....	

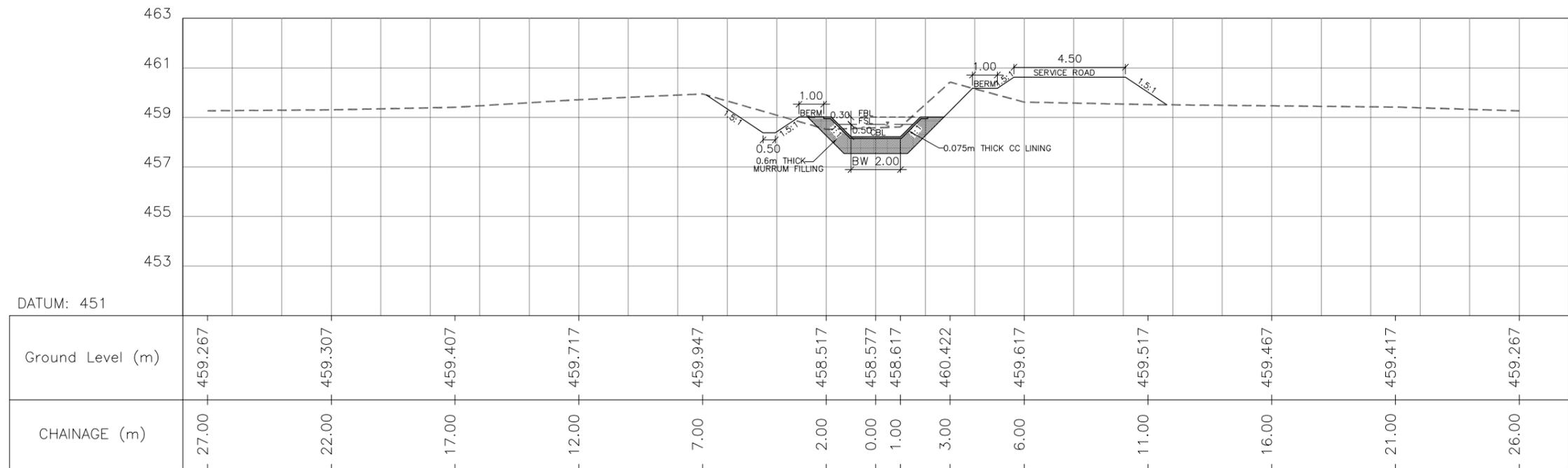
NOTES:-
 1) ALL LEVELS AND CHAINAGES ARE IN METRES.
 2) DO NOT SCALE THE DRAWING.

0	For Approval					
Rev.	Description.	Date.	Drw.	Pre.	Chk.	App.
CLIENT KARNATAKA NEERAVARI NIGAM LIMITED (A GOVT. OF KARNATAKA UNDERTAKING) BANGALORE - 560 001						
CONSULTANT E I Technologies Pvt. Ltd., (ISO 9001 : 2008 Certified) # 1149, 26th Main, Jayanagar 4th 'T' Block, Bengaluru-560 041, India. Ph.+91.80.40914714, Fax: +91.80.26650912 info@eitech.in • www.eitech.in						
PROJECT TITLE MODERNISATION OF VIJAYANAGARA CHANNELS IN TUNGABHADRA PROJECT						

DRAWING TITLE						
DETAILED CROSS SECTIONS OF NARASAPURA BRANCH CANAL						
Date	Drw.	Pre.	Chk.	App.	Scale.	Drawing Status.
					1:200	FOR APPROVAL
Project No.	Drawing No.				Sheet No.	Rev.
	KNNL-VNC-BLC-NBC-CS-004				07 of 15	0
 Consultant E I Technologies Pvt. Ltd. Bangalore		 Asst. Executive Engineer VNC Sub-Division Kamalapur		 Executive Engineer TR - Division No.1 Murirabad		
 Superintending Engineer Tungabhadra Project Circle Murirabad				 Chief Engineer Irrigation Central Zone Murirabad		



CROSS SECTION AT CH 540.00 m



CROSS SECTION AT CH 570.00 m

LEGEND

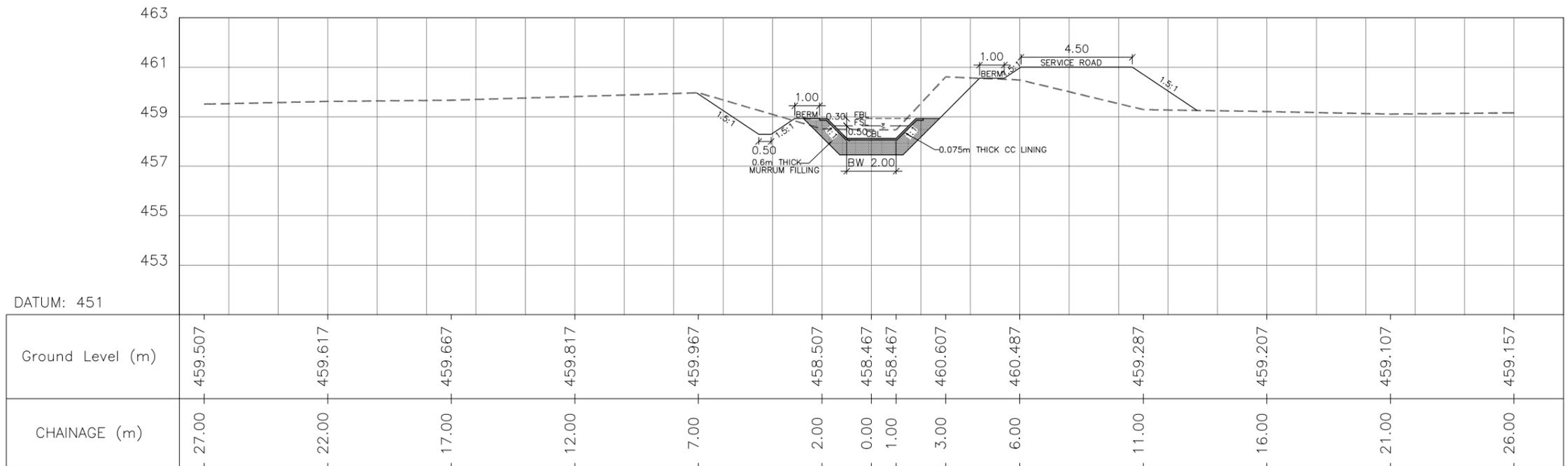
CANAL BED LEVEL	CBL
FULL SUPPLY LEVEL.....	FSL
FREE BOARD LEVEL.....	FBL
BED WIDTH.....	BW
GROUND LEVEL.....	- - - -
CNS FILLING.....	

