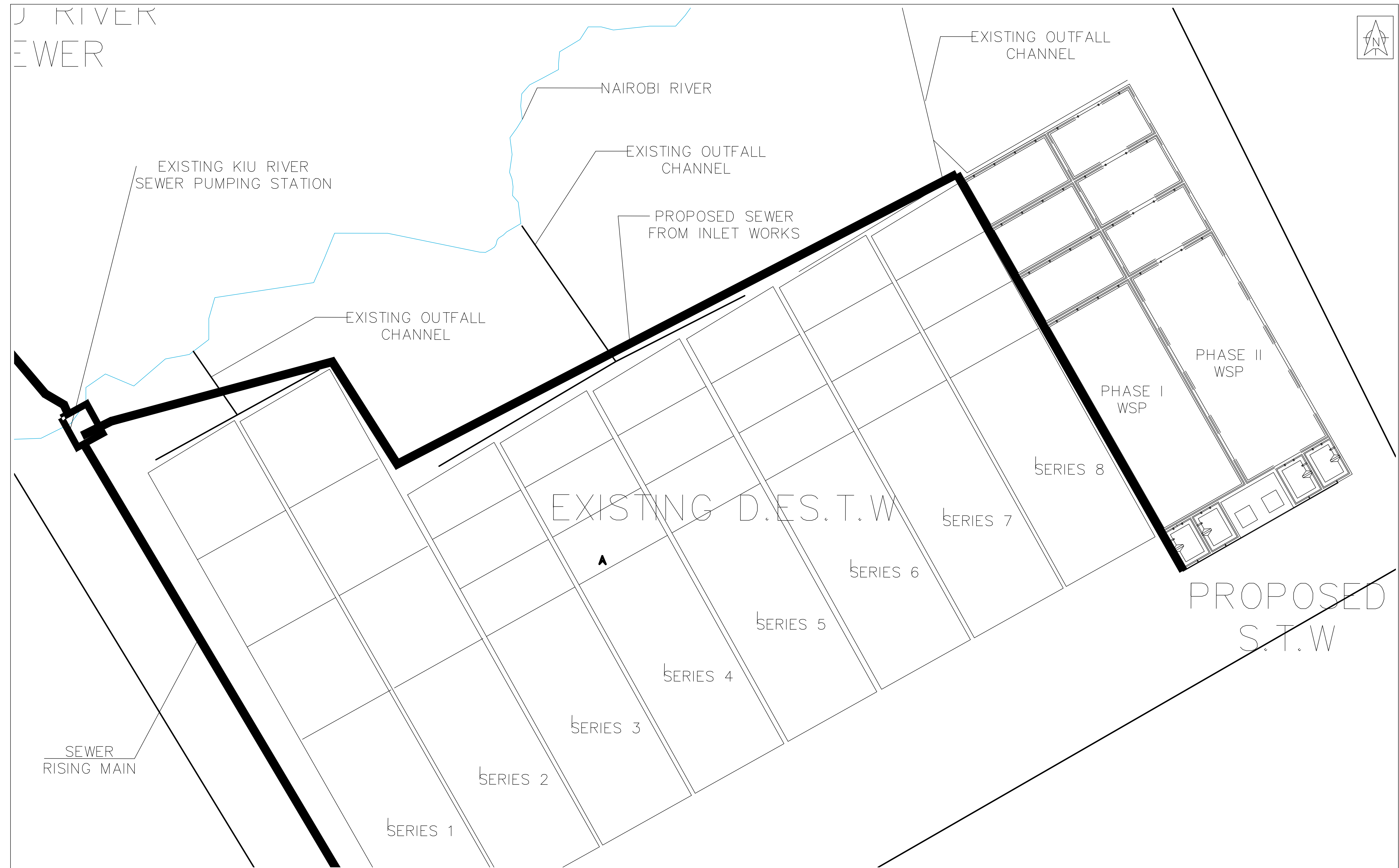
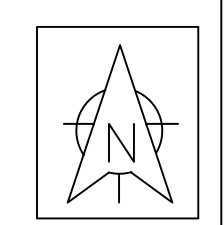


KIU RIVER
SEWER



Civil Engineer:
FRAME CONSULTANTS LTD
 P.O. BOX 58624-00200, NAIROBI
 TEL: 2213744, 2251505, 0720523850
 E-mail: info@frameconsultants.com

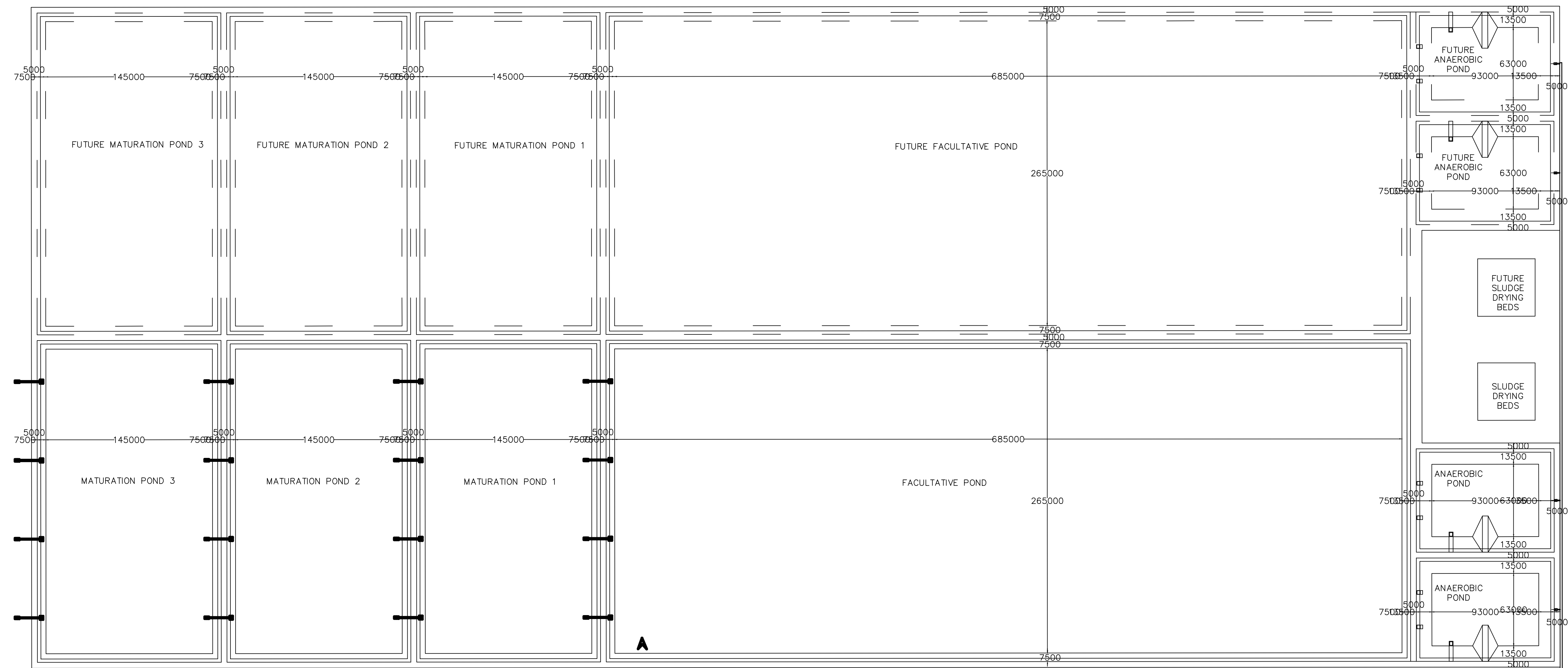
Client:
 ATHI WATER SERVICES BOARD
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 NAIROBI
 Tel: +254 (0) 274292/3
 Email: info@awsboard.go.ke

Project
 NAIROBI RIVERS SEWERAGE
 IMPROVEMENT PROJECT - PHASE II
 (NaRSIP II)

Drawing Title
 GENERAL LAYOUT
 GENERAL LAYOUT OF DESTW

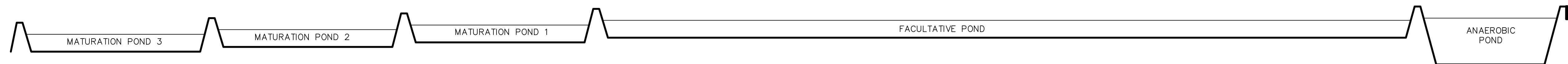
NOTES
 1. DRAWING NOT TO SCALE
 LEVELS IN THIS DRAWING ARE ONLY INDICATIVE

REV	REVISIONS	BY	SIGN	DATE	APPROVED	Designed by	D.K	Drawn by	D.K
D		CHECKED				Checked by	FMK	Approved by	
C		CHECKED				Scales 1:5000		Date: JANUARY 2016	
B		CHECKED				Job No.	FC/CE90	ACAD File: CE90_STW_01	
A		CHECKED				P STATUS	DRG No.	FC/CE90/STW/01	



WASTE STABILIZATION PONDS LAYOUT PLAN

SCALE 1:1000



WASTE STABILIZATION PONDS HYDRAULIC PROFILE

SCALE 1:1000

Civil Engineer:
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 P.O. BOX 58624-00200, NAIROBI
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 E-mail: info@frameconsultants.com

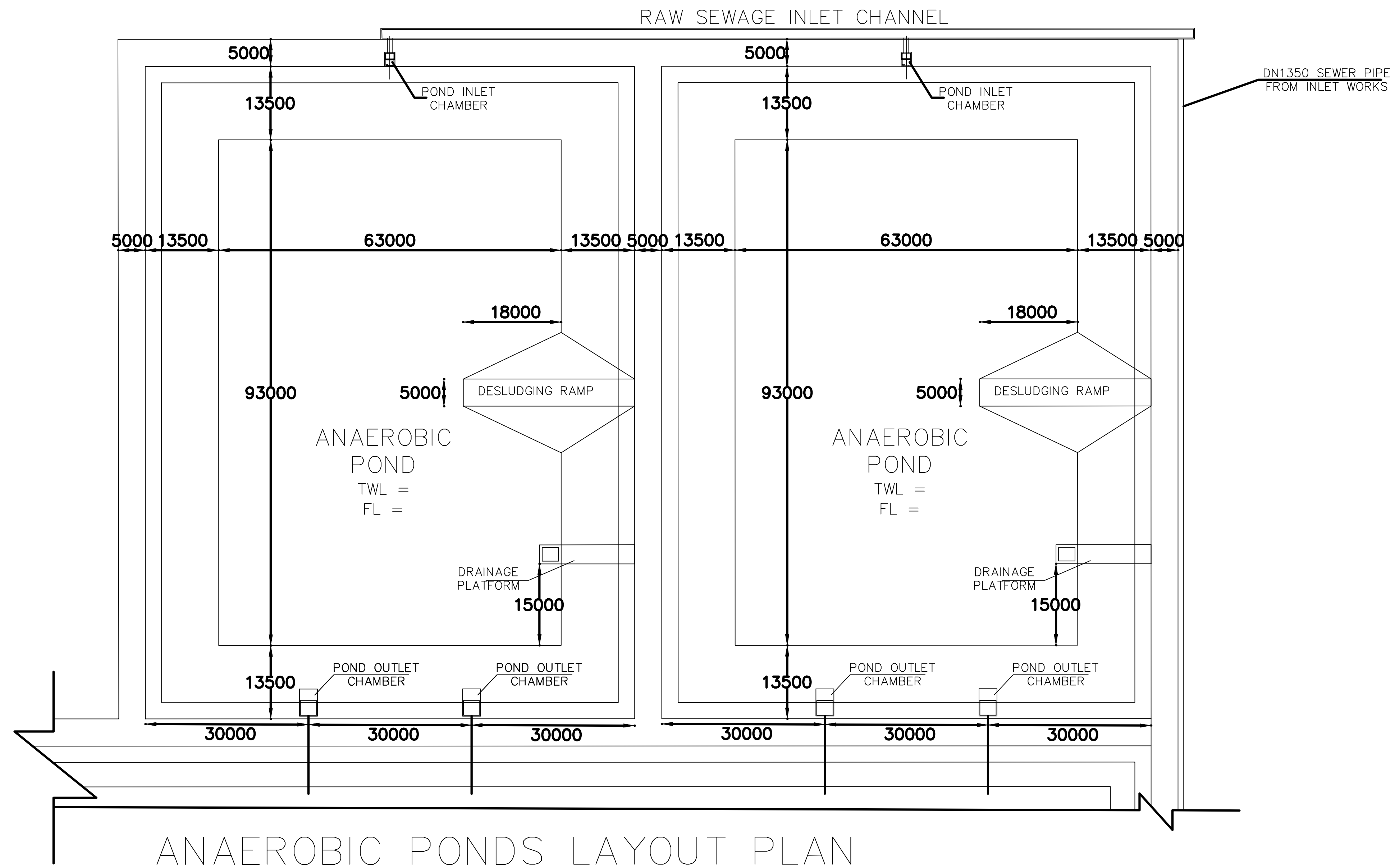
Client:
 ATHI WATER SERVICES BOARD
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 NAIROBI
 Tel: +254 (0) 274292/3
 Email: info@awsboard.go.ke

Project
 NAIROBI RIVERS SEWERAGE
 IMPROVEMENT PROJECT - PHASE II
 (NaRSIP II)

Drawing Title
 KIU RIVER SEWERAGE
 WASTE STABILIZATION PONDS PLAN AND
 HYDRAULIC PROFILE

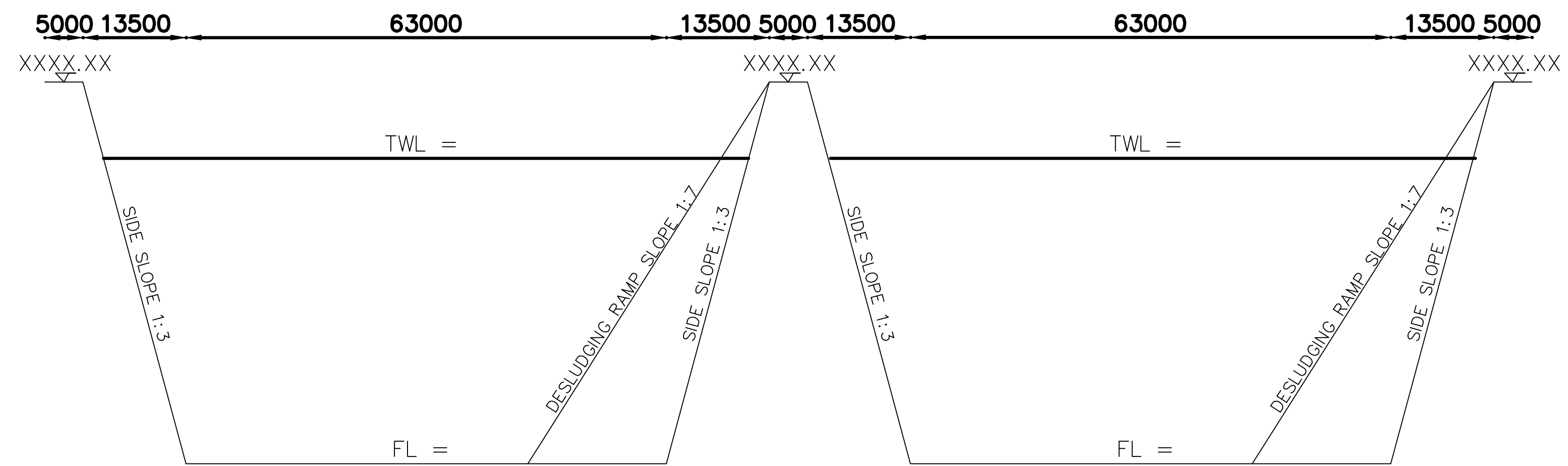
NOTES
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 LEVELS IN THIS DRAWING ARE ONLY INDICATIVE

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D		BY	CHECKED	DATE		Checked by	FMK	Approved by	
C		BY	CHECKED			Scales 1:2000		Date: JANUARY 2016	
B		BY	CHECKED			Job No.	FC/CE90	ACAD File: CE90_STW_02	
A		BY	CHECKED			P STATUS	DRG No.	FC/CE90/STW/02	



ANAEROBIC PONDS LAYOUT PLAN

SCALE 1: 500



ANAEROBIC PONDS SECTION

SCALE HOR 1: 500 VERT 1: 50

Civil Engineer:
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 E-mail: info@frameconsultants.com

Client:
ATHI WATER SERVICES BOARD
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 NAIROBI
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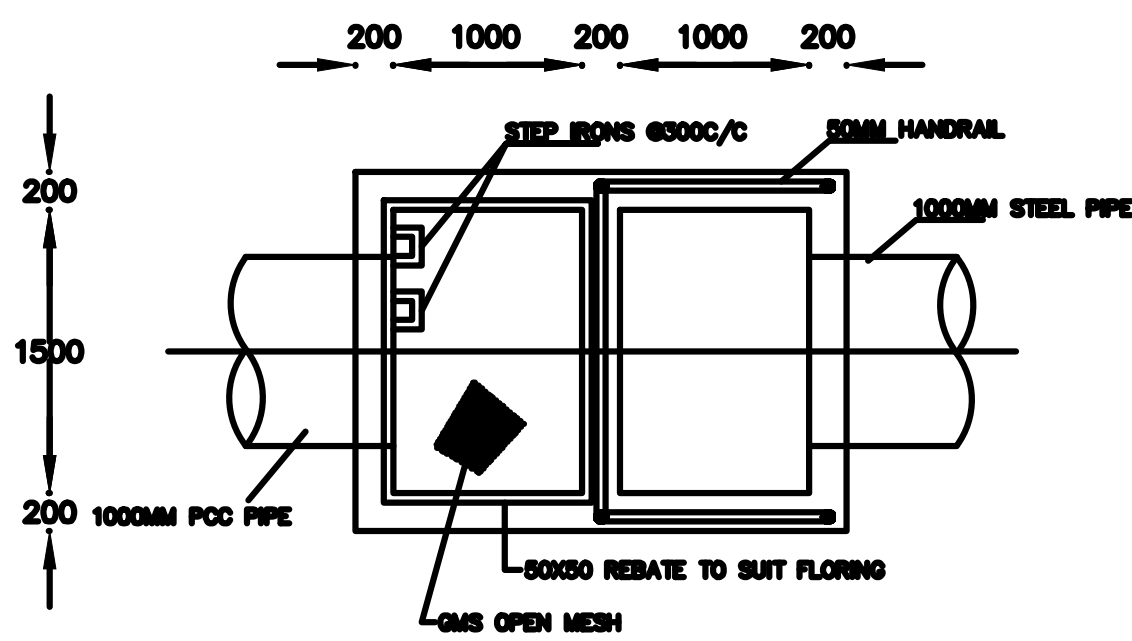
Project
**NAIROBI RIVERS SEWERAGE
 IMPROVEMENT PROJECT - PHASE II**
 (NaRSIP II)