NOTES:-

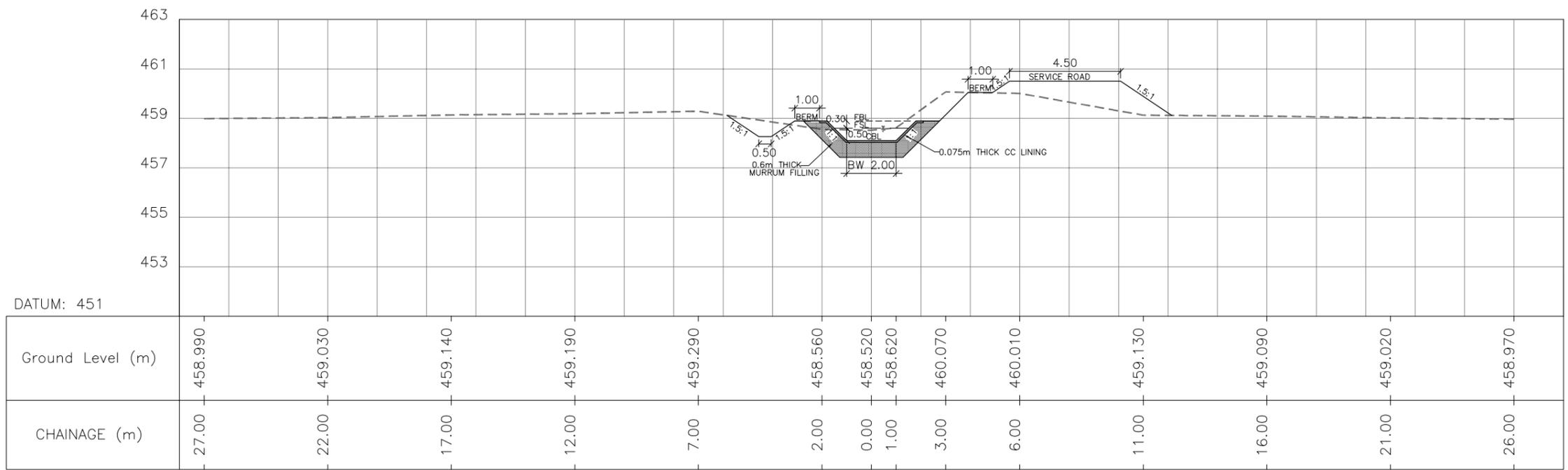
- 1) ALL LEVELS AND CHAINAGES ARE IN METRES.
- 2) DO NOT SCALE THE DRAWING.

0	For Approval					
Rev.	Description.	Date.	Drw.	Pre.	Chk.	App.
CLIENT KARNATAKA NEERAVARI NIGAM LIMITED (A GOVT. OF KARNATAKA UNDERTAKING) BANGALORE - 560 001						
CONSULTANT E I Technologies Pvt. Ltd., (ISO 9001 : 2008 Certified) # 1149, 26th Main, Jayanagar 4th 'T' Block, Bengaluru-560 041, India. Ph.+91.80.40914714, Fax: +91.80.26650912 info@eitech.in • www.eitech.in						
PROJECT TITLE MODERNISATION OF VIJAYANAGARA CHANNELS IN TUNGABHADRA PROJECT						

DRAWING TITLE						
DETAILED CROSS SECTIONS OF NARASAPURA BRANCH CANAL						
Date	Drw.	Pre.	Chk.	App.	Scale.	Drawing Status.
					1:200	FOR APPROVAL
Project No.	Drawing No.			Sheet No.	Rev.	
	KNNL-VNC-BLC-NBC-CS-004			09 of 15	0	
 Consultant E I Technologies Pvt. Ltd. Bangalore		 VNC Sub-Division Engineer Kamelapur		 Executive Engineer TB Division No.1 Muribad		
 Superintending Engineer Tungabhadra Project Circle Muribad				 Chief Engineer Irrigation Central Zone Muribad		



CROSS SECTION AT CH 660.00 m



CROSS SECTION AT CH 690.00 m

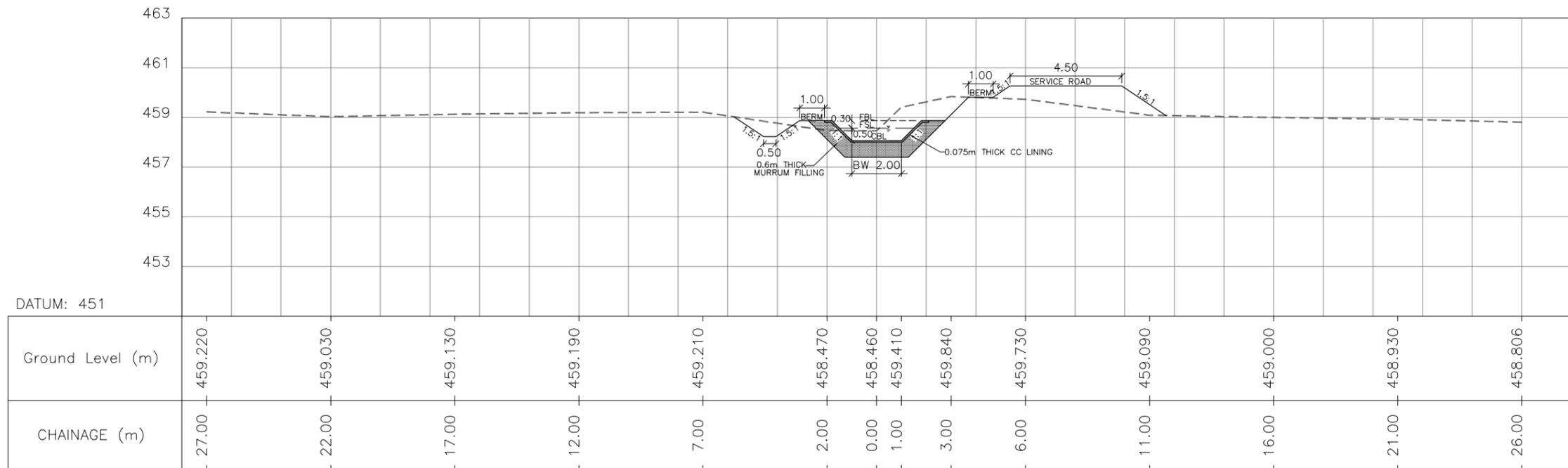
LEGEND

CANAL BED LEVEL	CBL
FULL SUPPLY LEVEL.....	FSL
FREE BOARD LEVEL.....	FBL
BED WIDTH.....	BW
GROUND LEVEL.....	- - - -
CNS FILLING.....	[Pattern]

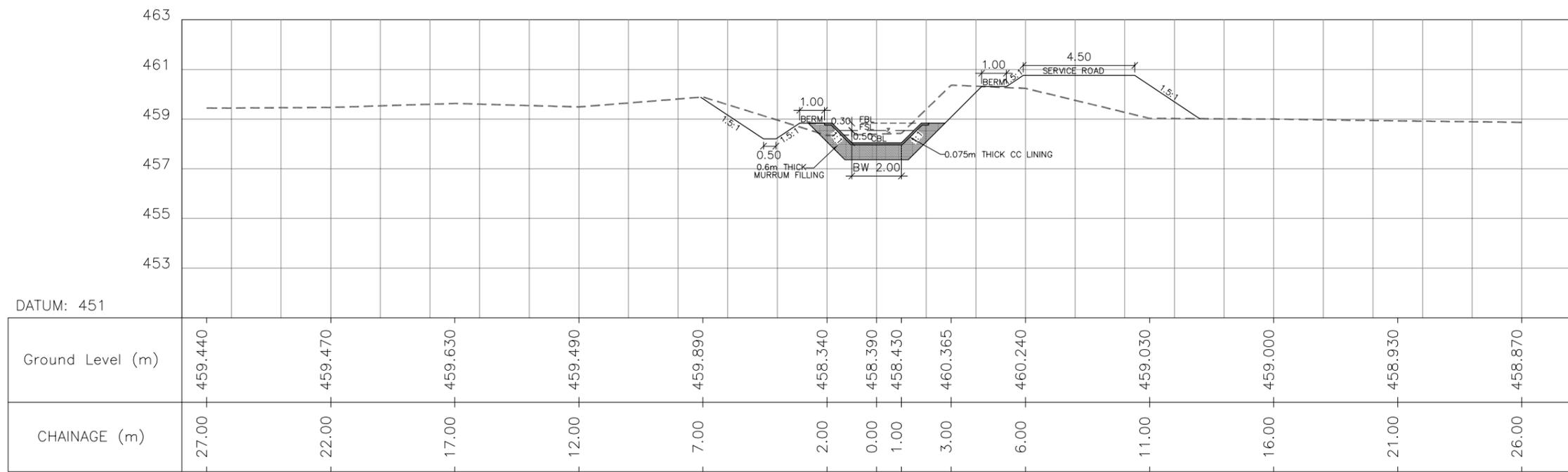
NOTES:-
 1) ALL LEVELS AND CHAINAGES ARE IN METRES.
 2) DO NOT SCALE THE DRAWING.

0	For Approval				
Rev.	Description.	Date.	Drw.	Pre.	Chk.
CLIENT KARNATAKA NEERAVARI NIGAM LIMITED (A GOVT. OF KARNATAKA UNDERTAKING) BANGALORE - 560 001					
CONSULTANT E I Technologies Pvt. Ltd., (ISO 9001 : 2008 Certified) # 1149, 26th Main, Jayanagar 4th 'T' Block, Bengaluru-560 041, India. Ph.+91.80.40914714, Fax: +91.80.26650912 info@eitech.in • www.eitech.in					
PROJECT TITLE MODERNISATION OF VIJAYANAGARA CHANNELS IN TUNGABHADRA PROJECT					

DRAWING TITLE					
DETAILED CROSS SECTIONS OF NARASAPURA BRANCH CANAL					
Date	Drw.	Pre.	Chk.	App.	Drawing Status.
				1:200	FOR APPROVAL
Project No.	Drawing No.	Scale.	Sheet No.	Rev.	
	KNNL-VNC-BLC-NBC-CS-004		11 of 15	0	
Consultant E I Technologies Pvt. Ltd. Bangalore		Asst. Executive Engineer VNC Sub-Division Kamalapur		Executive Engineer TR - Division No.1 Munirabad	
Superintending Engineer Tungabhadra Project Circle Munirabad			Chief Engineer Irrigation Central Zone Munirabad		