Drawing Title
**KIU RIVER SEWERAGE
 ANAEROBIC PONDS PLAN AND DETAILS**

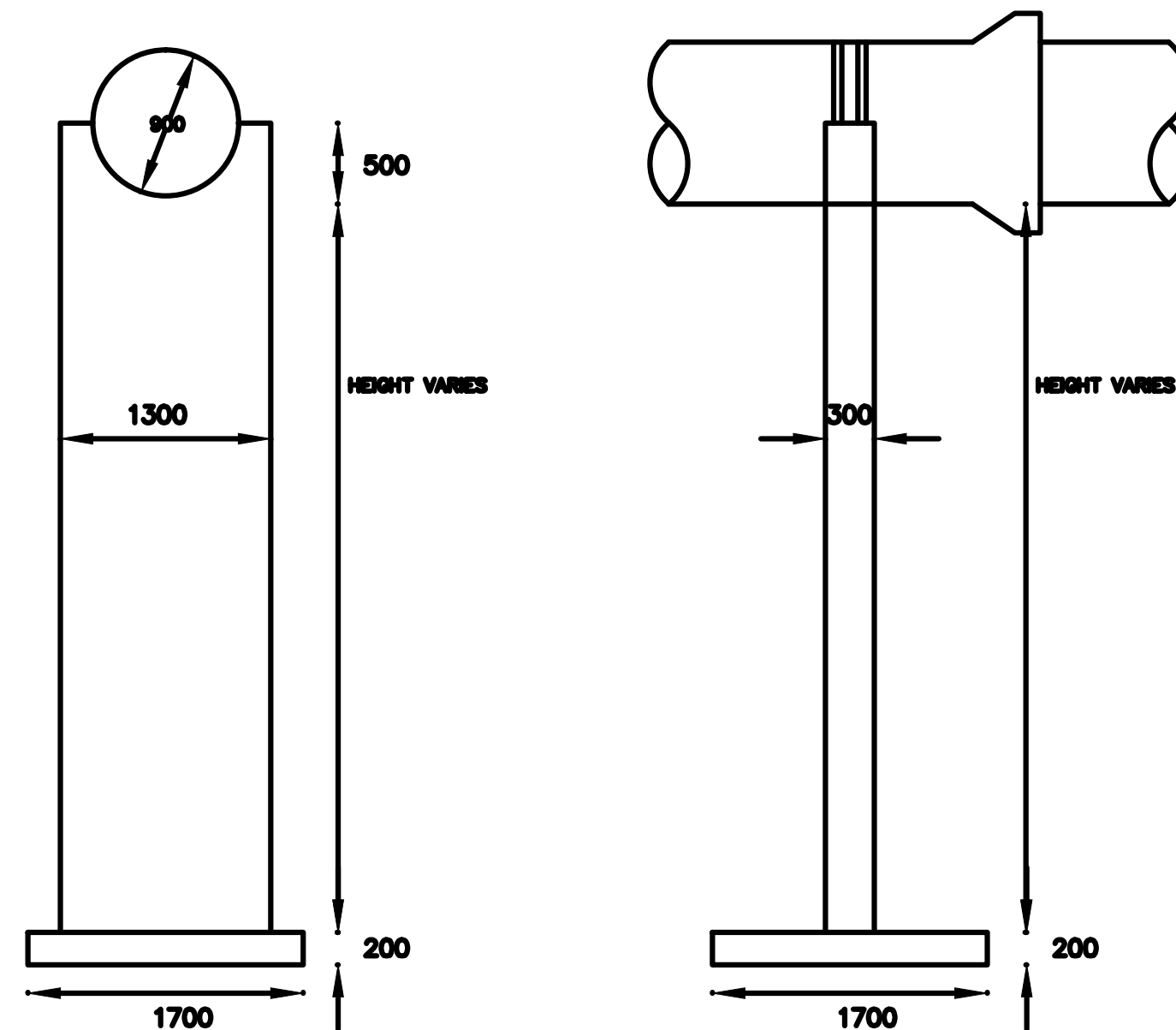
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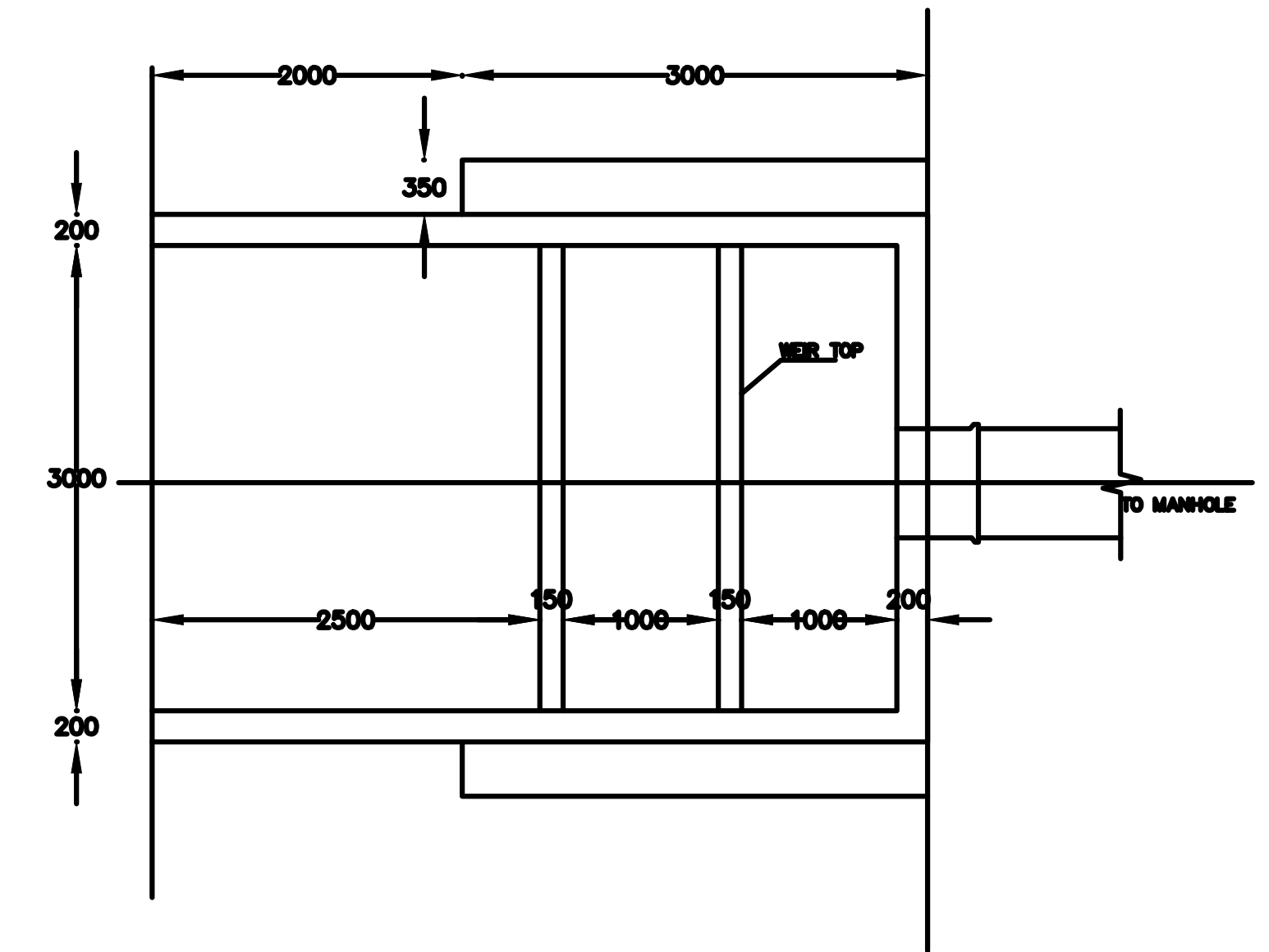
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	BY	DATE	DATE	DATE					
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C	CHECKED								
B	CHECKED								
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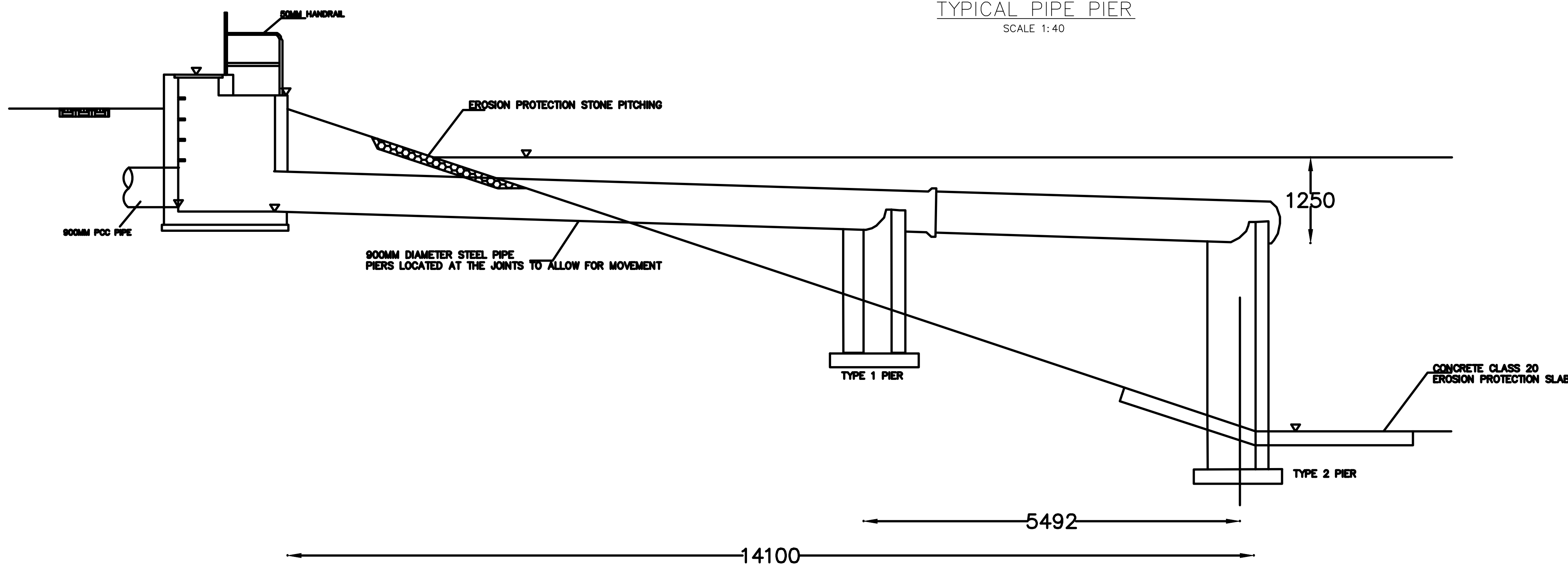
ANAEROBIC PONDS INLET CHAMBER PLAN
SCALE 1:40



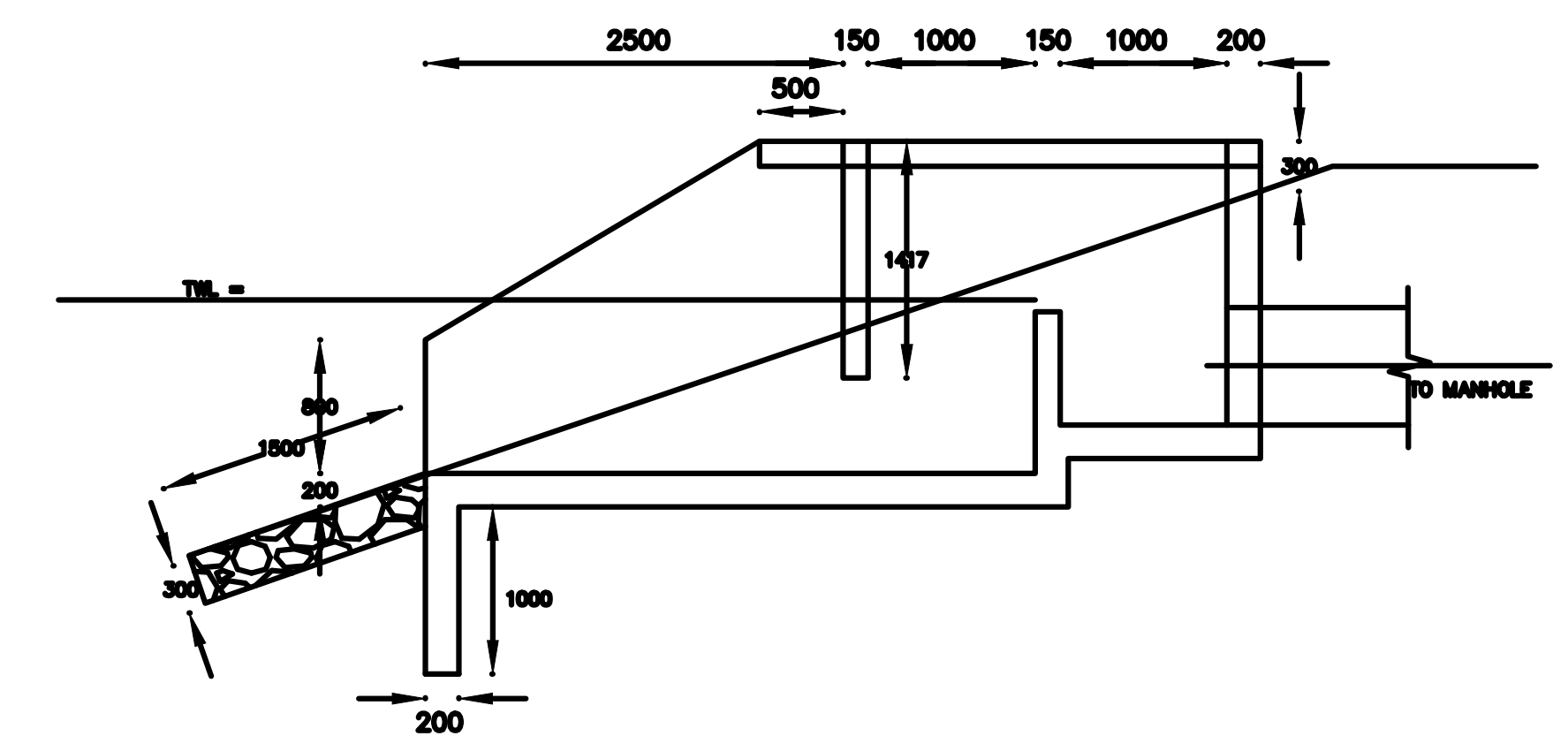
TYPICAL PIPE PIER
SCALE 1:40



PONDS OUTLET CHAMBER PLAN
SCALE 1:40



ANAEROBIC PONDS INLET SECTION
SCALE 1:40



PONDS OUTLET CHAMBER SECTION
SCALE 1:40

Civil Engineer:
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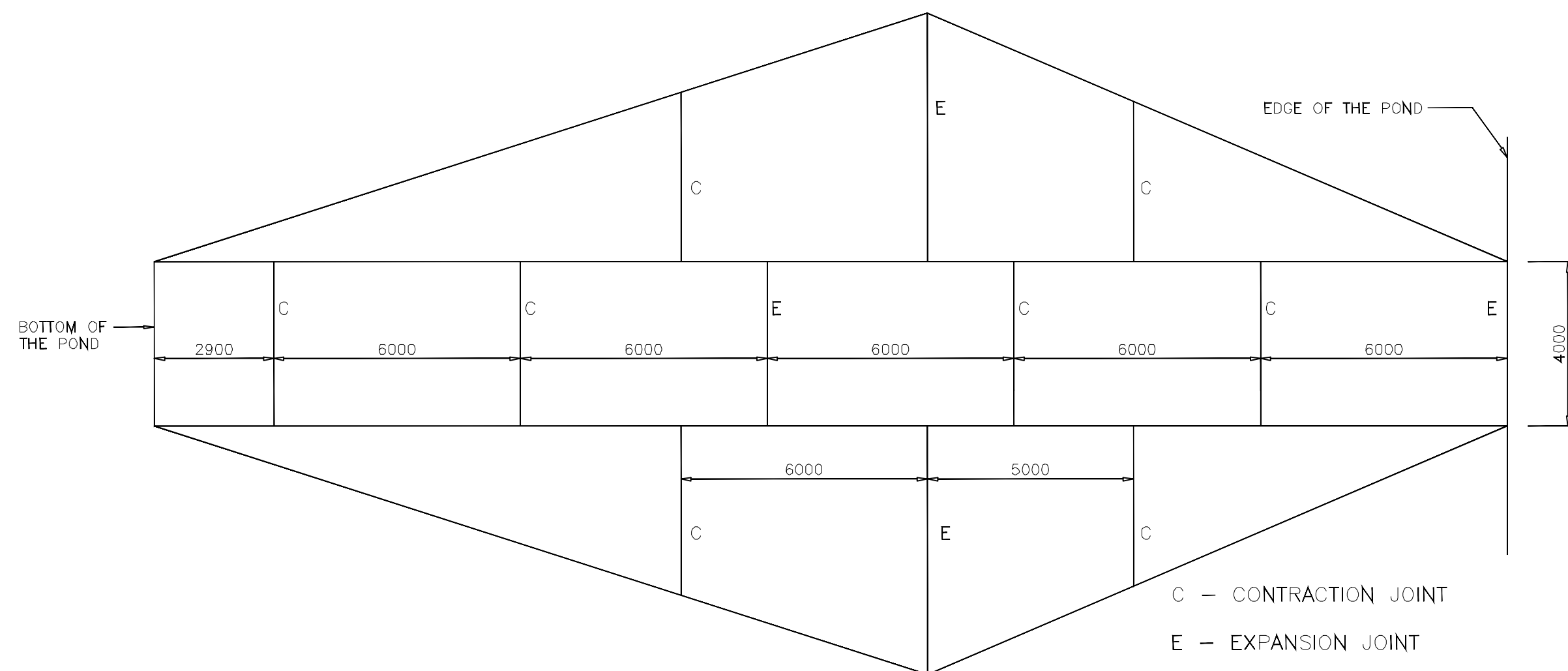
Project
NAIROBI RIVERS SEWERAGE
IMPROVEMENT PROJECT - PHASE II
(NaRSIP II)

Drawing Title
KIU RIVER SEWERAGE
ANAEROBIC PONDS INLET AND OUTLET
DETAILS

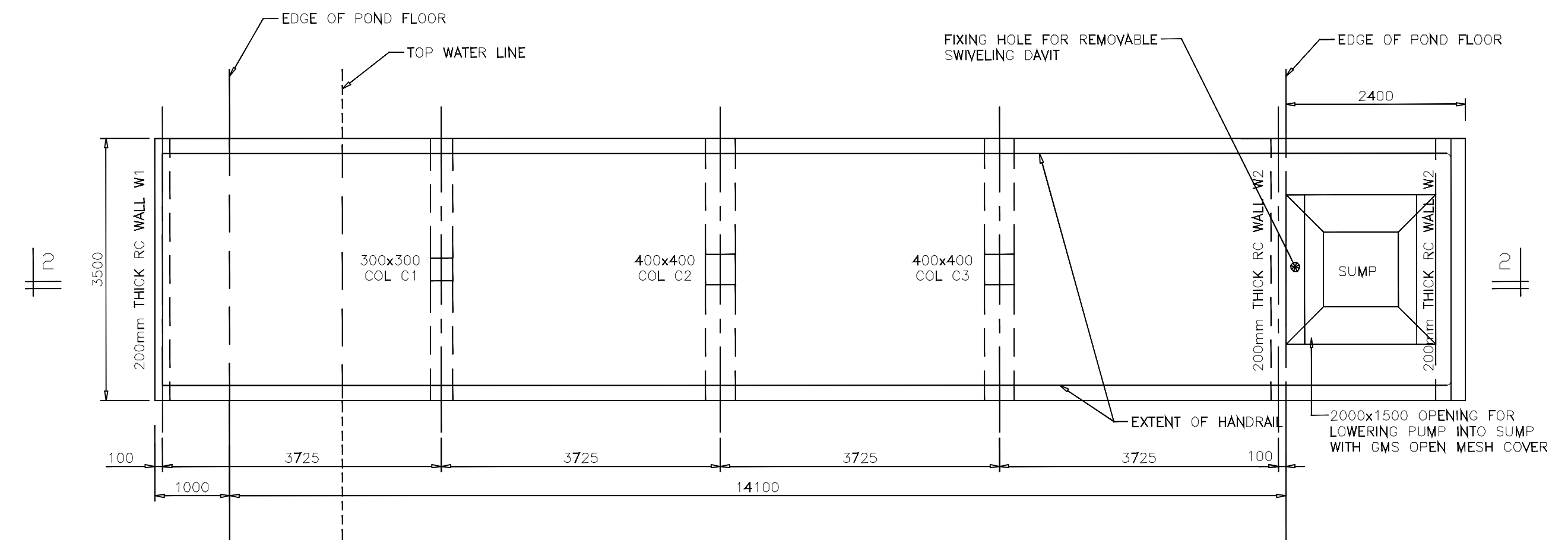
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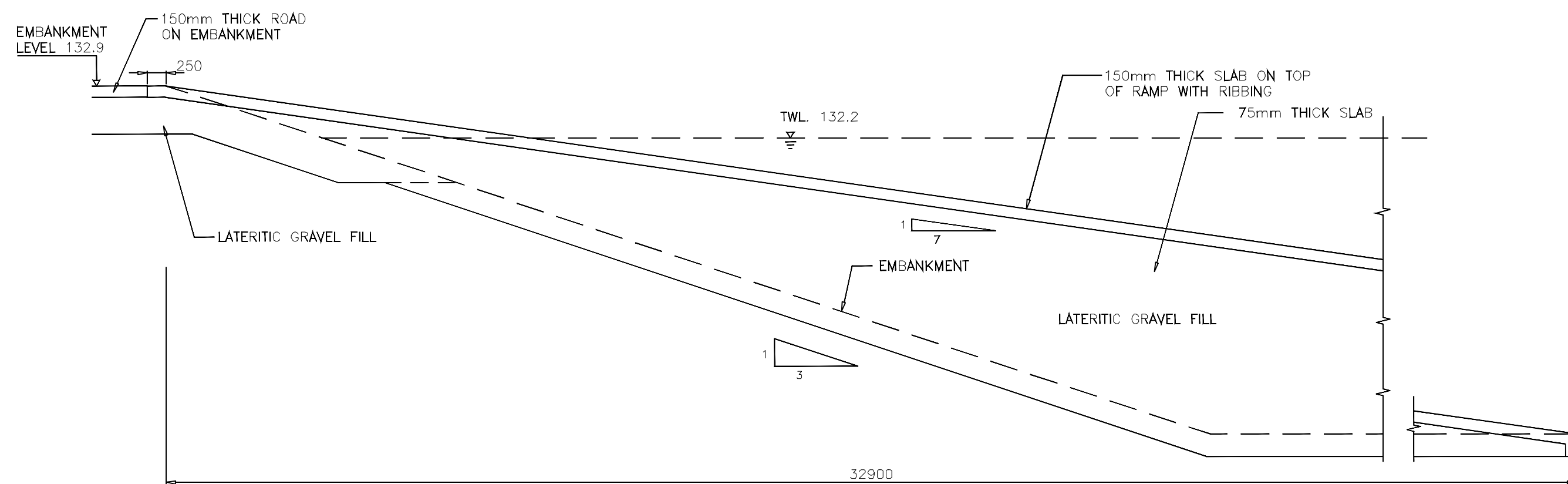
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D		BY	CHECKED	DATE		Checked by	FMK	Approved by	
C		BY	CHECKED			Scales	AS SHOWN	Date:	DECEMBER 2016
B		BY	CHECKED			Job No.	FC/CE90	ACAD File:	CE90_STW_04
A		BY	CHECKED			P STATUS	DRG No.	FC/CE90/STW/04	REV



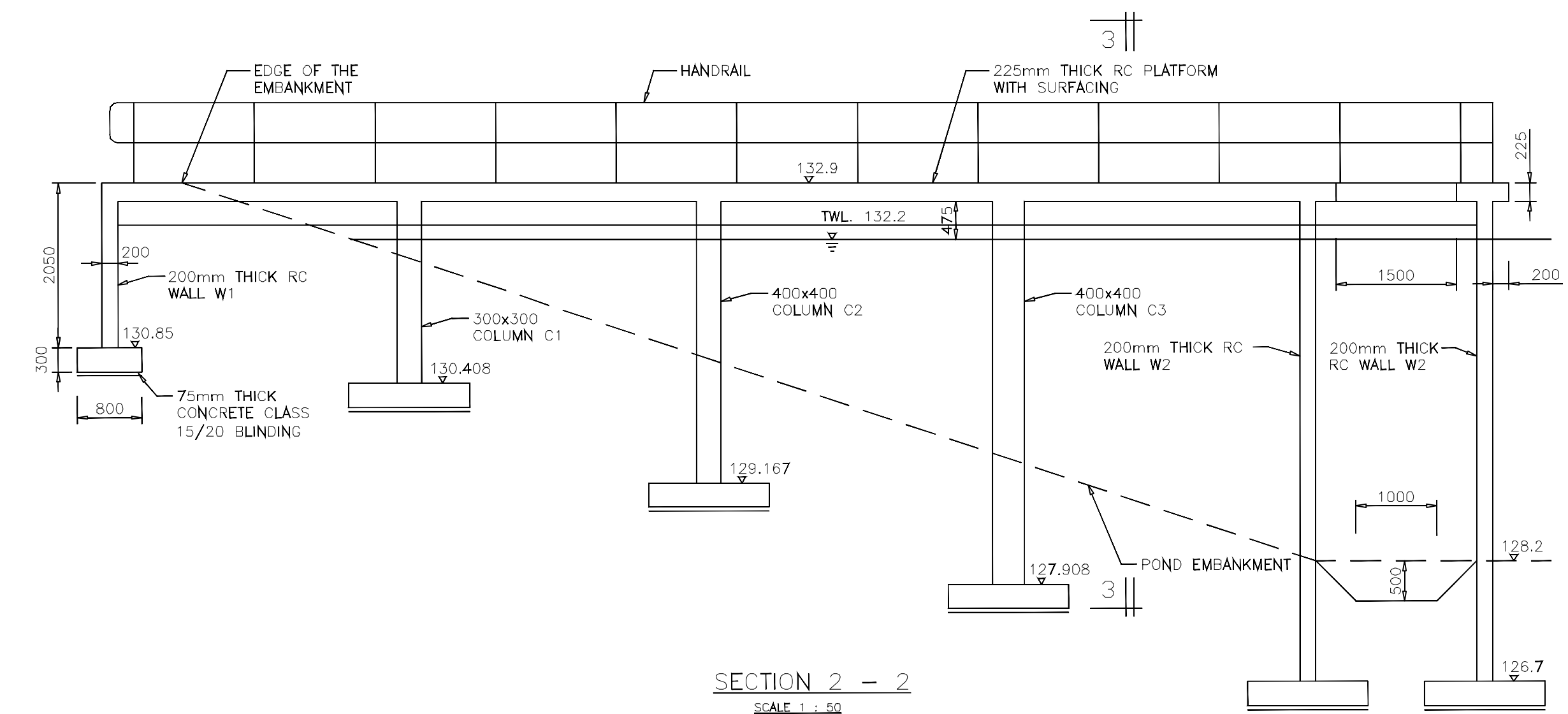
ACCESS RAMP
DETAILS FOR THE CONSTRUCTION JOINTS
SCALE 1 : 110