CROSS SECTION AT CH 720.00 m



CROSS SECTION AT CH 750.00 m

LEGEND

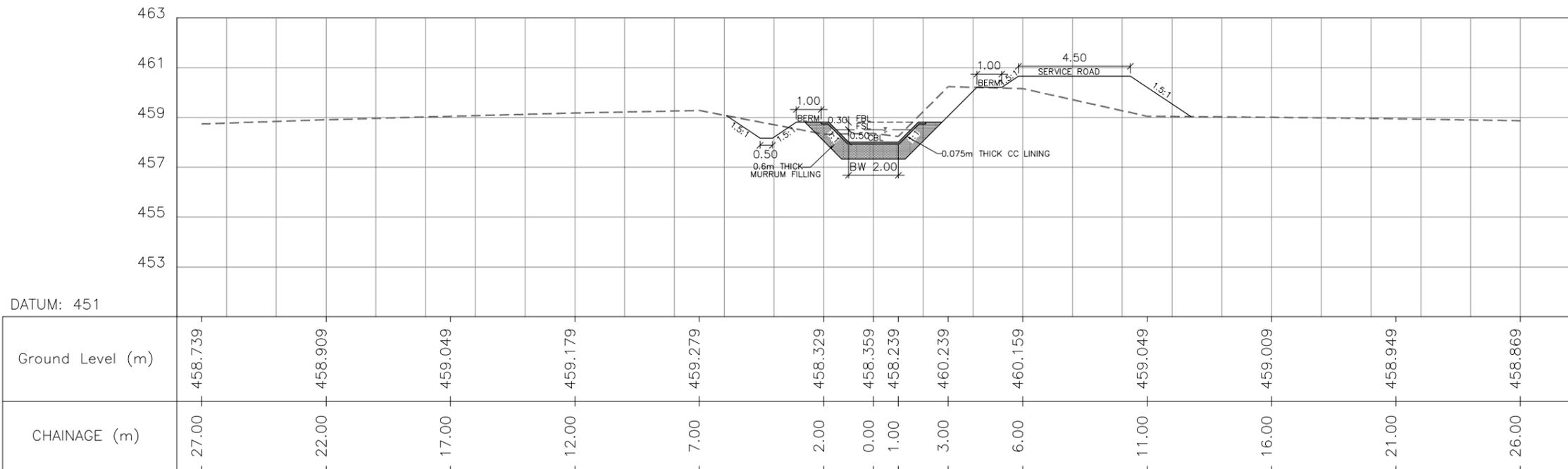
CANAL BED LEVEL	CBL
FULL SUPPLY LEVEL.....	FSL
FREE BOARD LEVEL.....	FBL
BED WIDTH.....	BW
GROUND LEVEL.....	---
CNS FILLING.....	[Pattern]

NOTES:-

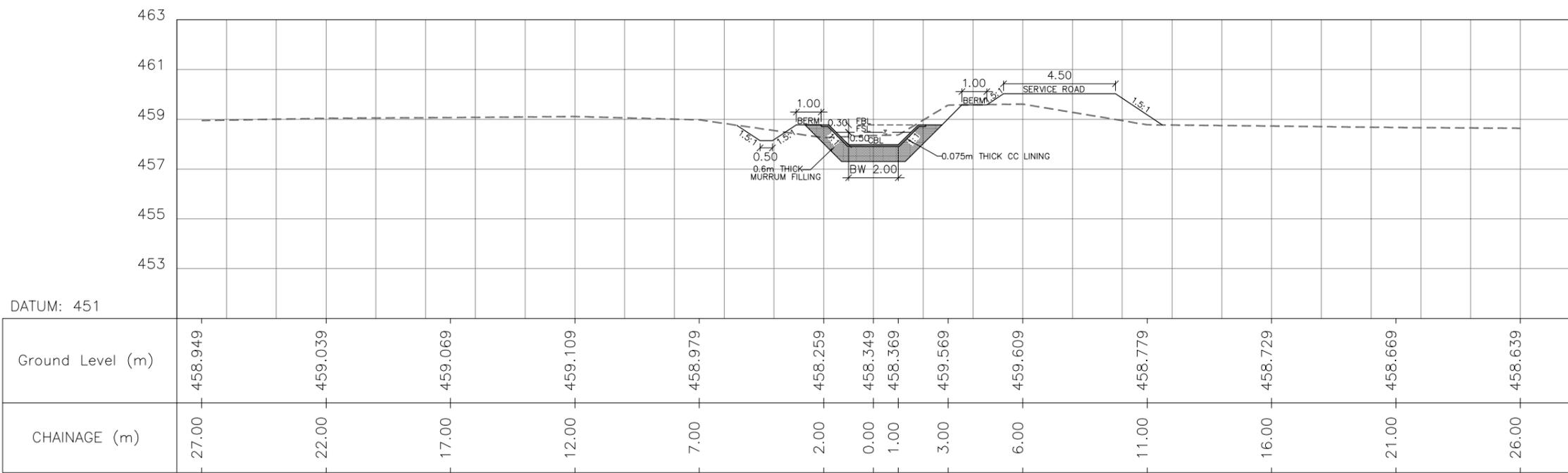
- 1) ALL LEVELS AND CHAINAGES ARE IN METRES.
- 2) DO NOT SCALE THE DRAWING.

0	For Approval					
Rev.	Description.	Date.	Drw.	Pre.	Chk.	App.
CLIENT KARNATAKA NEERAVARI NIGAM LIMITED (A GOVT. OF KARNATAKA UNDERTAKING) BANGALORE - 560 001						
CONSULTANT E I Technologies Pvt. Ltd., (ISO 9001 : 2008 Certified) # 1149, 26th Main, Jayanagar 4th 'T' Block, Bengaluru-560 041, India. Ph.+91.80.40914714, Fax: +91.80.26650912 info@eitech.in • www.eitech.in						
PROJECT TITLE MODERNISATION OF VIJAYANAGARA CHANNELS IN TUNGABHADRA PROJECT						

DRAWING TITLE						
DETAILED CROSS SECTIONS OF NARASAPURA BRANCH CANAL						
Date	Drw.	Pre.	Chk.	App.	Scale.	Drawing Status.
					1:200	FOR APPROVAL
Project No.	Drawing No.		Sheet No.		Rev.	
	KNNL-VNC-BLC-NBC-CS-004		12 of 15		0	
Consultant E I Technologies Pvt. Ltd. Bangalore		Asst. Executive Engineer VNC Sub-Division Kamelapur		Executive Engineer TE Division No.1 Munirabad		
Superintending Engineer Tungabhadra Project Circle Munirabad				Chief Engineer Irrigation Central Zone Munirabad		



CROSS SECTION AT CH 780.00 m



CROSS SECTION AT CH 810.00 m

LEGEND

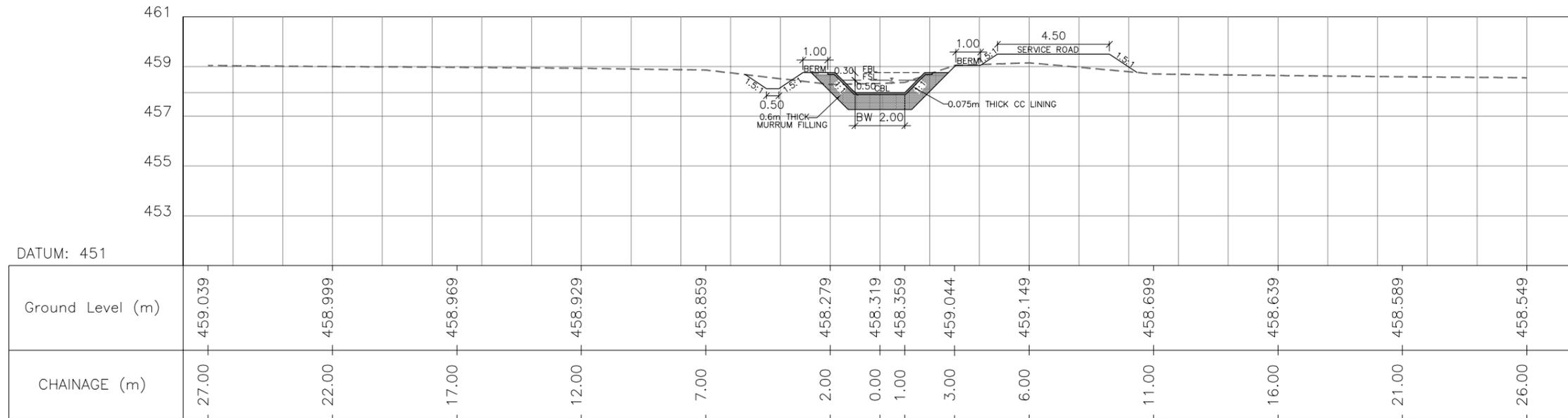
CANAL BED LEVEL	CBL
FULL SUPPLY LEVEL.....	FSL
FREE BOARD LEVEL.....	FBL
BED WIDTH.....	BW
GROUND LEVEL.....	---
CNS FILLING.....	

NOTES:-

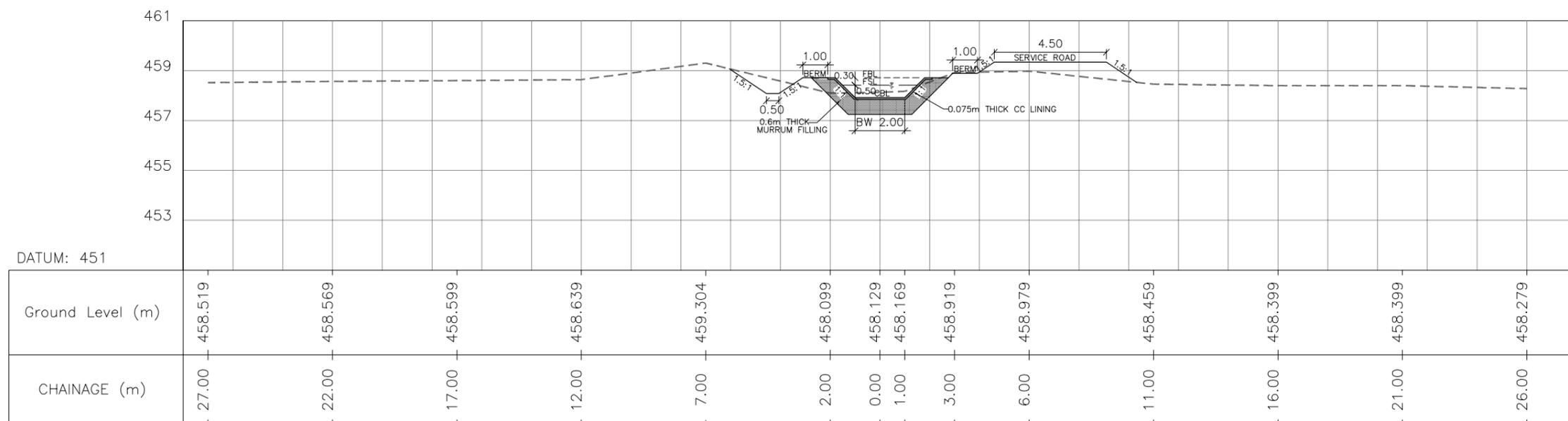
- 1) ALL LEVELS AND CHAINAGES ARE IN METRES.
- 2) DO NOT SCALE THE DRAWING.

0	For Approval					
Rev.	Description.	Date.	Drw.	Pre.	Chk.	App.
CLIENT KARNATAKA NEERAVARI NIGAM LIMITED (A GOVT. OF KARNATAKA UNDERTAKING) BANGALORE - 560 001						
CONSULTANT E I Technologies Pvt. Ltd., (ISO 9001 : 2008 Certified) # 1149, 26th Main, Jayanagar 4th 'T' Block, Bengaluru-560 041, India. Ph.+91.80.40914714, Fax: +91.80.26650912 info@eitech.in • www.eitech.in						
PROJECT TITLE MODERNISATION OF VIJAYANAGARA CHANNELS IN TUNGABHADRA PROJECT						

DRAWING TITLE						
DETAILED CROSS SECTIONS OF NARASAPURA BRANCH CANAL						
Date	Drw.	Pre.	Chk.	App.	Scale.	Drawing Status.
					1:200	FOR APPROVAL
Project No.	Drawing No.				Sheet No.	Rev.
	KNNL-VNC-BLC-NBC-CS-004				13 of 15	0
 Consultant E I Technologies Pvt. Ltd. Bangalore		 Assistant Executive Engineer VNC Sub-Division Kamalapur		 Executive Engineer TB-Division No.1 Munirabad		
 Superintending Engineer Tungabhadra Project Circle Munirabad			 Chief Engineer Irrigation Control Zone Munirabad			