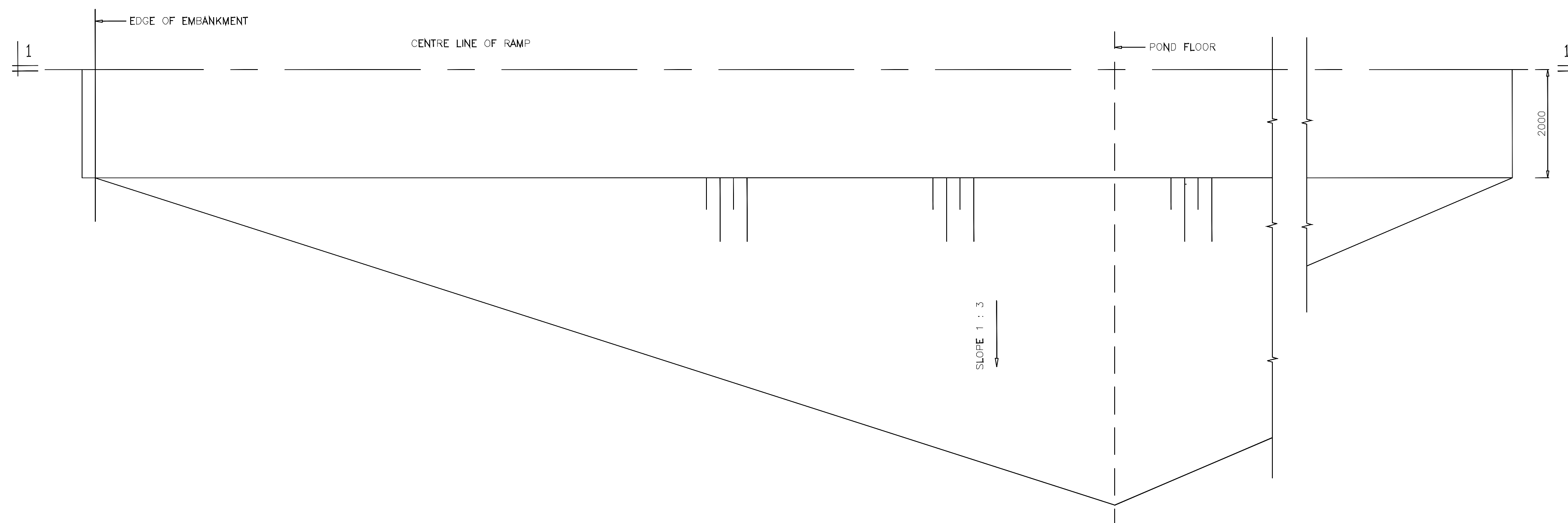
POND DRAINAGE SUMP PLATFORM
(COLUMN AND FOOTING OMITTED FOR CLARITY)
SCALE 1 : 50



SECTION 1 - 1
SCALE 1 : 50



SECTION 2 - 2
SCALE 1 : 50



PART OF ACCESS RAMP
SCALE 1 : 50

Civil Engineer:
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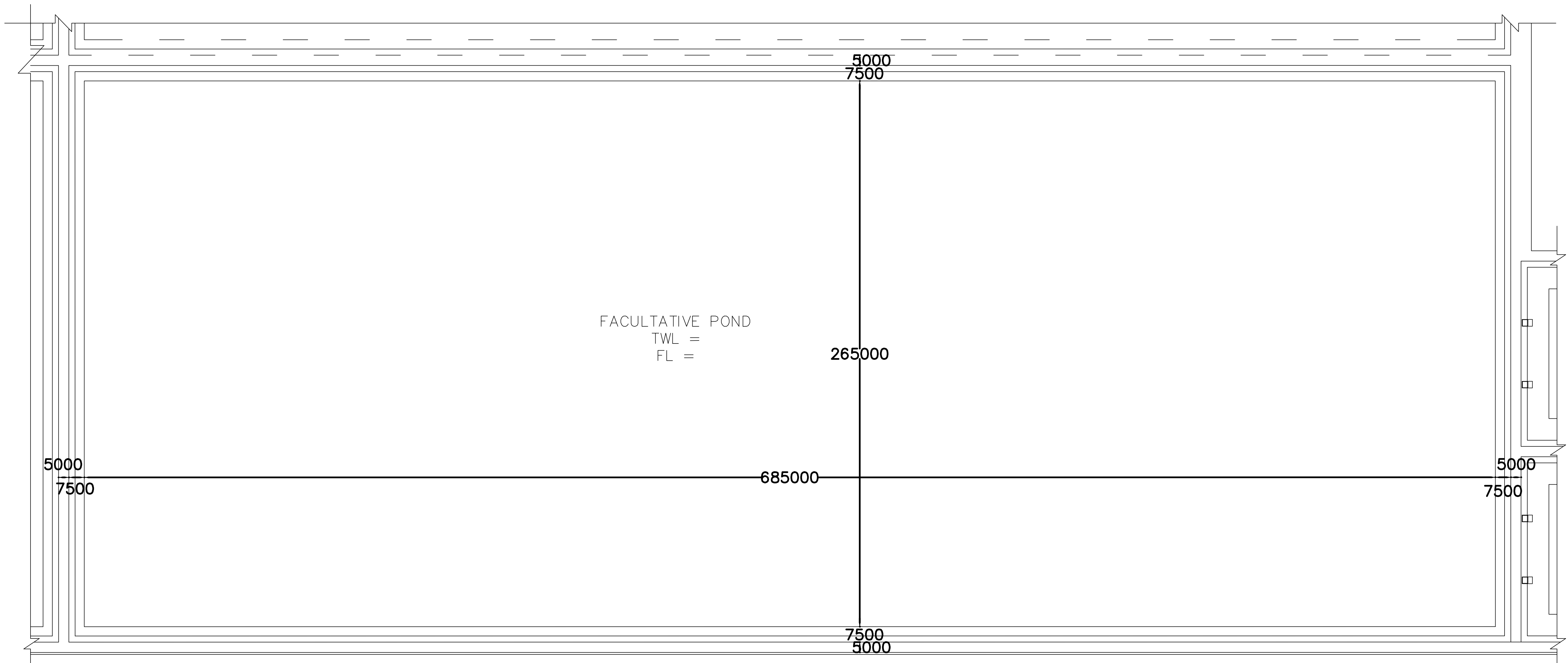
Project
NAIROBI RIVERS SEWERAGE
IMPROVEMENT PROJECT - PHASE II
(NaRSIP II)

Drawing Title
KIU RIVER SEWERAGE
ANAEROBIC PONDS DESLUDGING RAMP
AND DRAINAGE PLATFORM DETAILS

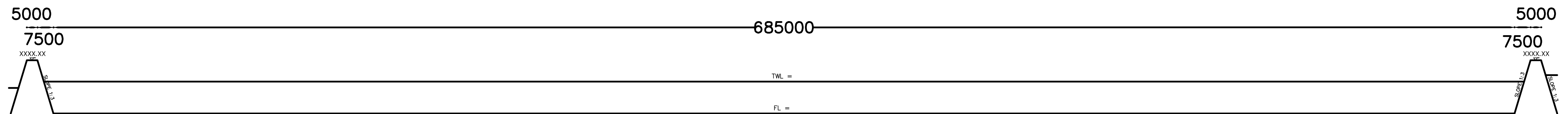
NOTES
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REV	REVISIONS				APPROVED	Designed by	D.K	Drawn by	D.K
D		BY	CHECKED	SIGN	DATE		Checked by	FMK	Approved by
C		BY	CHECKED				Scales	AS SHOWN	Date: DECEMBER 2016
B		BY	CHECKED				Job No.	FC/CE90	ACAD File: CE90_STW_05
A		BY	CHECKED				P STATUS	DRG No.	FC/CE90/STW/05



FACULTATIVE POND LAYOUT PLAN
SCALE 1:1000



FACULTATIVE POND SECTION
SCALE HOR 1:1000 VERT 1:100

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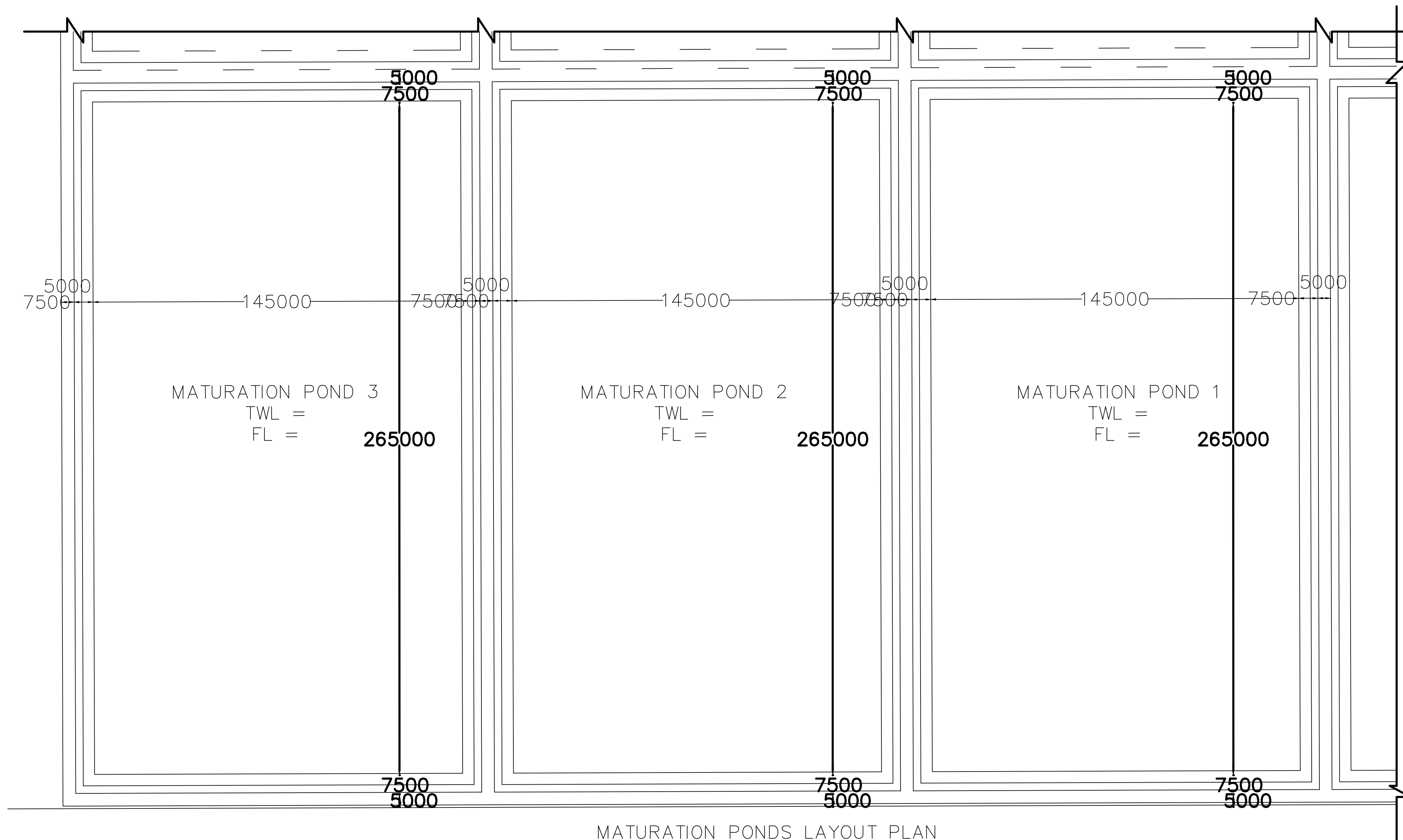
Project
NAIROBI RIVERS SEWERAGE
IMPROVEMENT PROJECT - PHASE II
(NaRSIP II)

Drawing Title
KIU RIVER SEWERAGE
FACULTATIVE POND PLAN AND SECTION

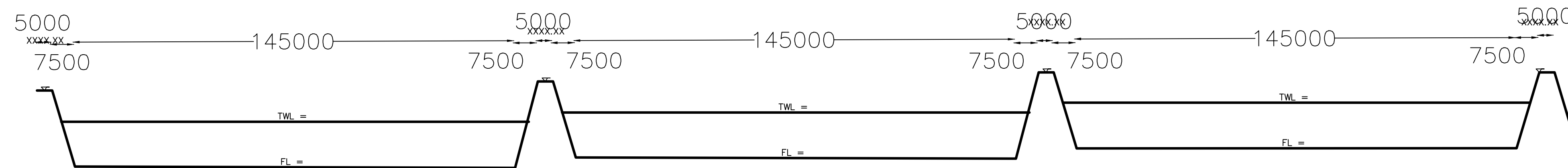
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REV	R E V I S I O N S				APPROVED	Designed by	D.K	Drawn by	D.K
D		BY	SIGN	DATE		Checked by	FMK	Approved by	
C		CHECKED				Scales AS SHOWN		Date:	DECEMBER 2016
B		CHECKED				Job No.	FC/CE90	ACAD File:	CE90_STW_06
A		CHECKED				P STATUS	DRG No.	FC/CE90/STW/06	REV



MATURATION PONDS LAYOUT PLAN
SCALE 1:1000



MATURATION PONDS SECTION
SCALE HOR 1:1000 VERT 1:100

Civil Engineer:
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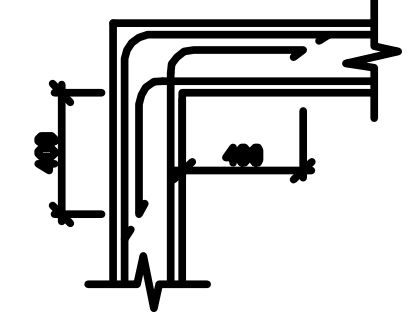
Project
NAIROBI RIVERS SEWERAGE
IMPROVEMENT PROJECT - PHASE II
(NaRSIP II)

Drawing Title
KIU RIVER SEWERAGE
MATUARTION PONDS PLAN AND SECTION

NOTES
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REV	REVISIONS		BY	DATE	APPROVED	Designed by	D.K	Drawn by	D.K
D			CHECKED			Checked by	FMK	Approved by	
C			CHECKED			Scales AS SHOWN		Date: DECEMBER 2016	
B			CHECKED			Job No.	FC/CE90	ACAD File: CE90_STW_07	
A			CHECKED			P STATUS	DRG No.	FC/CE90/STW/07	

ALL CONCRETE STRUCTURE SHALL, IF NOT OTHERWISE SHOWN, BE REINFORCED WITH Y10 AT 200mm c/c IN VERTICAL AND HORIZONTAL DIRECTION AND IN BOTH SIDES OF WALLS AND SLABS. AT CORNERS THE BARS MUST BE LAID AS SHOWN IN FIGURE BELOW.



ALL EXPOSED MILD STEEL SHALL BE HOT DIP GALVANISED.

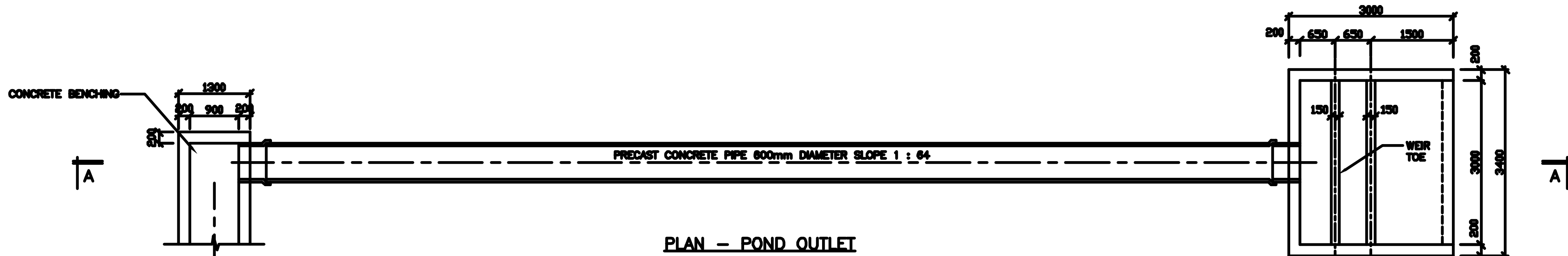
ALL STRUCTURES SHALL BE CAST WITH CONCRETE CLASS 25/20, WATER TIGHT.

ALL CONCRETE COVER SHALL BE 40mm.

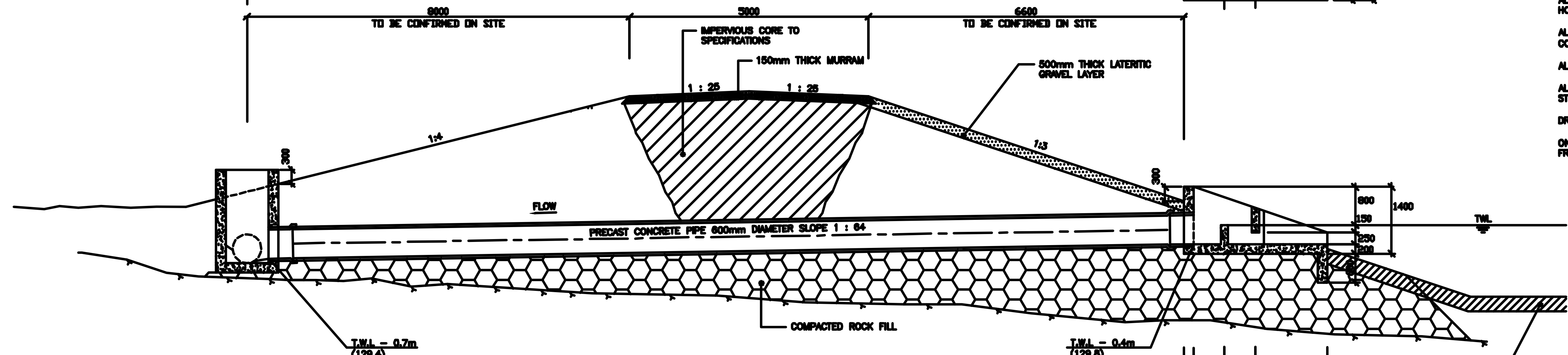
ALL HORIZONTAL SURFACES SHALL BE STEEL TROWELLED AT CASTING.

DRAWING TO SCALE IN A1 SIZE.

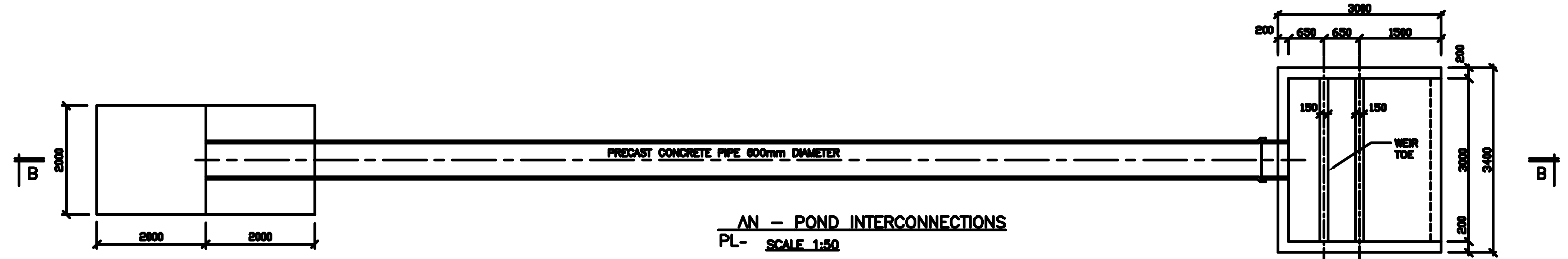
ONLY FIGURED DIMENSION TO BE TAKEN FROM THIS DRAWING.



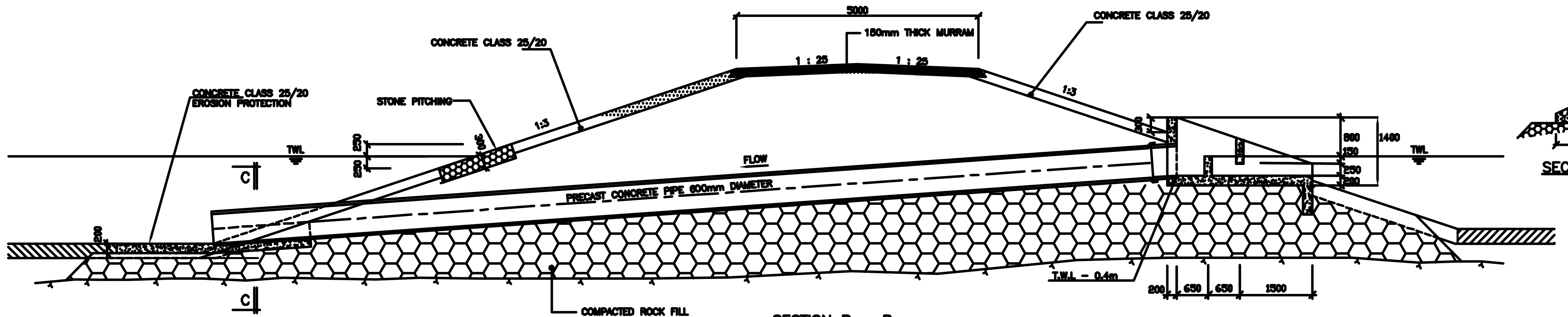
PLAN - POND OUTLET



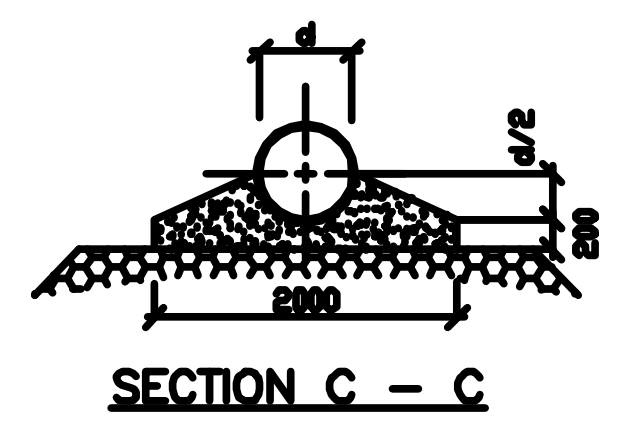
SECTION A - A
SCALE 1:50



PLAN - POND INTERCONNECTIONS
SCALE 1:50



SECTION B - B
SCALE 1:50



SECTION C - C

Civil Engineer:
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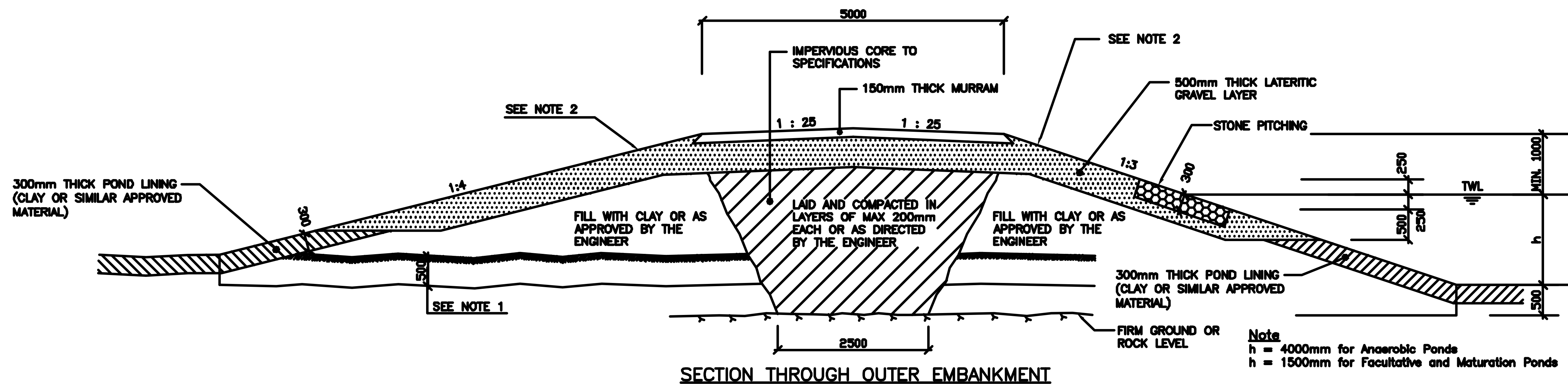
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NAIROBI
Tel: +254 (0) 274292/3
Email: info@awsboard.go.ke

Project:
NAIROBI RIVERS SEWERAGE
IMPROVEMENT PROJECT - PHASE II
(NaRSIP II)

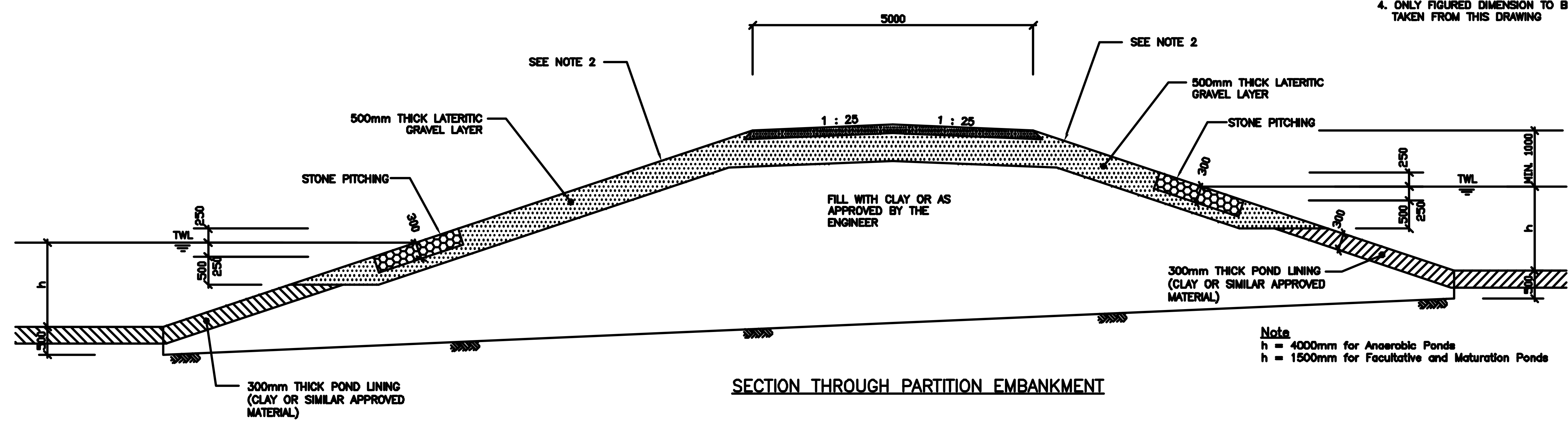
Drawing Title:
KIU RIVER SEWERAGE
FACULTATIVE AND MATURATION PONDS
INLET AND OUTLET INTERCONNECTION
DETAILS

NOTES:
1. ALL DIMENSIONS IN MILLIMETERS UNLESS OTHERWISE STATED
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REV	REVISIONS	BY	CHKD	DATE	APPROVED	Designed by	D.K	Drawn by	D.K
D						Checked by	FMK	Approved by	
C						Scales	AS SHOWN	Date:	DECEMBER 2016
B						Job No.	FC/CE90	ACAD File:	CE90_STW_08
A						P STATUS	DRG No.	FC/CE90/STW/08	REV



1. THE SOIL SHALL BE REMOVED TO MINIMUM 500mm BELOW ORIGINAL GROUND LEVEL FOR THE FULL LENGTH AND WIDTH OF ALL EMBANKMENT.
2. ALL EXPOSED SURFACE OF EMBANKMENT TO BE PLANTED WITH GRASS TO SPECIFICATION OR AS SPECIFIED BY THE ENGINEER.
3. DRAWING TO SCALE IN A1 SIZE
4. ONLY FIGURED DIMENSION TO BE TAKEN FROM THIS DRAWING



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Client:
 ATHI WATER SERVICES BOARD
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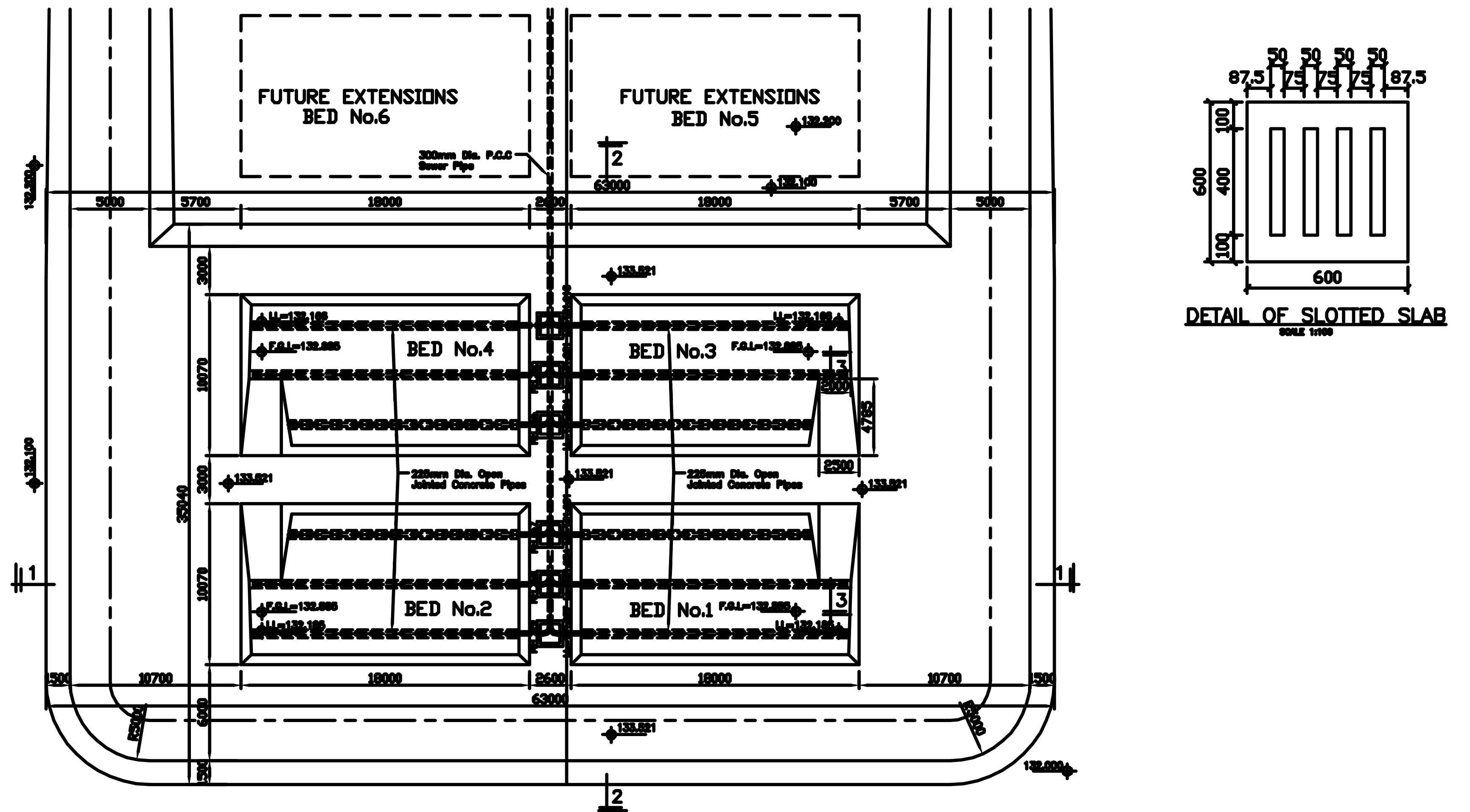
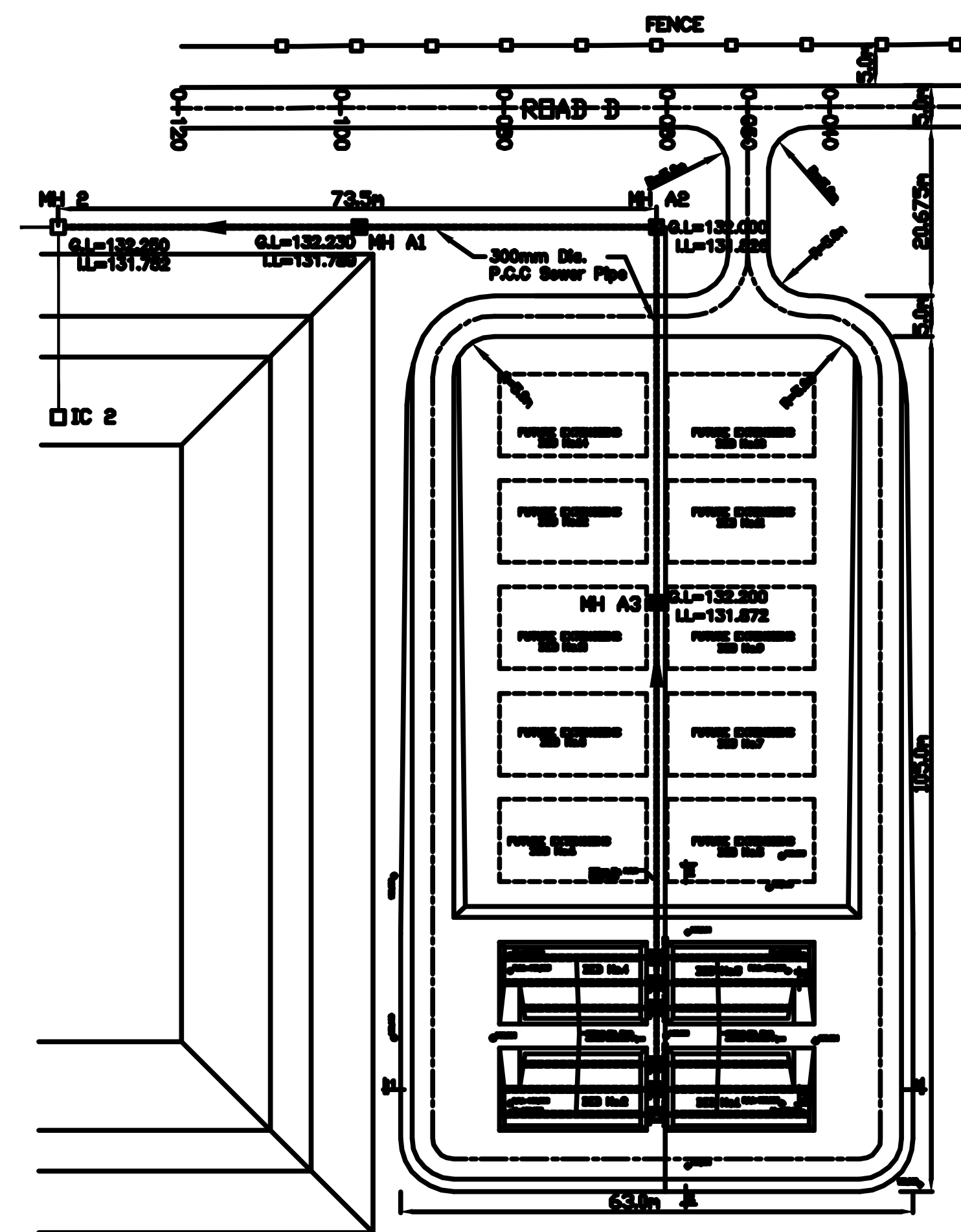
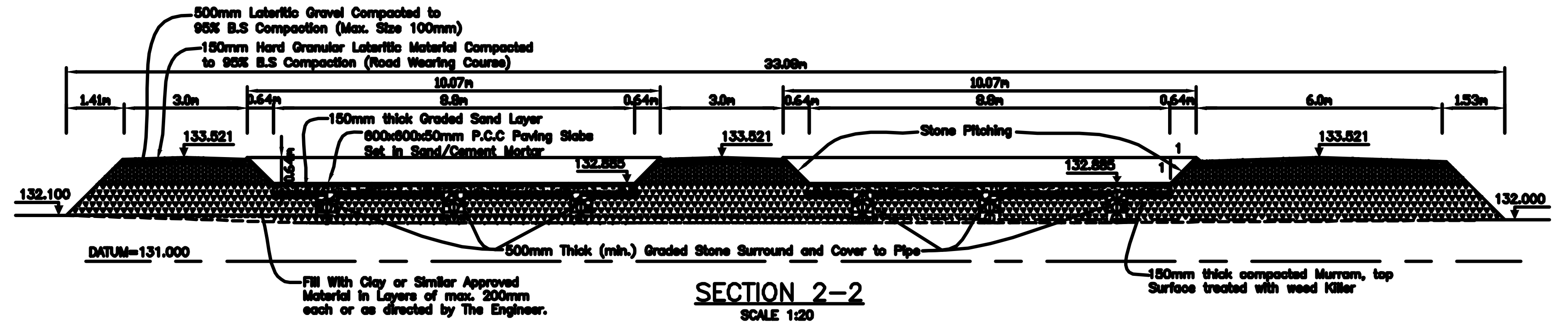
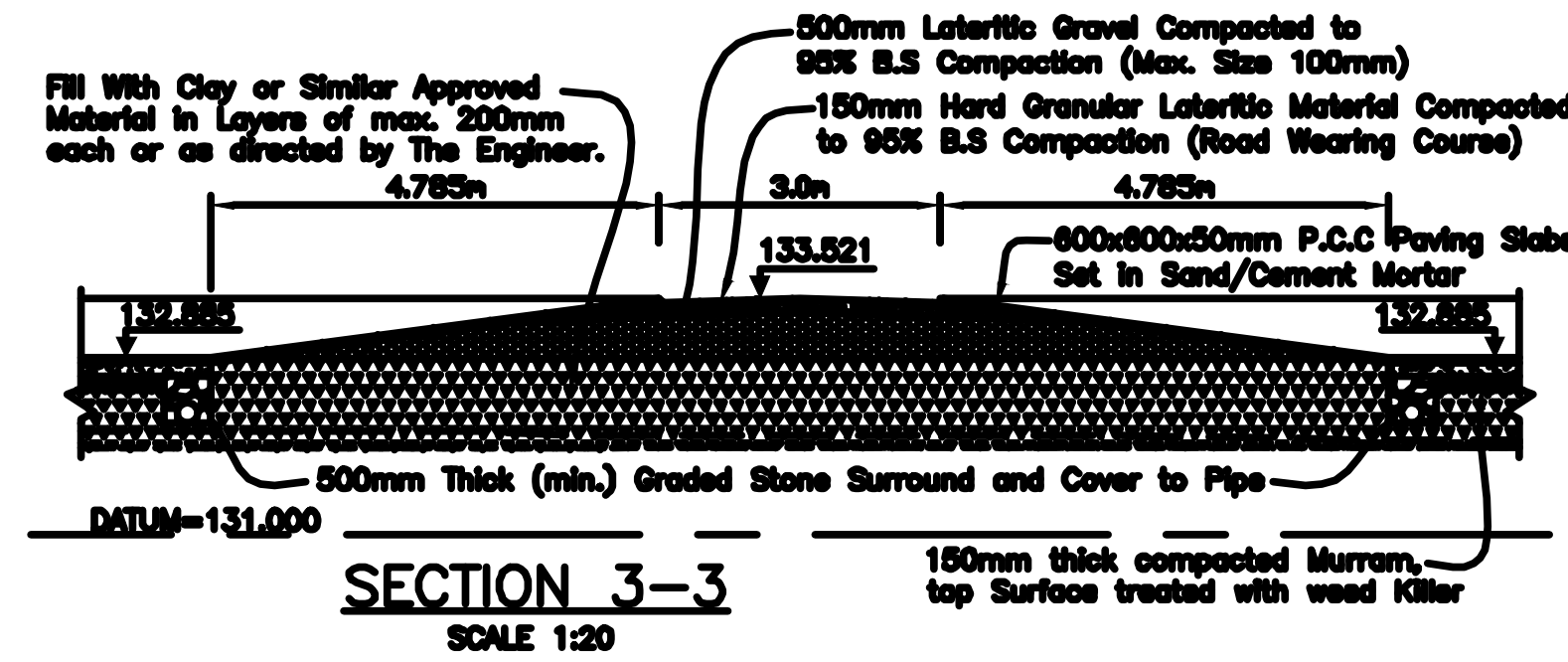
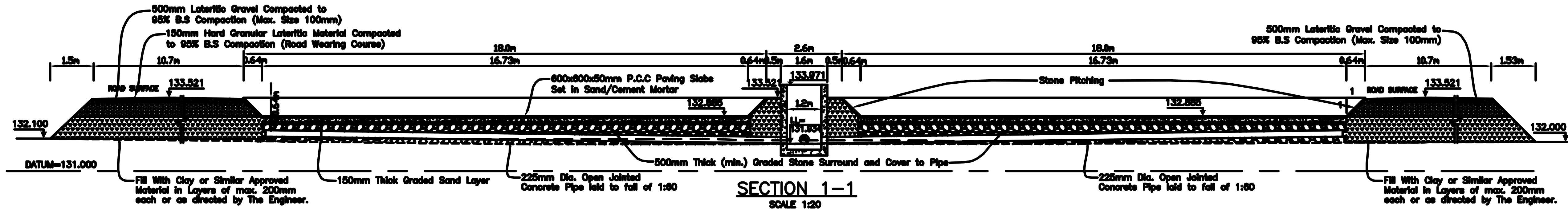
Project:
 NAIROBI RIVERS SEWERAGE
 IMPROVEMENT PROJECT - PHASE II
 (NaRSIP II)