CROSS SECTION AT CH 840.00 m



CROSS SECTION AT CH 870.00 m

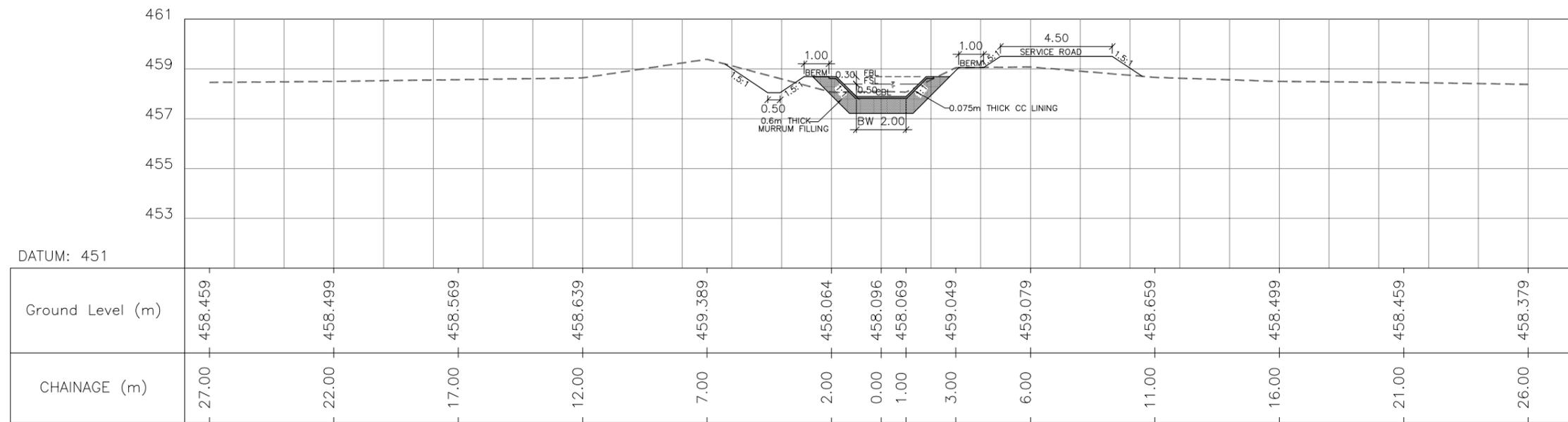
LEGEND

CANAL BED LEVEL	CBL
FULL SUPPLY LEVEL.....	FSL
FREE BOARD LEVEL.....	FBL
BED WIDTH.....	BW
GROUND LEVEL.....	---
CNS FILLING.....	

NOTES:-
 1) ALL LEVELS AND CHAINAGES ARE IN METRES.
 2) DO NOT SCALE THE DRAWING.

0	For Approval				
Rev.	Description.	Date.	Drw.	Pre.	Chk.
CLIENT KARNATAKA NEERAVARI NIGAM LIMITED (A GOVT. OF KARNATAKA UNDERTAKING) BANGALORE - 560 001					
CONSULTANT E I Technologies Pvt. Ltd., (ISO 9001 : 2008 Certified) # 1149, 26th Main, Jayanagar 4th 'T' Block, Bengaluru-560 041, India. Ph.+91.80.40914714, Fax: +91.80.26650912 info@eitech.in • www.eitech.in					
PROJECT TITLE MODERNISATION OF VIJAYANAGARA CHANNELS IN TUNGABHADRA PROJECT					

DRAWING TITLE					
DETAILED CROSS SECTIONS OF NARASAPURA BRANCH CANAL					
Date	Drw.	Pre.	Chk.	App.	Drawing Status.
				1:200	FOR APPROVAL
Project No.	Drawing No.	Scale.	Sheet No.	Rev.	
	KNNL-VNC-BLC-NBC-CS-004		14 of 15	0	
 Consultant E I Technologies Pvt. Ltd., Bangalore		 Asst. Executive Engineer VNC Sub-Division Kamalapur		 Executive Engineer TB-Division No.1 Munirabad	
 Superintending Engineer Tungabhadra Project Circle Munirabad			 Chief Engineer Irrigation Central Zone Munirabad		



CROSS SECTION AT CH 900.00 m

LEGEND

CANAL BED LEVEL	CBL
FULL SUPPLY LEVEL.....	FSL
FREE BOARD LEVEL.....	FBL
BED WIDTH.....	BW
GROUND LEVEL.....	---
CNS FILLING.....	

NOTES:-
 1) ALL LEVELS AND CHAINAGES ARE IN METRES.
 2) DO NOT SCALE THE DRAWING.

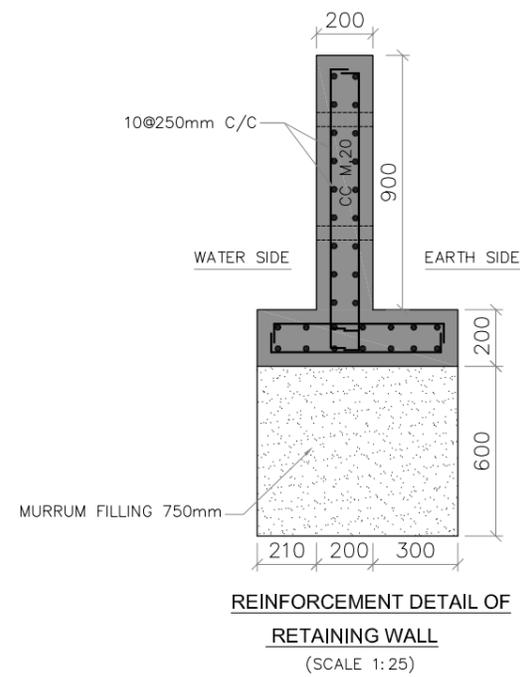
0	For Approval				
Rev.	Description.	Date.	Drw.	Pre.	Chk.

CLIENT
KARNATAKA NEERAVARI NIGAM LIMITED
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 BANGALORE - 560 001

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 Bengaluru-560 041, India.
 Ph.+91.80.40914714, Fax: +91.80.26650912
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DRAWING TITLE					
DETAILED CROSS SECTIONS OF NARASAPURA BRANCH CANAL					
Date	Drw.	Pre.	Chk.	App.	Drawing Status.
				1:200	FOR APPROVAL
Project No.	Drawing No.	Sheet No.	Rev.		
	KNNL-VNC-BLC-NBC-CS-004	15 of 15	0		
E I Technologies Pvt. Ltd. Bangalore	Asst. Executive Engineer VNC Sub-Division Kamalapur	Executive Engineer TE - Division No.1 Munirabad			
Superintending Engineer Tungabhadra Project Circle Munirabad	Chief Engineer Irrigation Central Zone Munirabad				