Drawing Title:
 KIU RIVER SEWERAGE
 PONDS TYPICAL EMBANKMENT DETAILS

NOTES
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REV	REVISIONS	BY	DATE	APPROVED	DESIGNED BY	DRAWN BY
D		CHECKED			D.K	D.K
C		CHECKED			F.M.K	
B		CHECKED			AS SHOWN	DATE: DECEMBER 2016
A		CHECKED			JOB No. FC/CE90	ACAD File: CE90_STW_09
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D		CHECKED			Checked by	FMK	Approved by	
C		CHECKED			Scales	AS SHOWN	Date:	DECEMBER 2016
B		CHECKED			Job No.	FC/CE90	ACAD File:	CE90_STW_10
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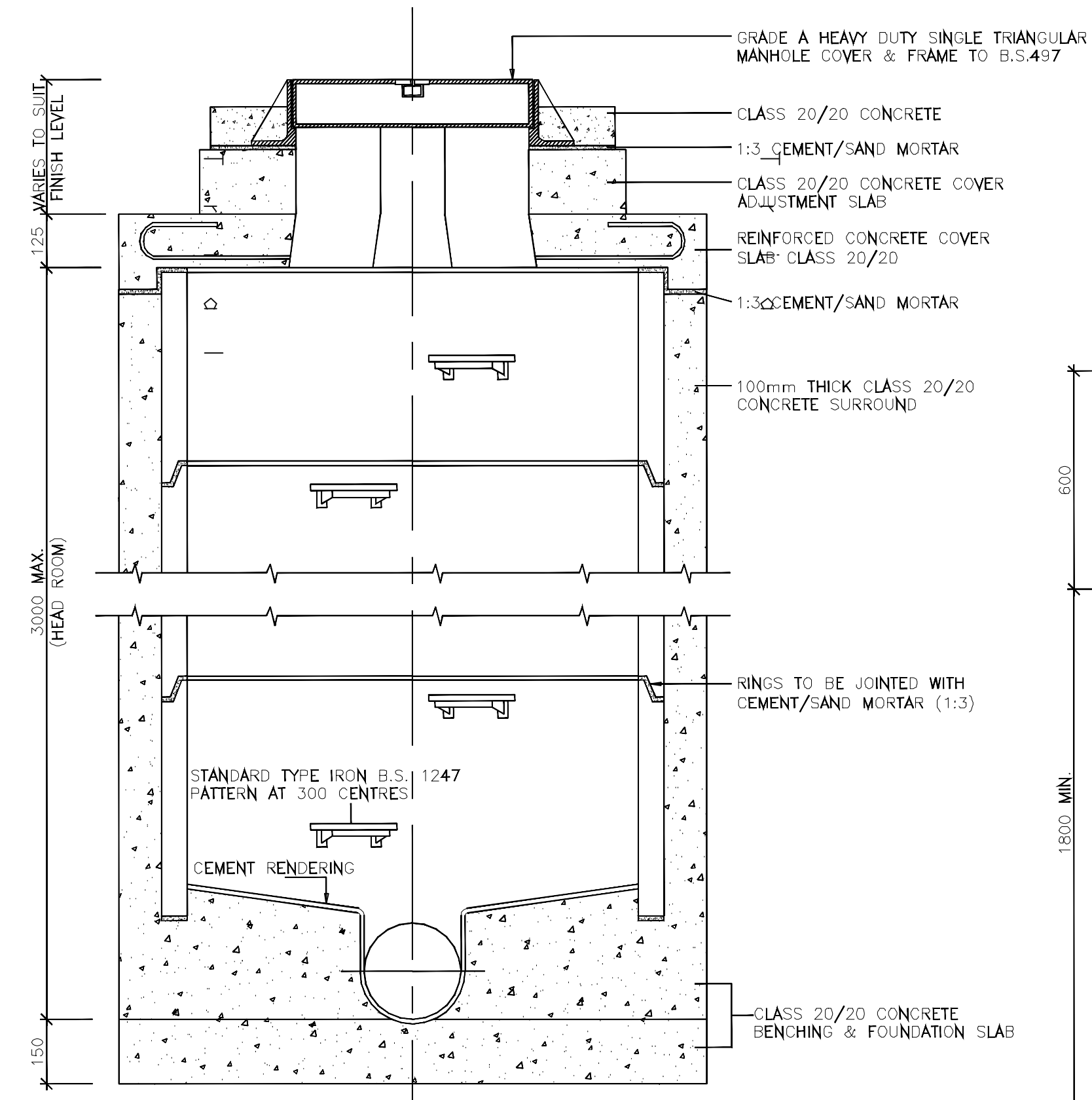
Civil Engineer:
FRAME CONSULTANTS LTD
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Client:
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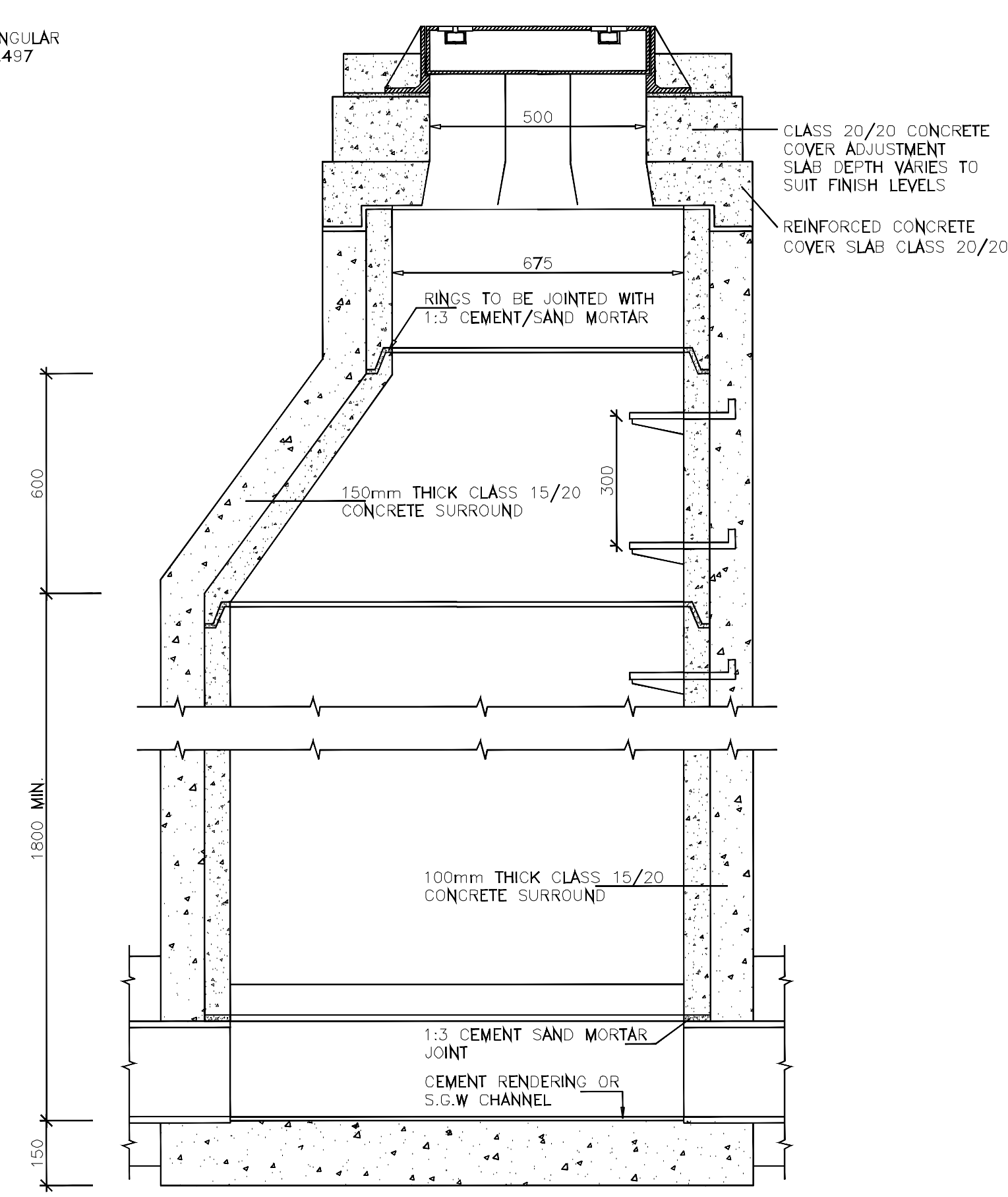
Project:
NAIROBI RIVERS SEWERAGE
IMPROVEMENT PROJECT - PHASE II
(NaRSIP II)

Drawing Title:
KIU RIVER SEWERAGE
SLUDGE DRYING BEDS PLAN AND DETAILS

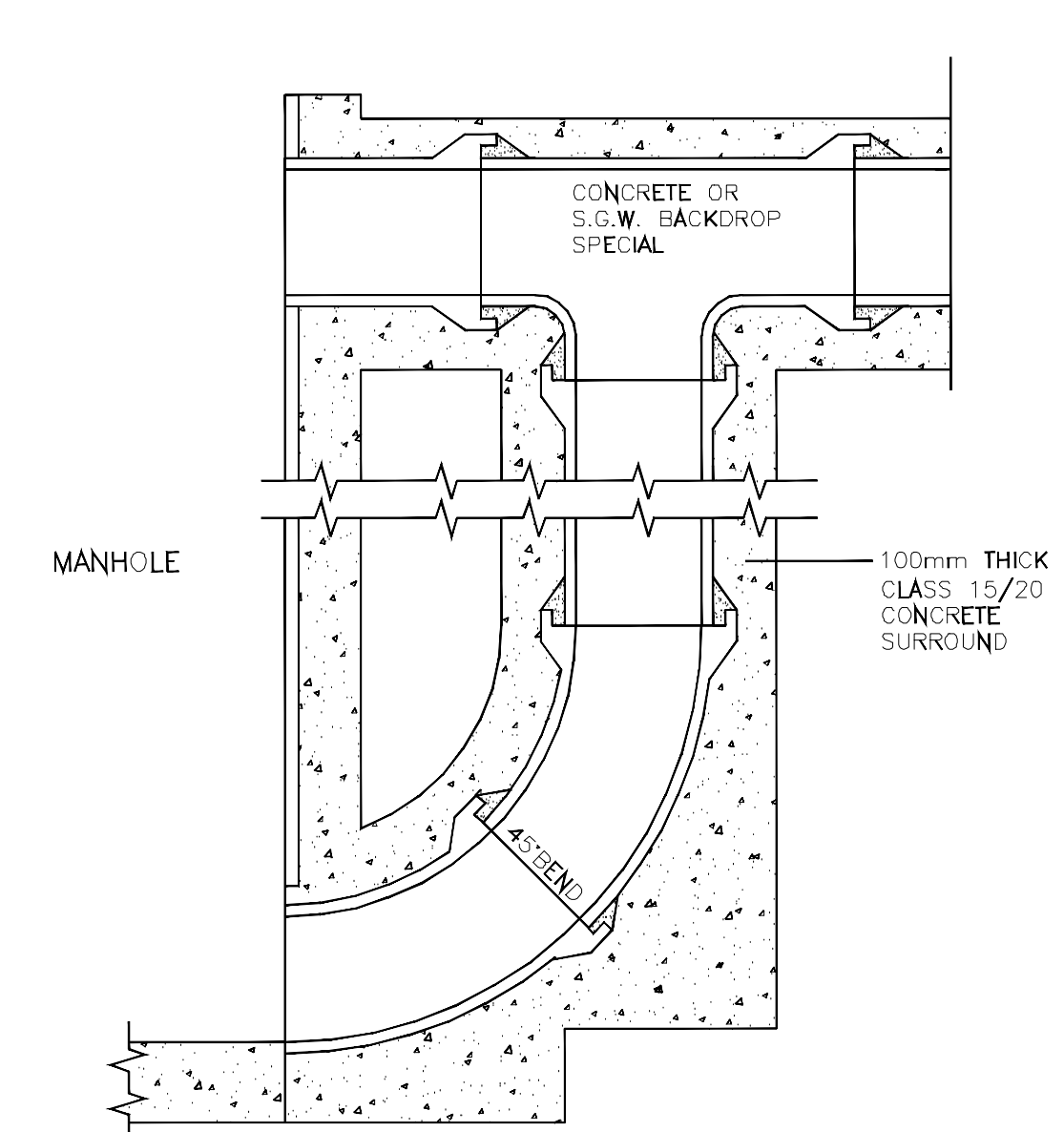




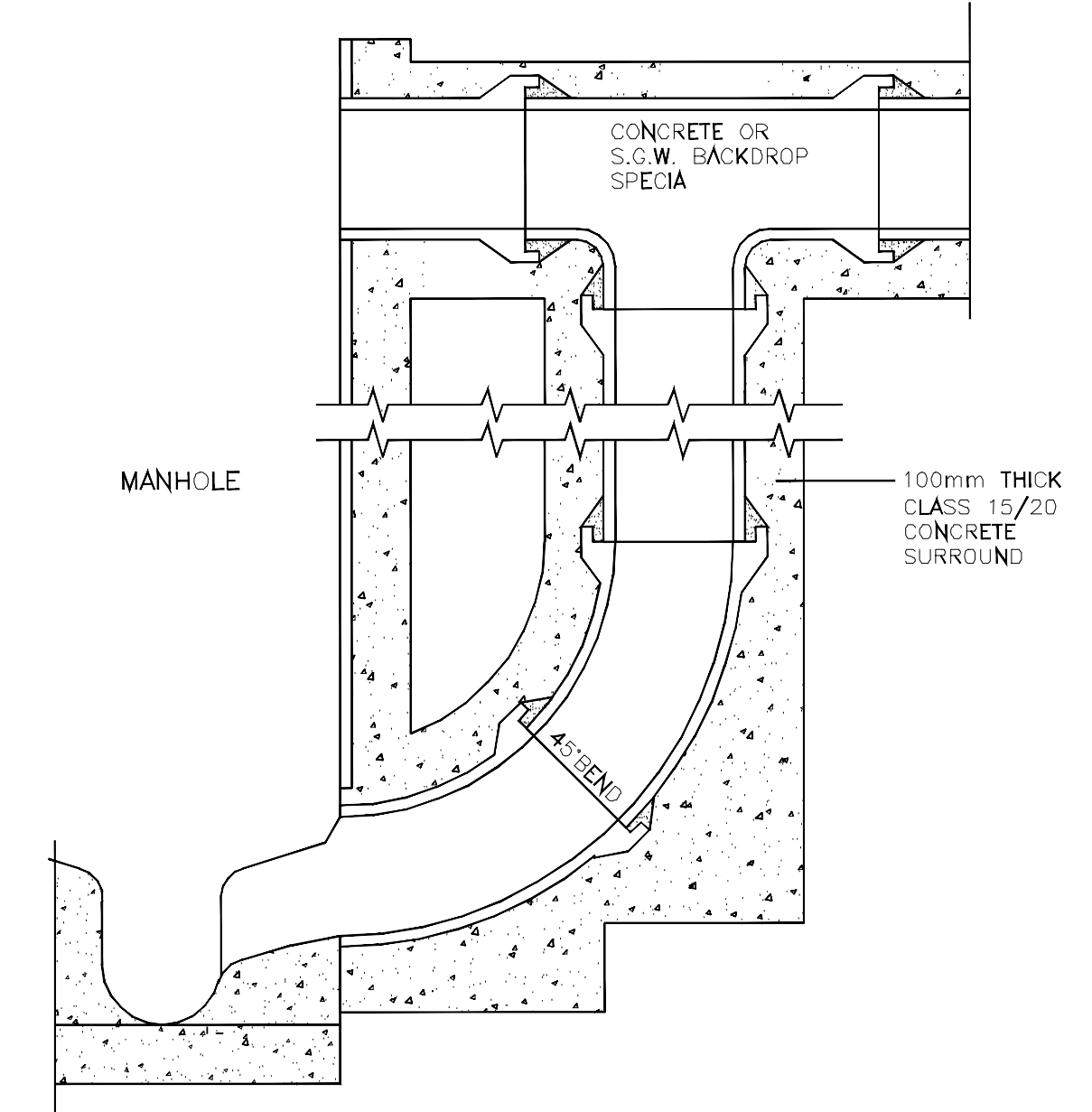
1-1
STANDARD MANHOLE DETAILS
TYPE A
(Where Manhole Depth <3.0m)



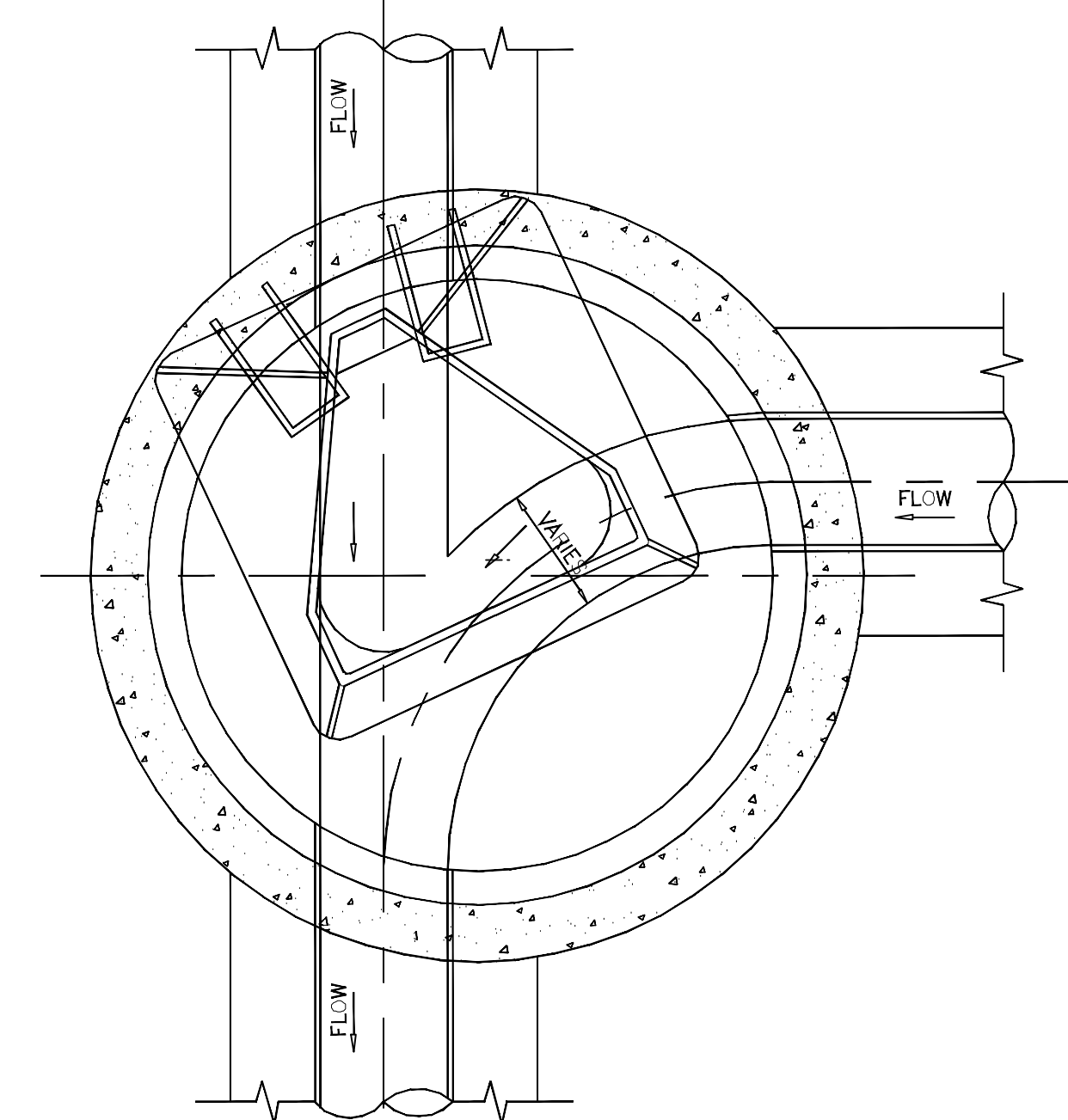
2-2
STANDARD TAPERED MANHOLE DETAILS
TYPE B
(Where Manhole Depth ≥3.0m)



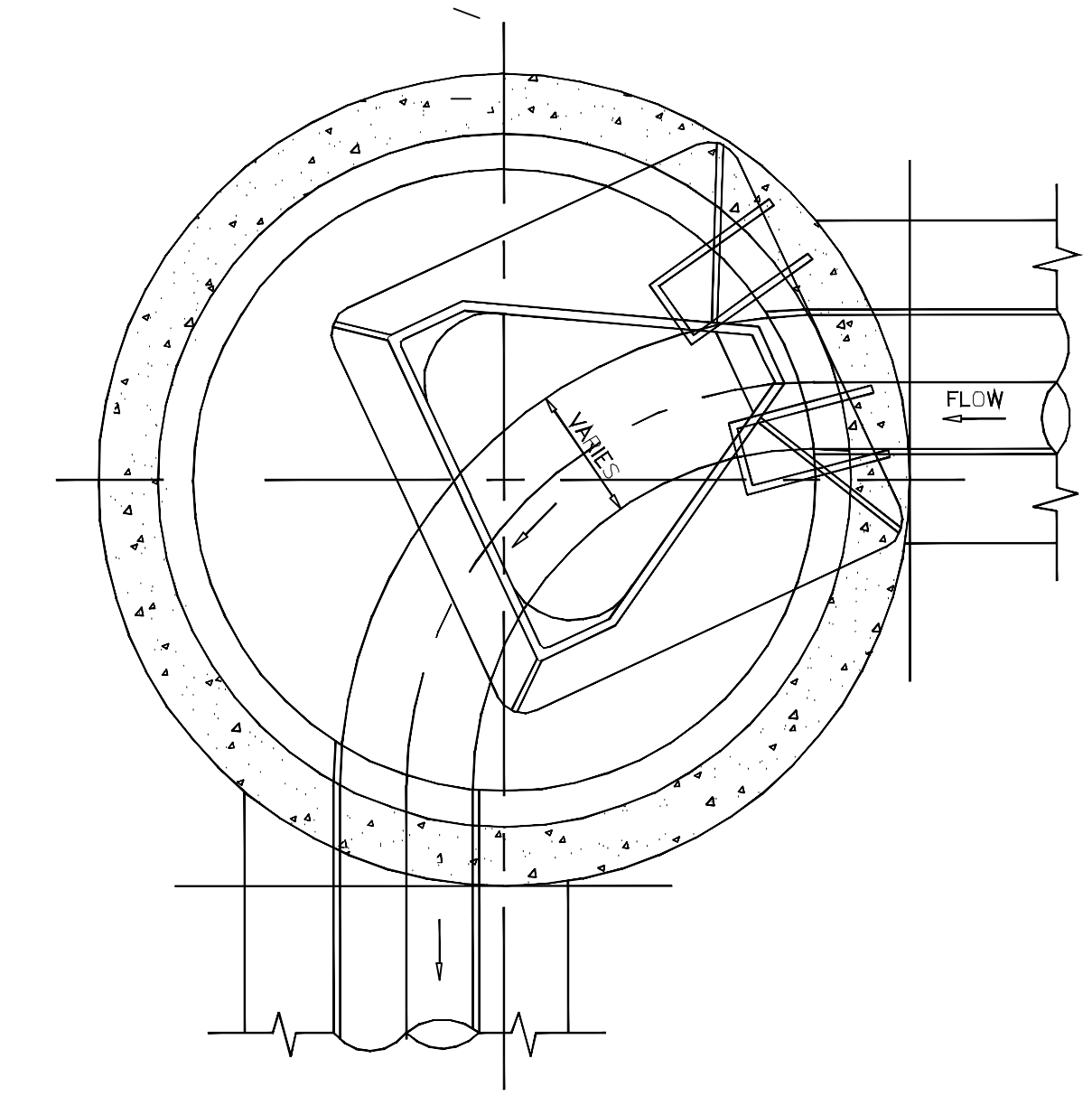
END ENTRANCE BACKDROP



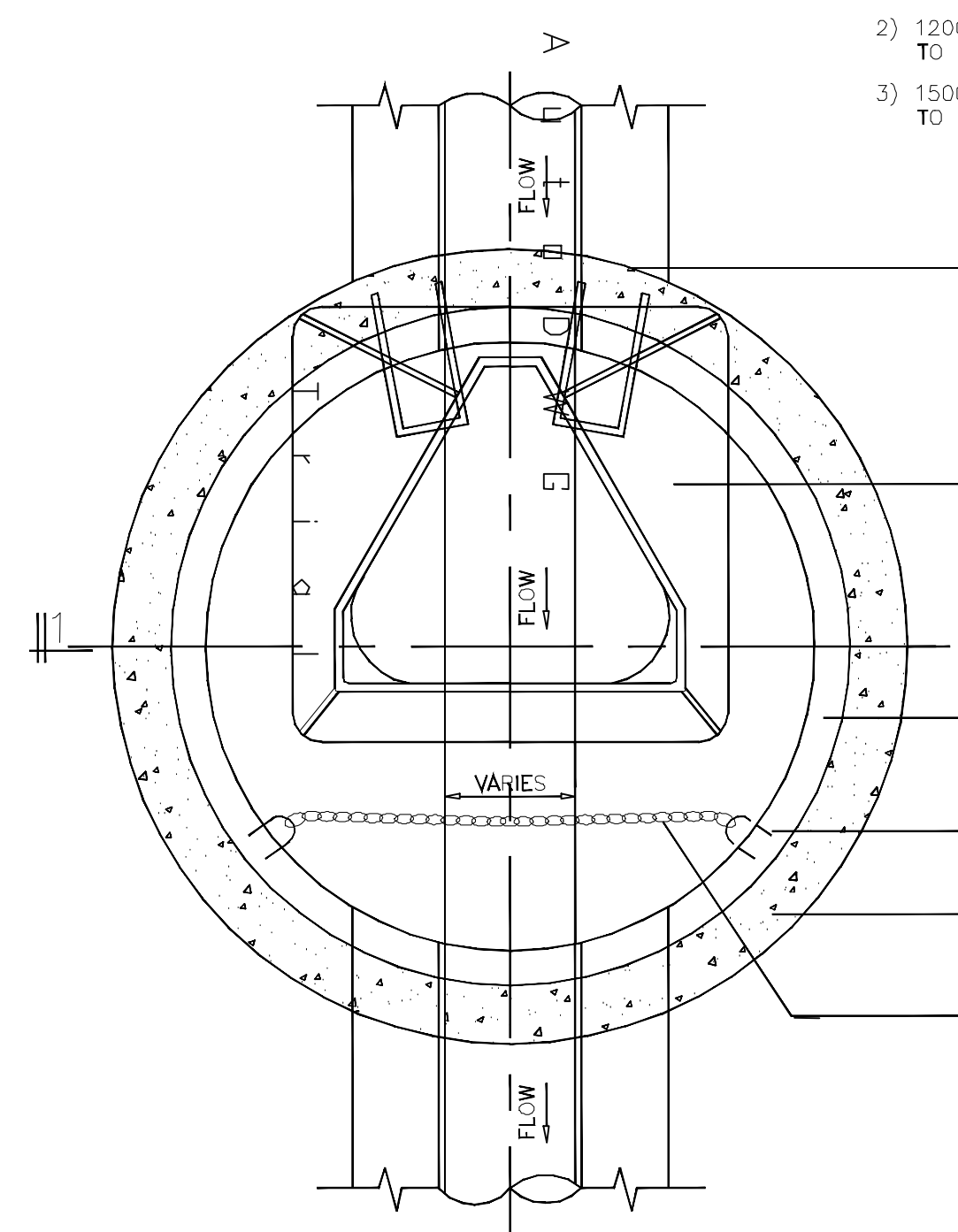
SIDE ENTRANCE BACKDROP



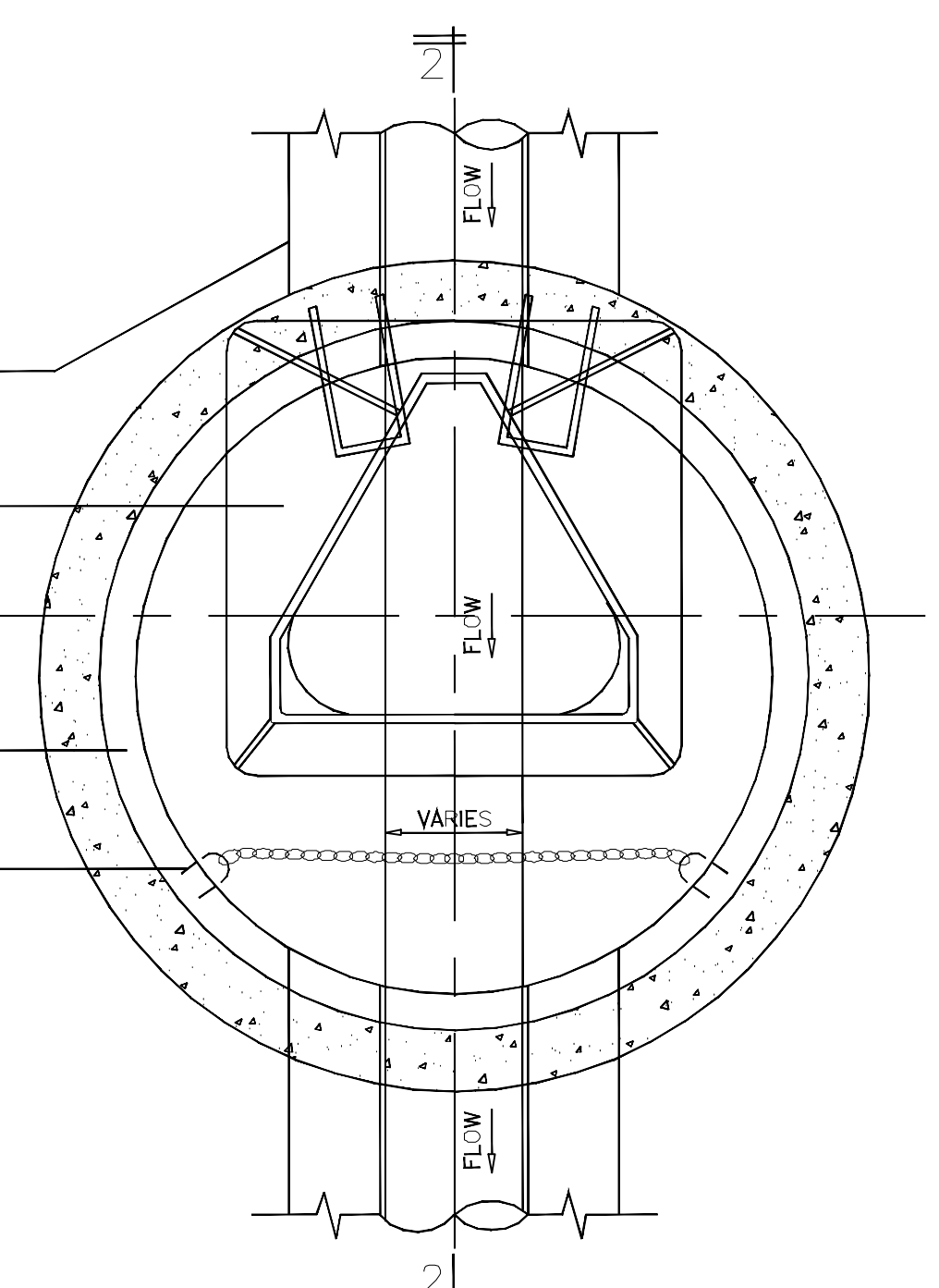
90° SIDE ENTRANCE



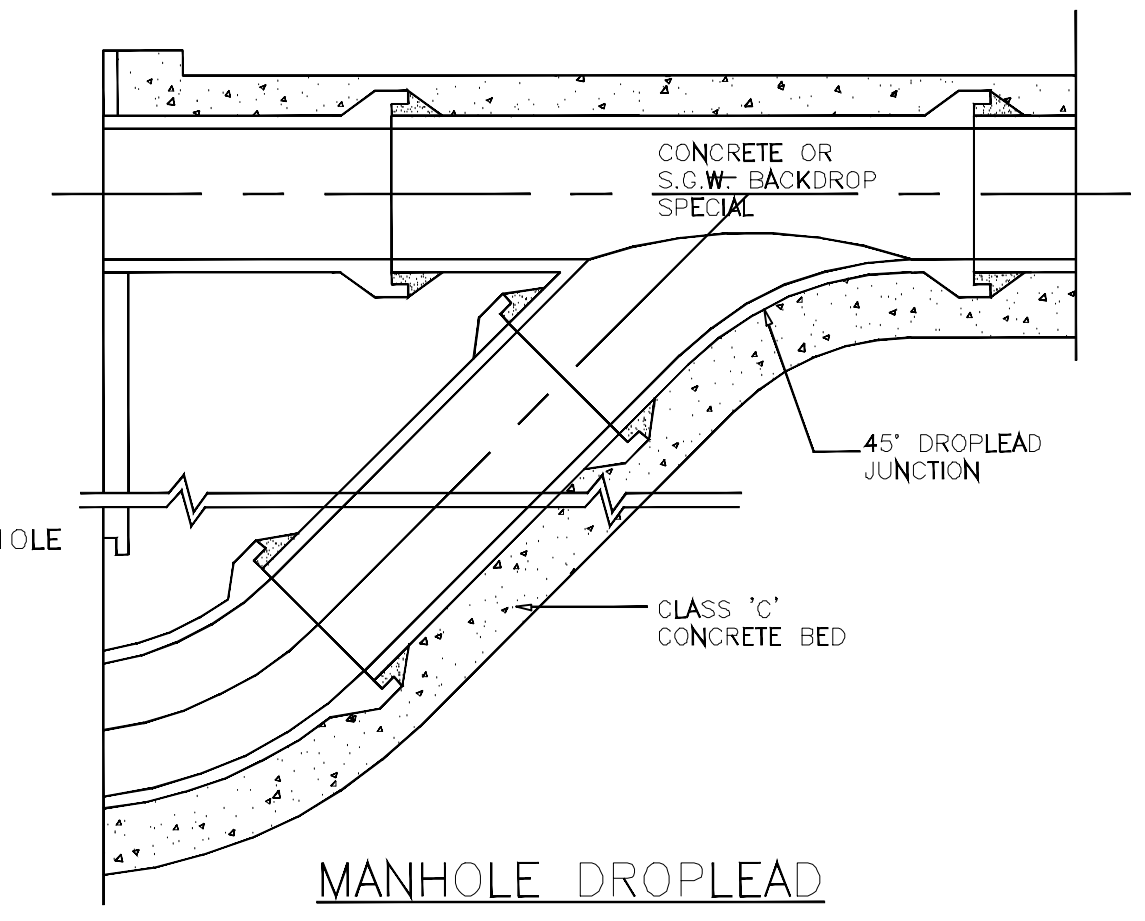
90° CHANGE OF DIRECTION



SECTIONAL PLAN



SECTIONAL PLAN



MANHOLE DROPLEAD

NOTES

- 1) 1050mm DIA. PRECAST CONCRETE MANHOLE RINGS TO BE USED FOR SEWERS UPTO AND INCLUDING 300mm DIA.
- 2) 1200mm DIA. PRECAST CONCRETE MANHOLE RINGS TO BE USED FOR SEWERS OF 375-600mm DIA.
- 3) 1500mm DIA. PRECAST CONCRETE MANHOLE RINGS TO BE USED FOR SEWERS OF 675-900mm DIA.

NOTES

1. Sewer diameter, Orientation, Depth of Manhole and dimensions to be obtained from the relevant plan and profile drawings
2. Longitudinal slopes of channels in manholes shall be equal to the slope of the incoming and outgoing sewers
3. Manhole floors and walls shall be of Class "20" R.C; the ceiling of Class "25" R.C and Benching Class "10" mass concrete
4. All step irons shall be protected from rusting by painting with bituminous paint or have plastic/rubber cover

REV	REVISIONS	SIGN	DATE	APPROVED	Designed by	D.K	Drawn by	D.K
D	CHECKED BY				Checked by	FMK	Approved by	
C	CHECKED BY				Not to Scale		Date:	DECEMBER 2016
B	CHECKED BY				Job No.	FC/CE90	ACAD File:	CE90_SD_01
A	CHECKED BY				P STATUS	DRG No.	FC/CE90/SD/01	REV

Civil Engineer:
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Project
NAIROBI RIVERS SEWERAGE
IMPROVEMENT PROJECT - PHASE II
(NaRSIP II)

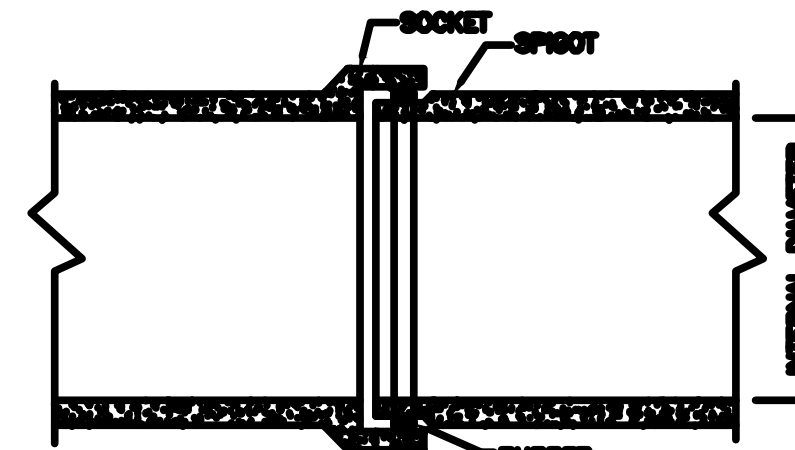
Drawing Title
MANHOLE DETAILS
MANHOLE TYPES A, B AND BACKDROP
DETAILS

CONCRETE QUANTITIES IN BEDS AND SURROUND FOR O.G. CONCRETE PIPES (Cu.M PER LINEAR METRE)

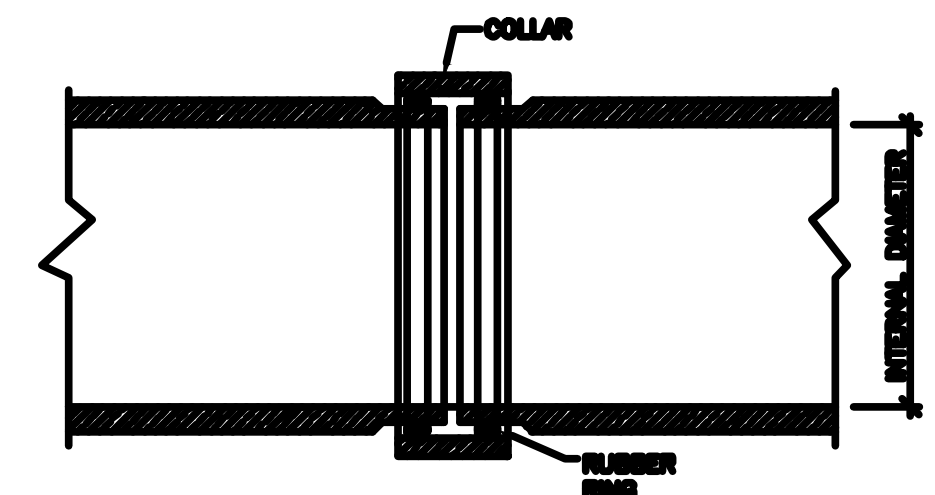
INTERNAL PIPE DIAMETER	PIPE WALL THICKNESS	HAUNCH TYPE							
		TYPE A		TYPE B		TYPE C		TYPE D	
		100mm	150mm	100mm	150mm	100mm	150mm	100mm	150mm
100mm	25mm	0.0858	0.0781	0.0799	0.1034	0.1431	0.1686	0.1682	0.1987
150mm	25mm	0.0842	0.0804	0.0845	0.1107	0.1708	0.1987	0.1980	0.2342
225mm	25mm	0.0783	0.1078	0.1282	0.1857	0.2184	0.3449	0.2524	0.2818
300mm	30mm	0.0828	0.1277	0.1857	0.1805	0.2816	0.2884	0.3089	0.3448
375mm	34mm	0.1079	0.1470	0.1884	0.2254	0.3083	0.3483	0.3701	0.4091
450mm	37mm	0.1253	0.1688	0.2207	0.2843	0.3521	0.4057	0.4380	0.4816
525mm	43mm	0.1433	0.1918	0.2583	0.3045	0.4167	0.4600	0.5049	0.5532
600mm	50mm	0.1619	0.2148	0.2942	0.3470	0.4728	0.5207	0.5841	0.6388
675mm	53mm	0.1804	0.2374	0.3309	0.3879	0.5288	0.5836	0.6587	0.7137
750mm	58mm	0.1988	0.2588	0.3681	0.4283	0.5820	0.6433	0.7281	0.7834
800mm	62mm	0.2377	0.3075	0.4481	0.5189	0.6870	0.7682	0.8617	0.9315
1000mm	68mm	0.3809	0.3804	0.4843	0.5738	0.8177	0.8872	1.0830	1.1485
1200mm	75mm	0.3289	0.4188	0.6227	0.7087	0.9443	1.0313	1.2489	1.3329

TYPE OF BED, HAUNCH AND SURROUND TO BE USED

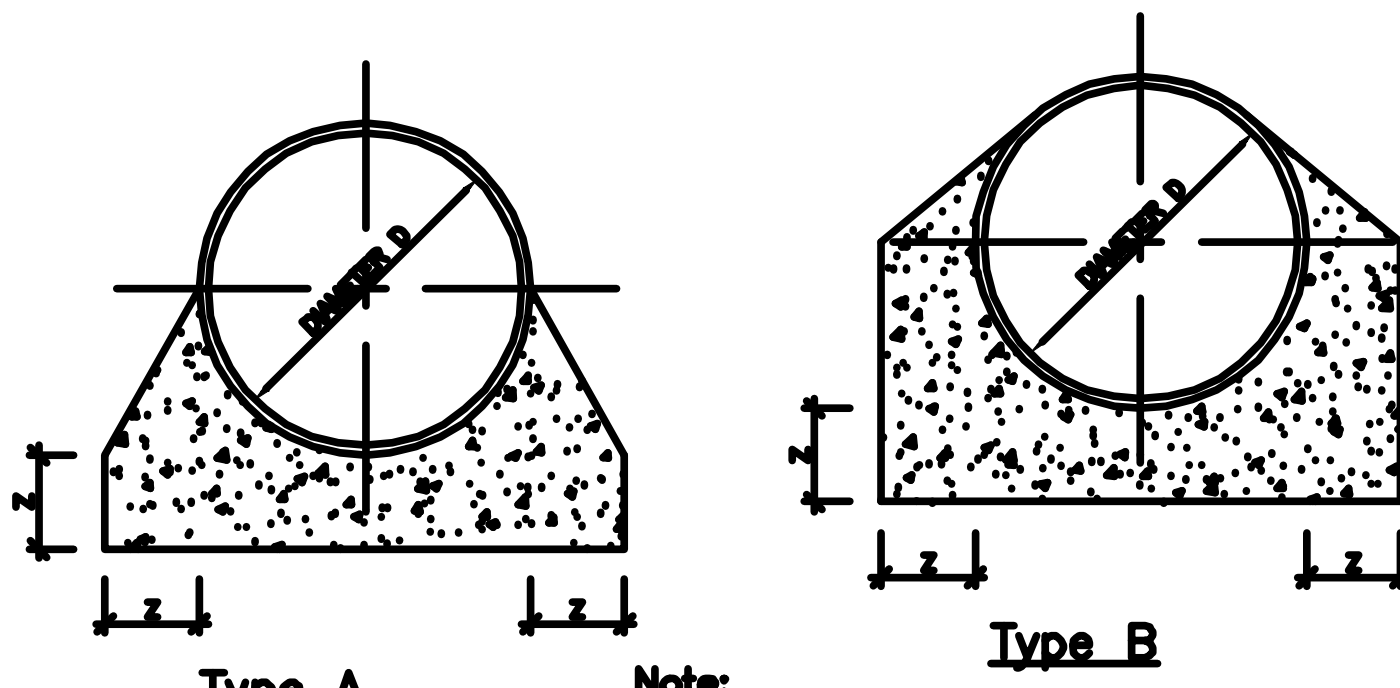
DEPTH TO TOP OF THE PIPE	PIPE DIAMETER									
	100mm	225mm	300mm	375mm	450mm	525mm	600mm	675mm	750mm	>750mm
<1.2m IN ROADS <1.0m ELSEWHERE	TYPE 'C'									
<4.00m	TYPE 'A' (CONCRETE BED MAY BE DELETED AT THE DISCRETION OF THE ENGINEER)					TYPE 'B'				
>4.00m	TYPE 'B'									
>6.0m OR IN HEADINGS	TYPE 'D' OR AS DIRECTED									