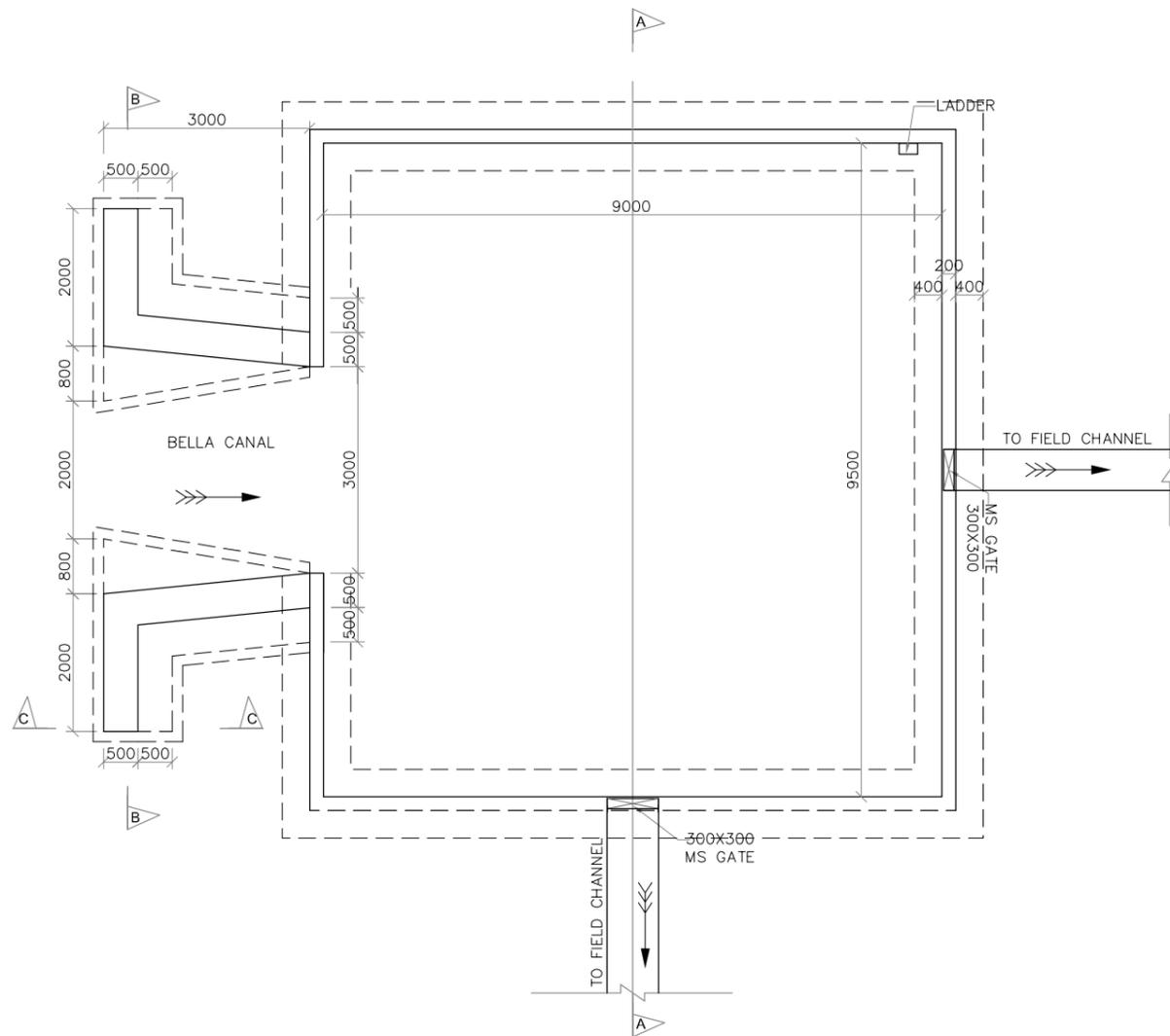
PROJECT TITLE
**MODERNISATION OF VIJAYANAGARA CHANNELS
 IN TUNGABHADRA PROJECT**



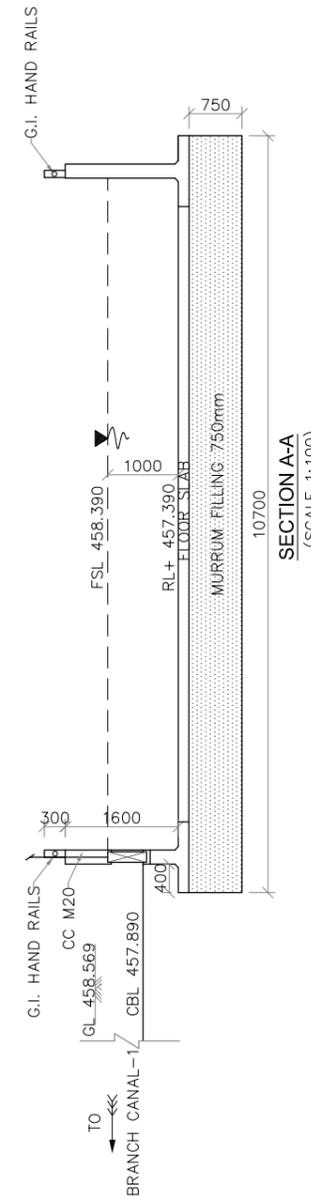
NOTES

- 1) ALL DIMENSIONS ARE IN MILLIMETRES AND REDUCED LEVELS ARE IN METRES.
- 2) DO NOT SCALE THE DRAWING. WRITTEN DIMENSIONS ONLY SHALL BE FOLLOWED.