TYPICAL FLEXIBLE SPIGOT AND SOCKET JOINT



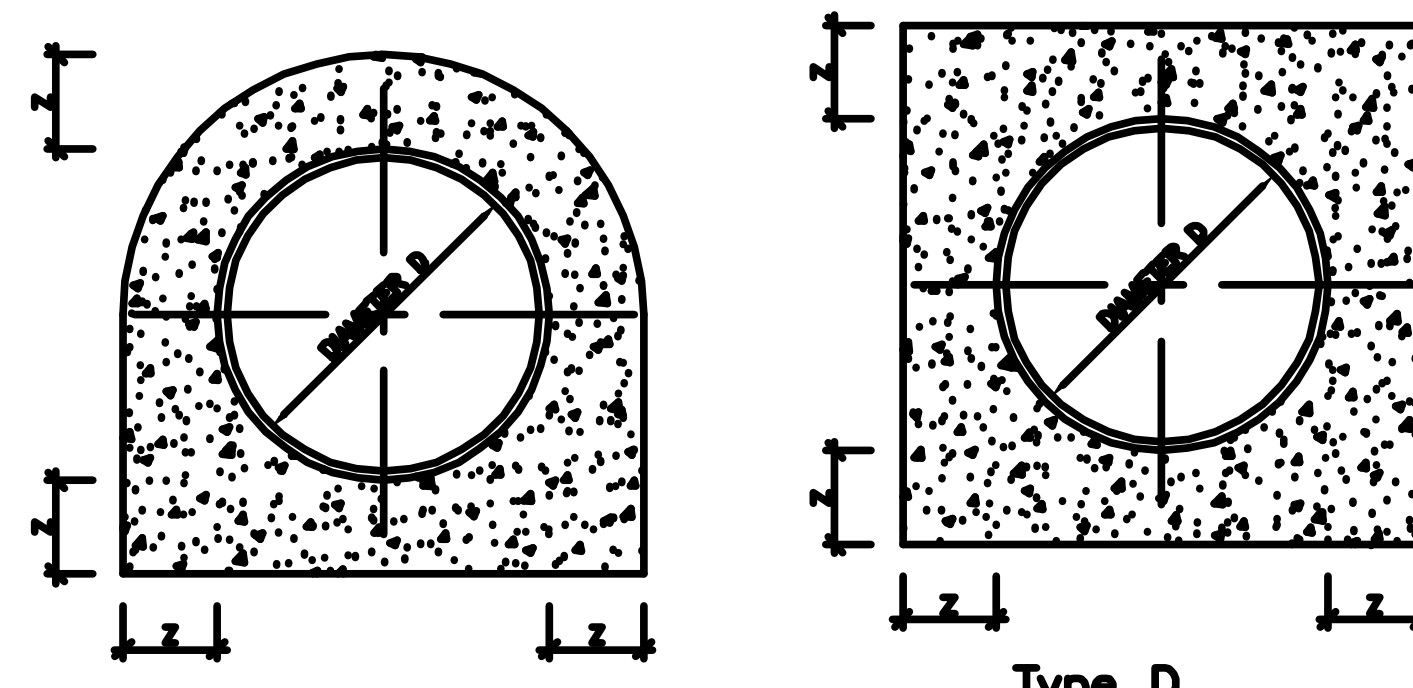
TYPICAL FLEXIBLE COLLAR JOINT



Type A

Type B

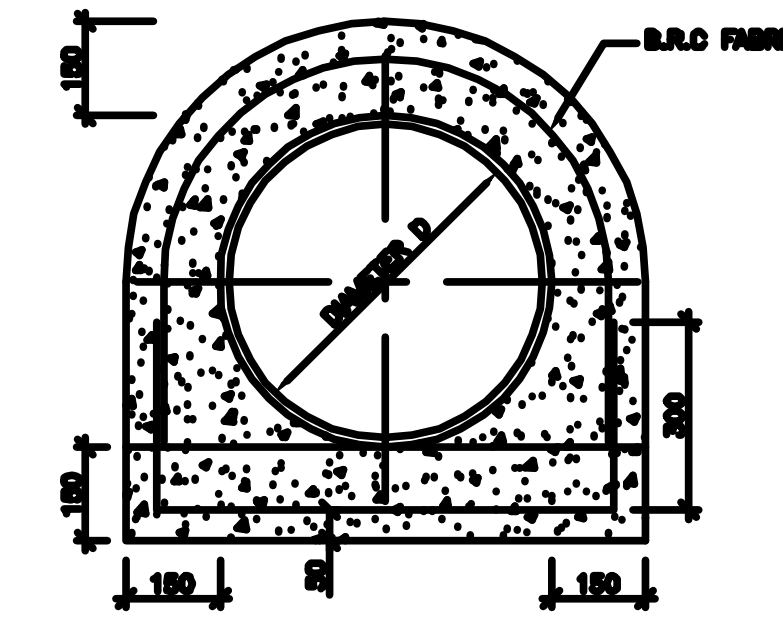
Note:
*z = 100 or 150 mm
*Concrete to be class 15 (40)



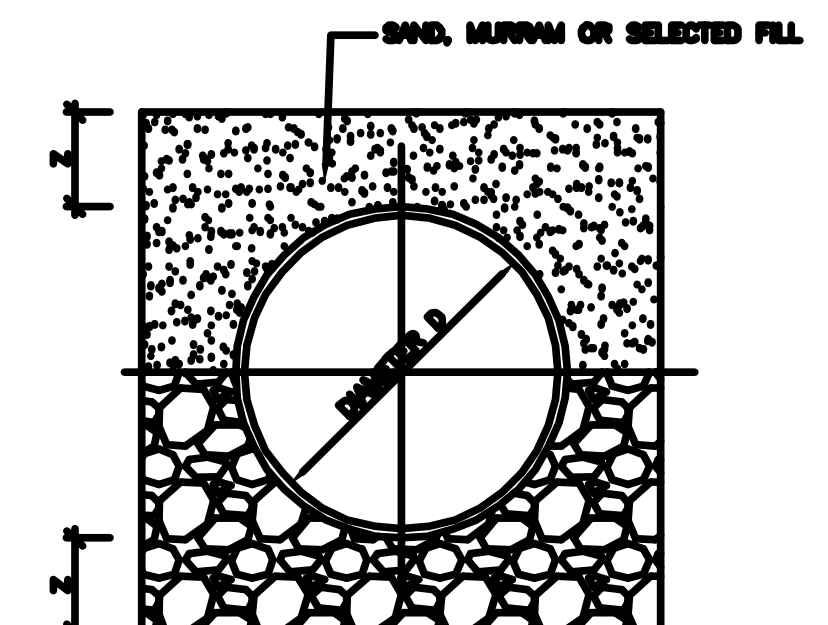
Type C

Type D

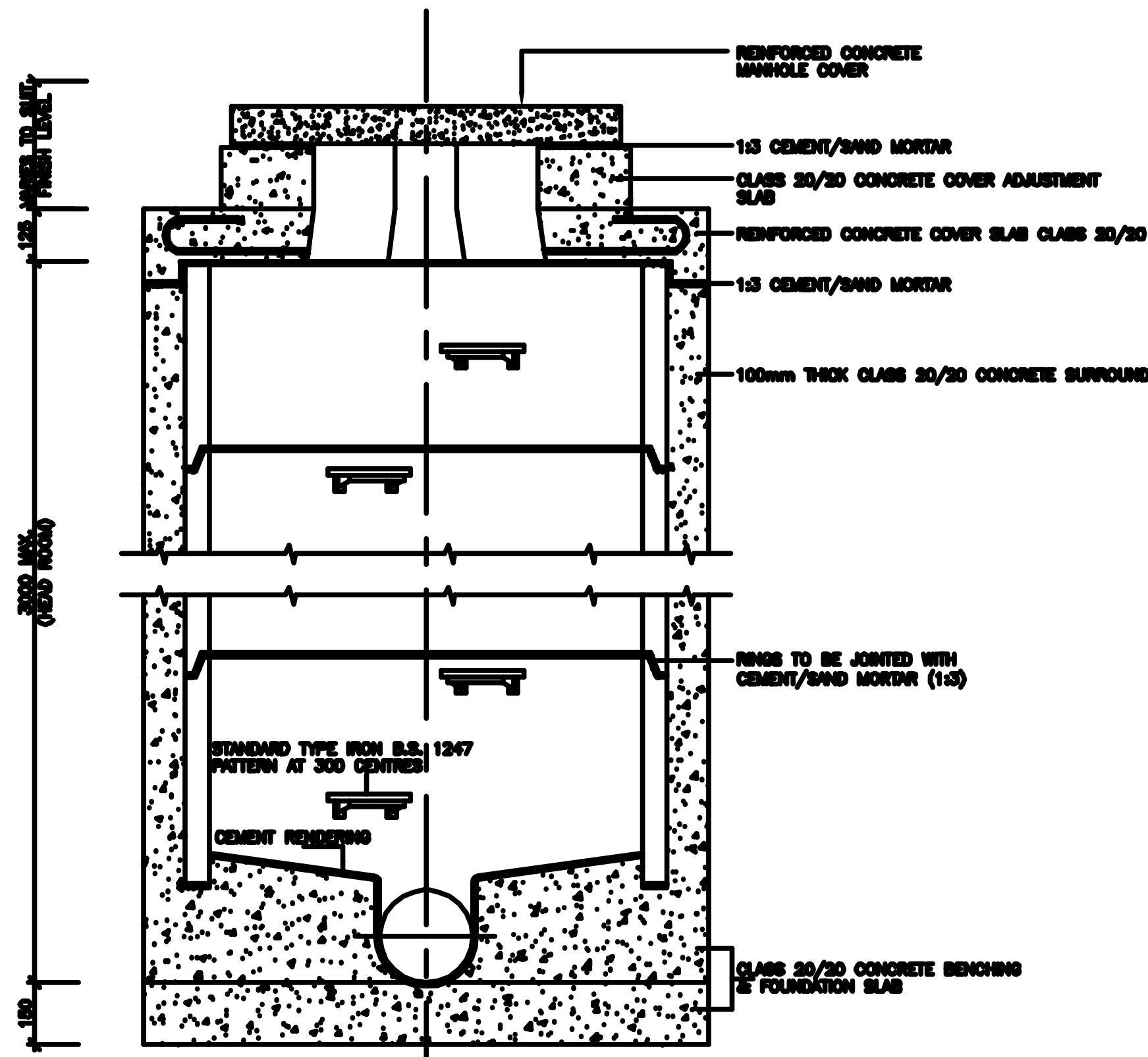
TYPICAL BED HAUNCH AND SURROUND TO CONCRETE PIPES



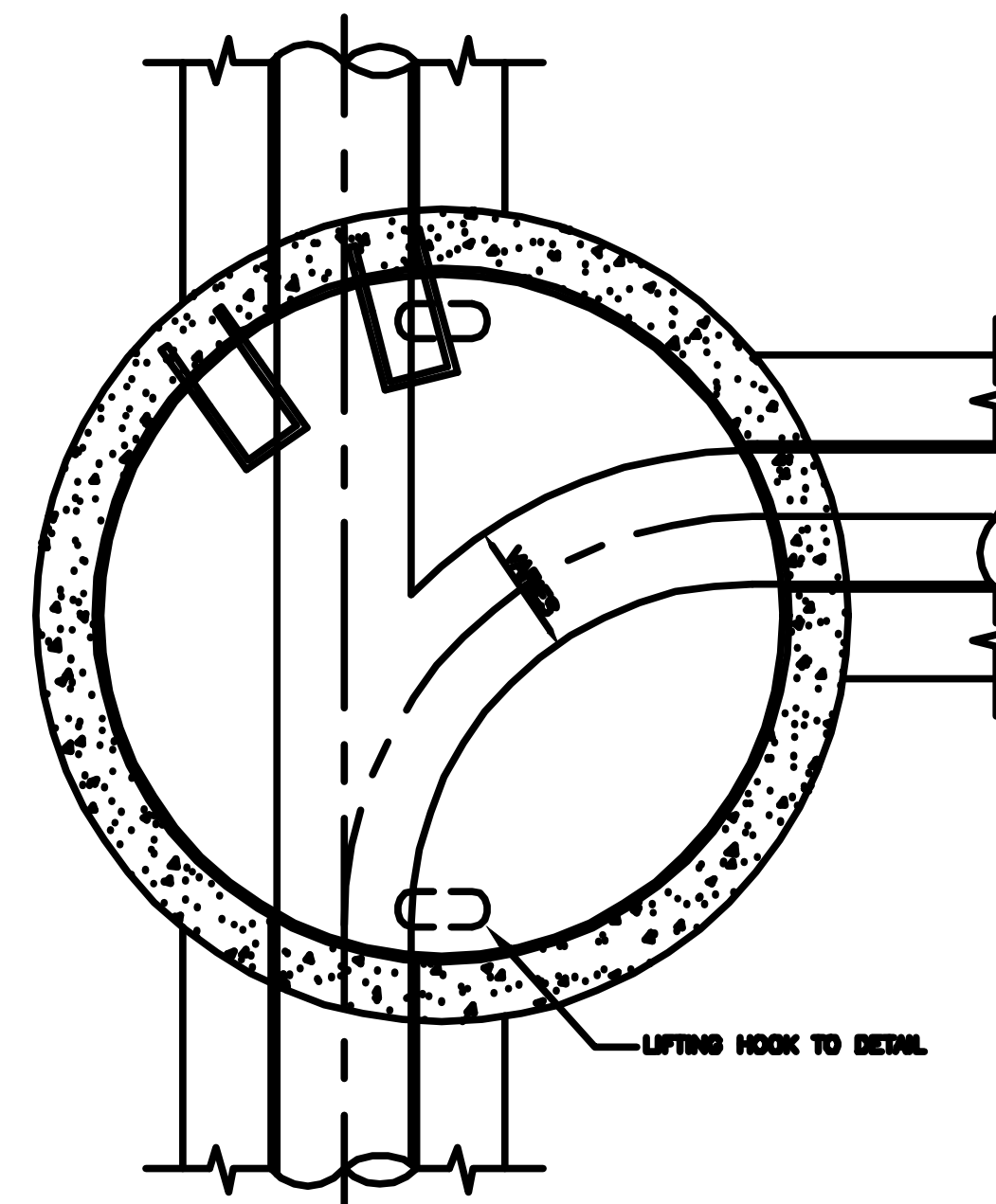
REINFORCED CONCRETE BED AND SURROUND Type C



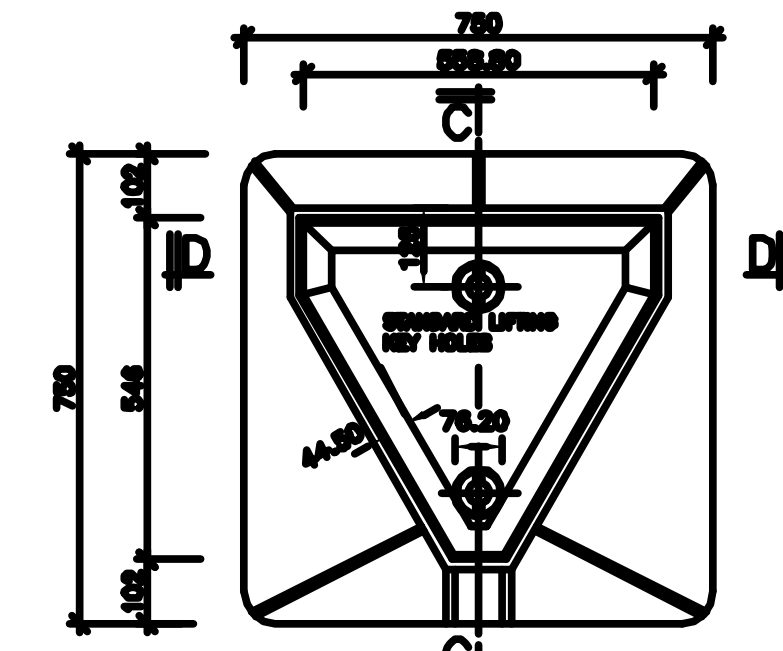
GRANULAR BED



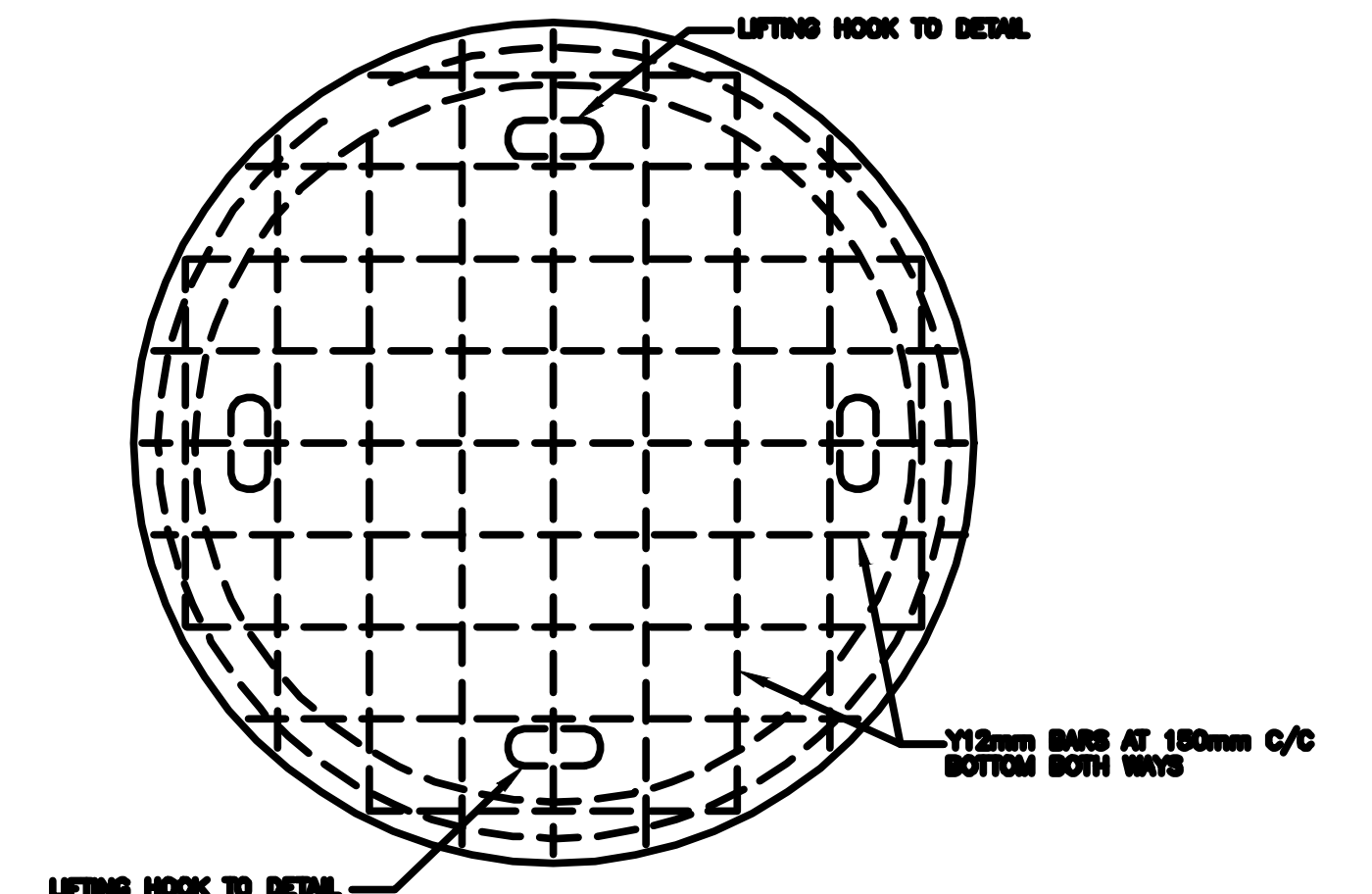
STANDARD MANHOLE DETAILS (Where internal head room upto 2.0m)



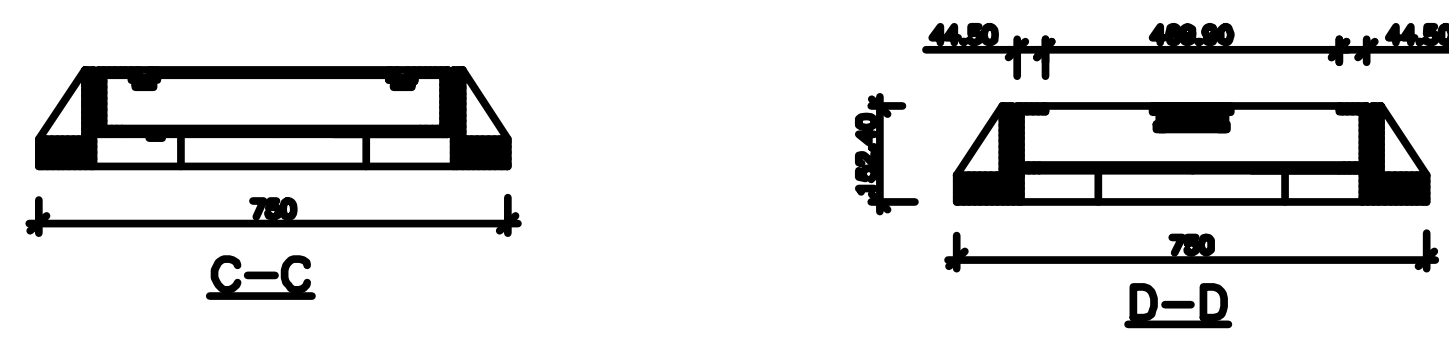
TOP SLAB PLAN TYPE-2



PLAN-TRIANGULAR MANHOLE COVER TYPE-1



REMOVABLE COVER SLAB-TYPE-1 REINFORCEMENT DETAIL



C-C

D-D

Civil Engineer:
FRAME CONSULTANTS LTD
P.O. BOX 58624-00200, NAIROBI.
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E-mail: info@frameconsultants.com