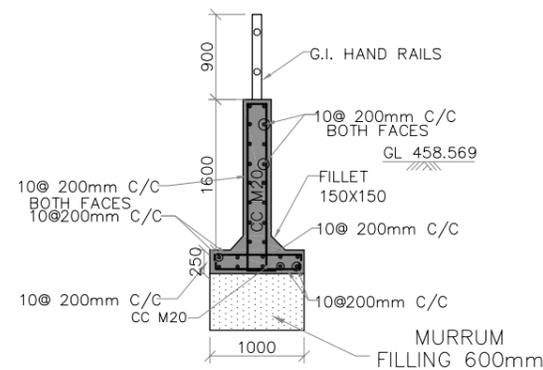
0	For Approval	.	.	.	.	.
Rev.	Description.	Date.	Drw.	Pre.	Chk.	App.
CLIENT						
KARNATAKA NEERAVARI NIGAM LIMITED (A GOVT. OF KARNATAKA UNDERTAKING) BANGALORE - 560 001						
CONSULTANT						
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PROJECT TITLE						
MODERNISATION OF VIJAYANAGARA CHANNELS IN TUNGABHADRA PROJECT						
DRAWING TITLE						
TYPICAL DRAWING OF RETAINING WALLS FOR NARASAPUR BRANCH CANAL						
Date	Drw.	Pre.	Chk.	App.	Scale.	Drawing Status.
.	.	.	.	.	AS SHOWN	FOR APPROVAL
Project No.	Drawing No.		Sheet No.		Rev.	
.	KNNL-VNC-BLC-NBC-TYP-RW-006		01 of 01		0	
 Consultant E I Technologies Pvt. Ltd. Bangalore		 Asst. Executive Engineer VNC Sub-Division Kamelapur		 Executive Engineer TR Division No.1 Munirabad		
 Superintending Engineer Tungabhadra Project Circle Munirabad				 Chief Engineer Irrigation Central Zone Munirabad		



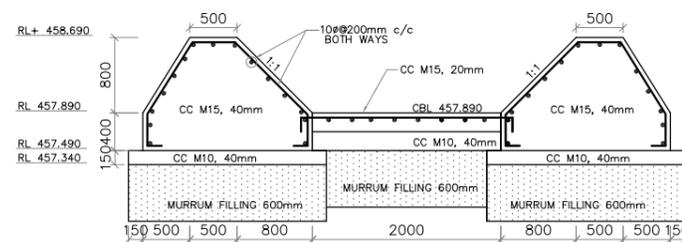
PLAN OF DISTRIBUTION BOX
(SCALE 1:100)



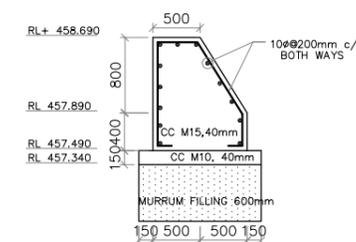
SECTION A-A
(SCALE 1:100)



REINFORCEMENT DETAILS OF WALL
(SCALE 1:75)



SECTION B-B
(SCALE 1:50)



SECTION C-C
(SCALE 1:50)

NOTES

- 1) ALL DIMENSIONS ARE IN MILLIMETRES AND REDUCED LEVELS ARE IN METRES.
- 2) DO NOT SCALE THE DRAWING. WRITTEN DIMENSIONS ONLY SHALL BE FOLLOWED.

0	For Approval					
Rev.	Description	Date	Drw.	Pre.	Chk.	App.

CLIENT
KARNATAKA NEERAVARI NIGAM LIMITED
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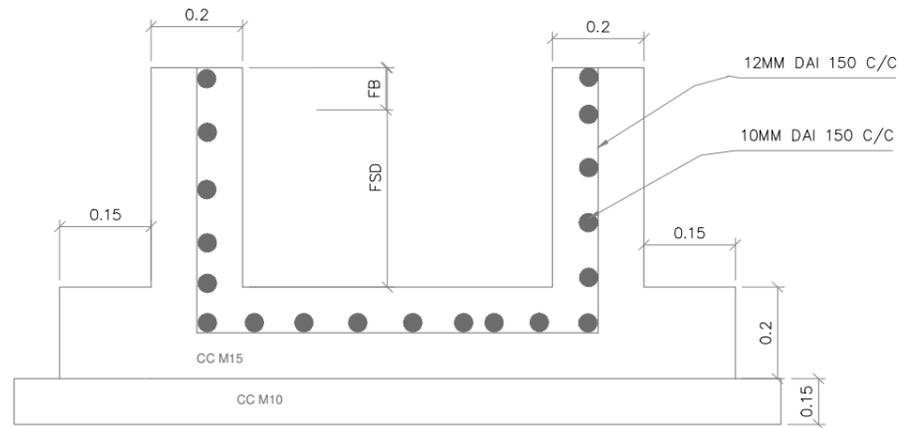
PROJECT TITLE
**MODERNISATION OF VIJAYANAGARA CHANNELS
IN TUNGABHADRA PROJECT**

DRAWING TITLE
**CONSTRUCTION OF DISTRIBUTION BOX AT
CH: 0+900Km (TAIL END) OF NARSAPURA BRANCH CANAL**

Date	Drw.	Pre.	Chk.	App.	Scale	Drawing Status
					AS SHOWN	FOR APPROVAL
Project No.	Drawing No.		Sheet No.		Rev.	
	KNNL-VNC-BLC-NBC-STR-007		01 of 01		0	

 Consultant E I Technologies Pvt. Ltd. Bangalore	 Asst. Executive Engineer VNC Sub-Division Kamalapur	 Executive Engineer TR Division No.1 Munirabad
---	---	---

 Superintending Engineer Tungabhadra Project Circle Munirabad	 Chief Engineer Irrigation Central Zone Munirabad
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TYPICAL DRAWING OF TROUGH

NOTES

- 1) ALL DIMENSIONS ARE IN MILLIMETRES AND REDUCED LEVELS ARE IN METRES.
- 2) DO NOT SCALE THE DRAWING. WRITTEN DIMENSIONS ONLY SHALL BE FOLLOWED.

Rev.	Description	Date	Drw.	Dsg.	Chk.	App.
0	For Approval	10.04.13	SLT	NA	GR	NR

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TYPICAL DRAWING FOR CONSTRUCTION OF CANAL TROUGH

Date	Drw.	Dsg.	Chk.	App.	Scale	Drawing Status	
23.04.2012	AN	MP	SN	NR	AS SHOWN	FOR APPROVAL	
Project No.	Drawing No.					Sheet No.	Rev.
1027	EIT-KNNL-VNC-BLG-STR-CR-007					02 of 05	0
Consultant E I Technologies Pvt. Ltd. Bangalore		Asst. Executive Engineer WNC Sub-Division Kannur		Executive Engineer TR-Division No.1 Munrobad			
Superintending Engineer Tungbhadra Project Circle Munrobad		Chief Engineer Irrigation Central Zone Munrobad					