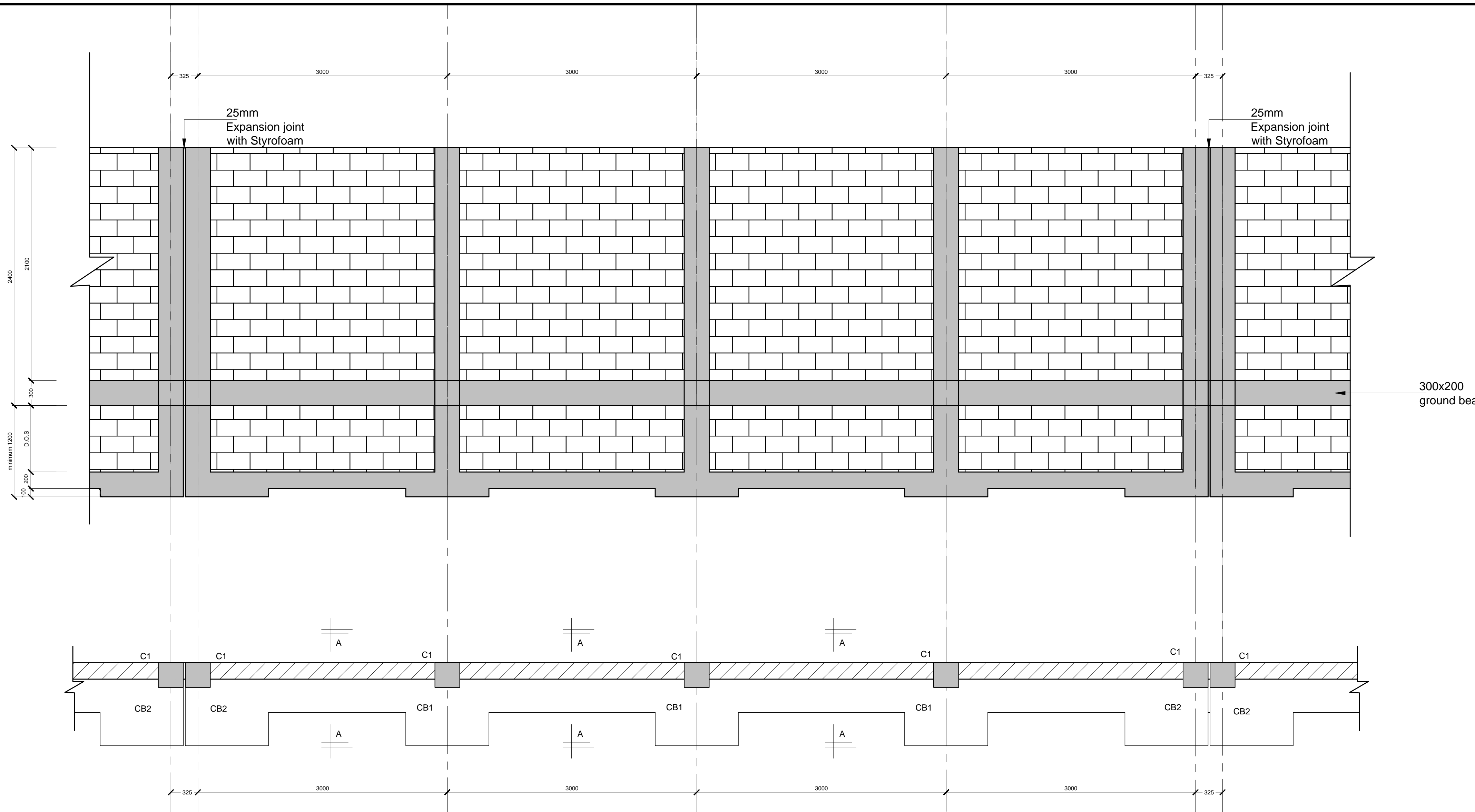
Client:
ATHI WATER SERVICES BOARD
P.O BOX 45283 - 00100
NAIROBI,
Tel: +254 (0) 274292/3
Email: info@awsboard.go.ke

Project:
NAIROBI RIVERS SEWERAGE
IMPROVEMENT PROJECT - PHASE II
(NaRSIP II)

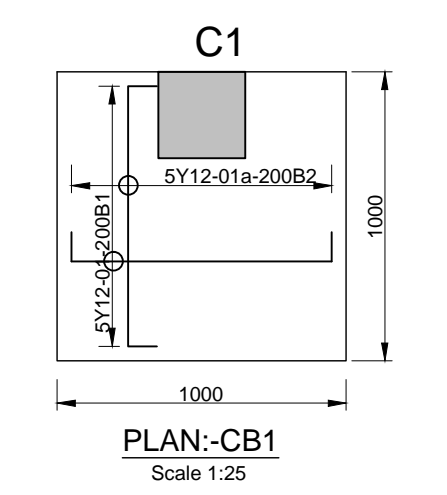
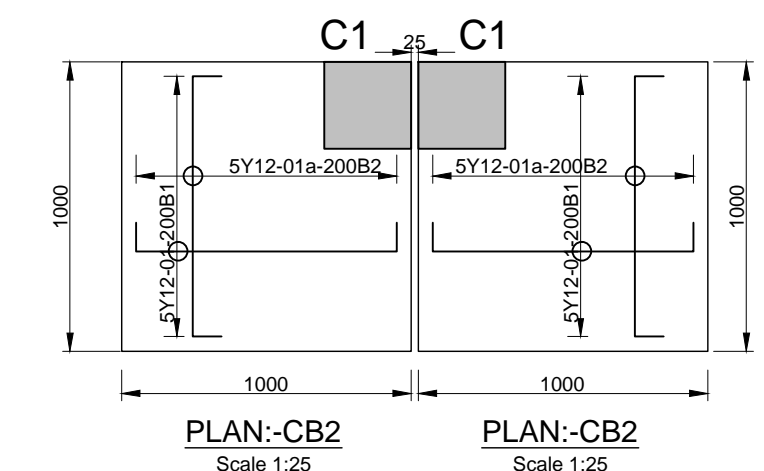
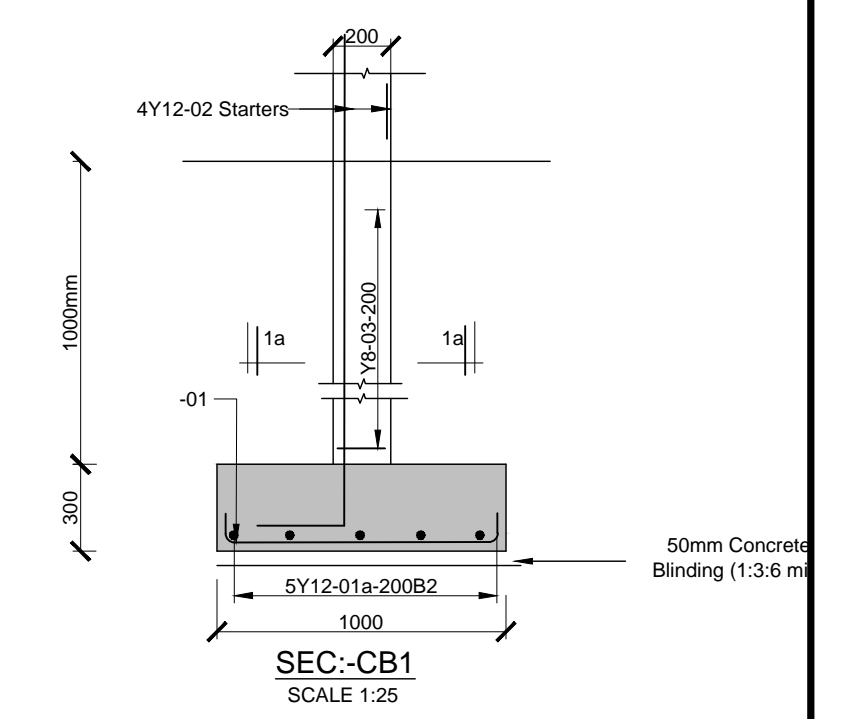
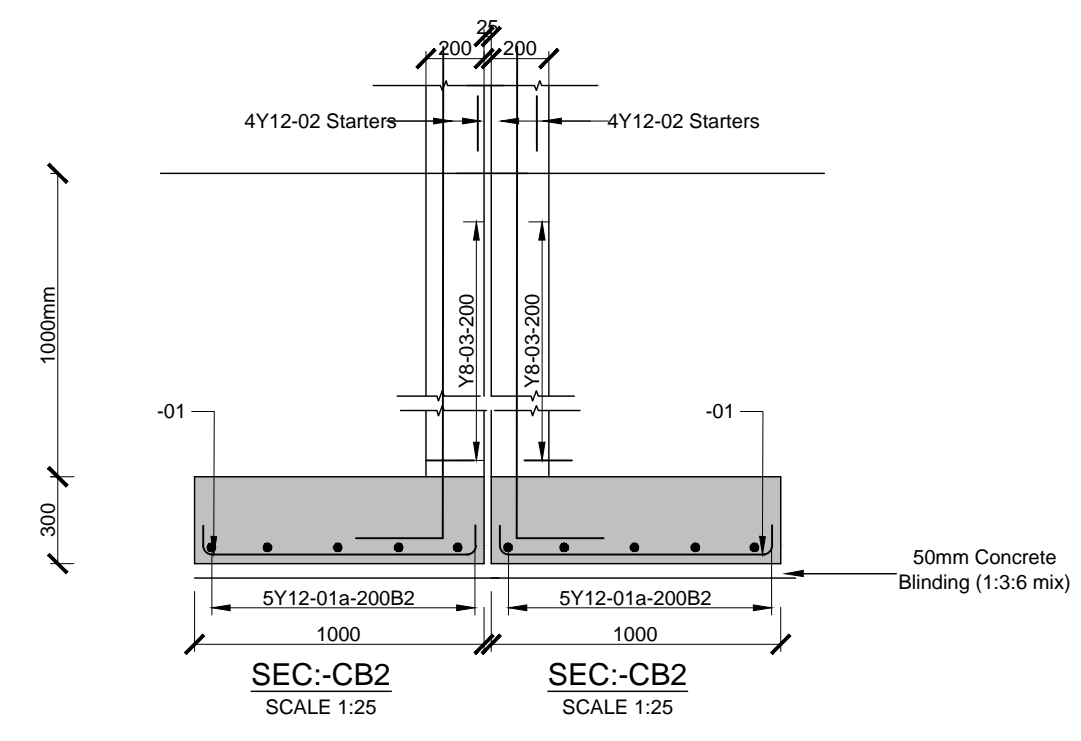
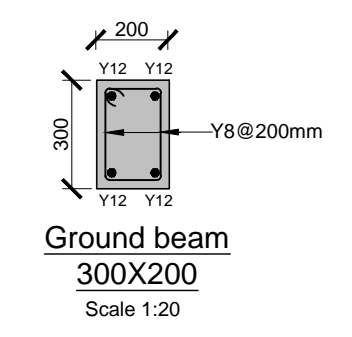
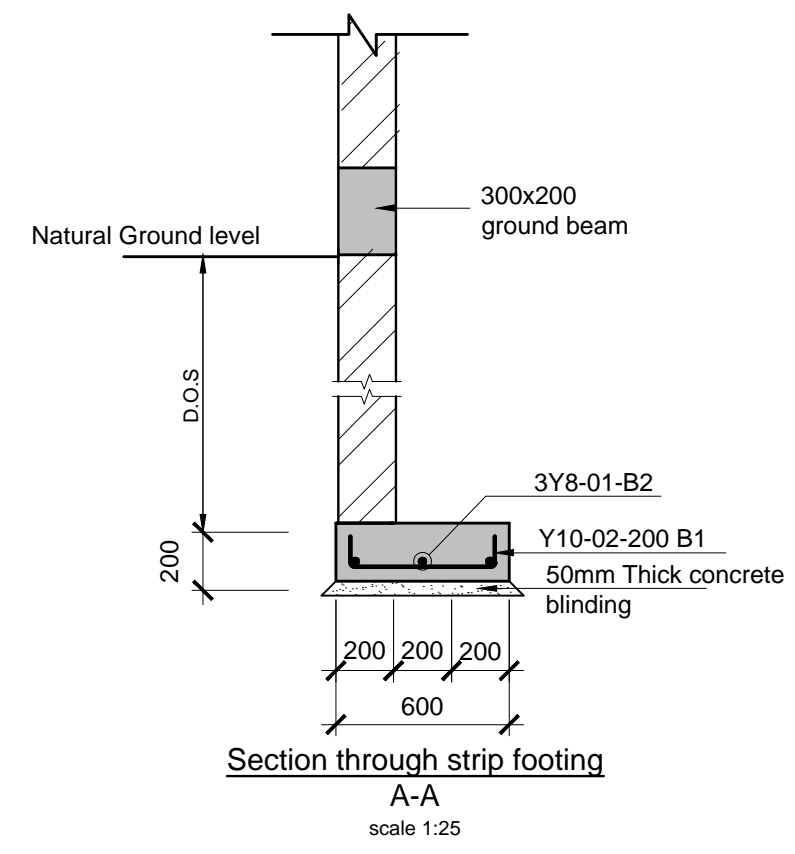
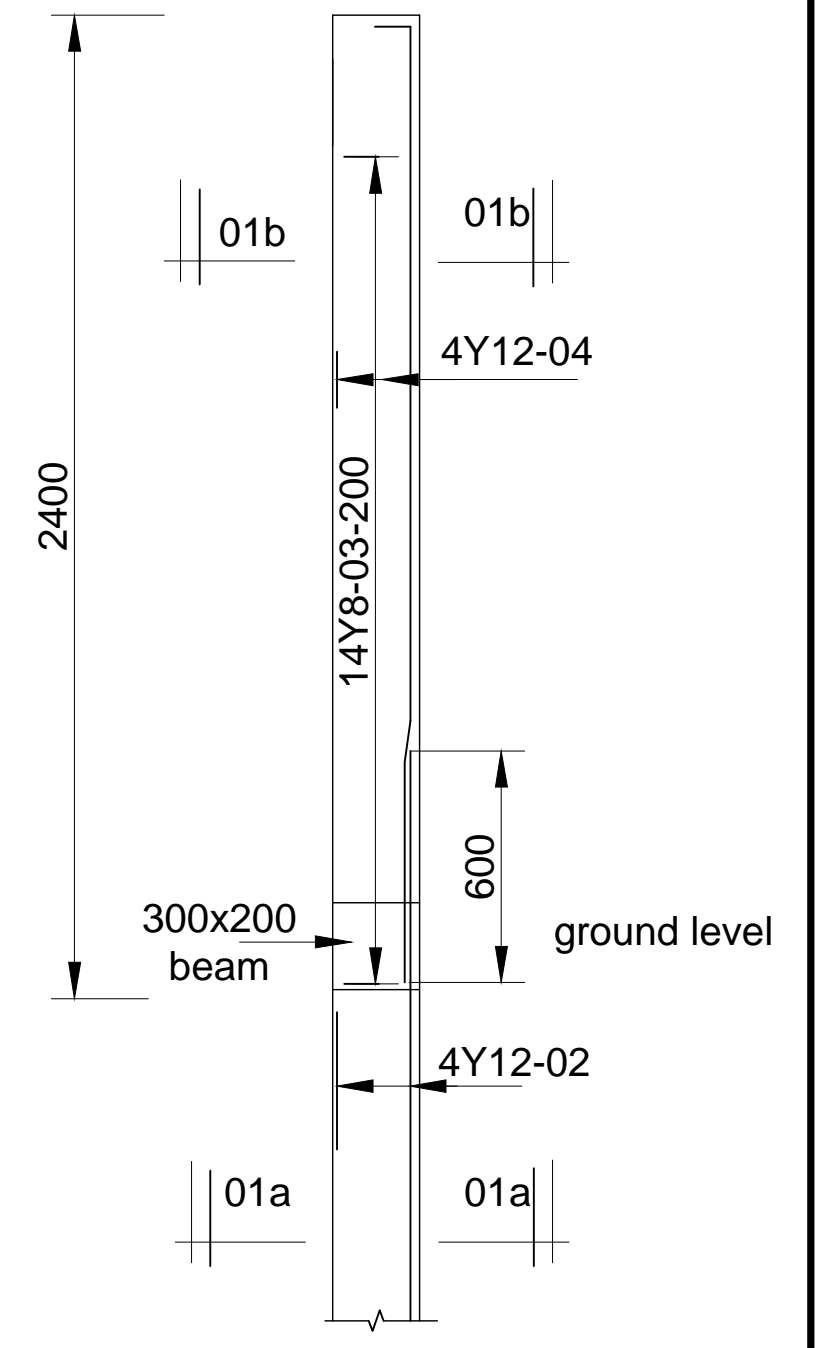
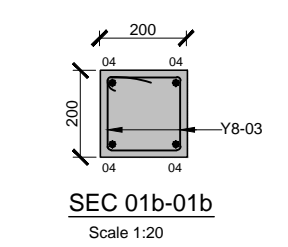
Drawing Title:
STANDARD DETAILS
PIPE BEDDING, SURROUNDS AND
HAUNCHES AND MANHOLE DETAILS

NOTES:
1. Sewer diameter, Orientation, Depth of Manhole and dimensions to be obtained from the relevant plan and profile drawings
2. Longitudinal slopes of channels in manholes shall be equal to the slope of the incoming and outgoing sewers
3. Manhole floors and walls shall be of Class "20" R.C; The ceiling of Class "25" R.C and Benching Class "10" mass concrete
4. All step irons shall be protected from rusting by painting with bituminous paint or have plastic/rubber cover

REV	DESCRIPTION	SIGN	DATE	APPROVED	Designed by	Drawn by
D	CHECKED				D.K	D.K
C	CHECKED				F.M.K	
B	CHECKED				Not to Scale	Date: DECEMBER 2016
A	CHECKED				Job No. FC/CE90	ACAD File: CE90_SD_02
					P STATUS	DRG No. FC/CE90/SD/02



**BOUNDARY WALL
ELEVATION & PLAN
VIEW**



NOTES		REVISIONS				DESIGNED BY	DESIGNED BY								
1. Read this drawing in conjunction with relevant G.A., Services and Architectural drawings. Any discrepancy to be reported to the Engineer.	2. All dimensions are in millimetres unless specified otherwise.	3. All levels are indicated in m unless specified otherwise.	4. All structural concrete to be Class 20 (1:2:4) unless stated otherwise.	5. Minimum cover to all reinforcement to be: Stairs, Slabs & Walls = 20mm Beams (main bars) = 30mm Columns (main bars) = 40mm Foundations = 50mm	6. All high tensile (Y) and mild steel (R) bars to be in accordance with BS 4449 and fabric mesh to be made from cold worked steel bars in accordance with BS 4483.	7. Maximum tolerance on concrete cover is +/- 5mm	8. Minimum laps to all bars to be 550 unless stated otherwise.	9. Assumed Bearing Pressure taken to be 100 KN/m ² .	10. Nominal aggregate size to be 20mm.	BY	SIGN	DATE	APPROVED	Designed by BAM	Drawn by BAM
										CHECKED				Checked by FMK	Approved by FMK
										CHECKED				Scales AS SHOWN	Date: JAN 2017
										CHECKED				Job No. FC/SE214	ACAD File: CE90_SD_03
										CHECKED				Drawing No. FC/CE90/SD/03	REV

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Client:
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NAIROBI,
Tel: +254 (0) 274292/3
Email: info@awsboard.go.ke

Drawing Title
Boundary Wall Details

- ROOF CONSTRUCTION**
1. STRUCTURAL TIMBER TRUSSES SPACED AT 15m C/C
 2. 150x50mm RAFTERS AND CEILING JOIST
 3. 100x50mm STRUTTINGS
 4. 100x50mm PURLINS
 5. 200x25mm FASCIA BOARD
 6. 100x50mm WALL PLATE
 7. SELECTED CLAY TILES ROOF COVERING
 8. 23° ROOF PITCH

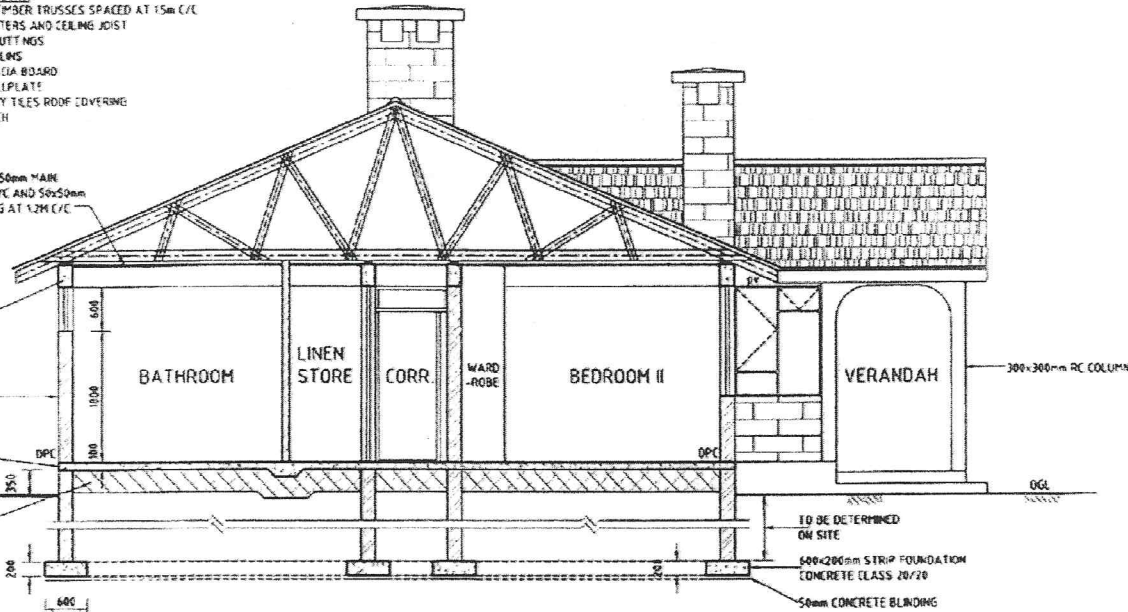
CELDTEX CEILING ON 75x50mm MAIN BRANDERINGS AT 1.2M C/C AND 50x50mm SECONDARY BRANDING AT 1.2M C/C ALTERNATIVELY

300x150mm REINFORCED CONCRETE RINGBEAM

200mm THICK STONE MASONRY WALL

100mm THICK CONCRETE GROUND FLOOR SLAB

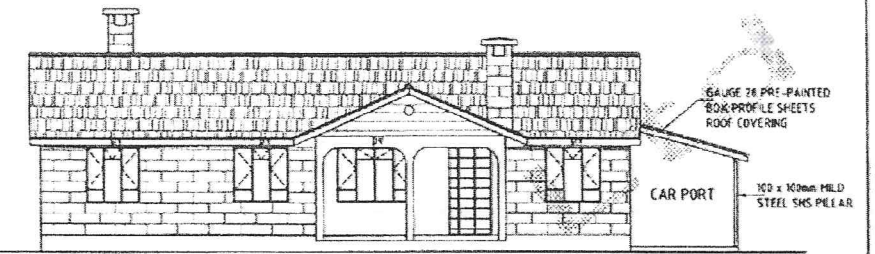
300mm SELECTED COMPACTED BLINDED HARDWARE FILLING



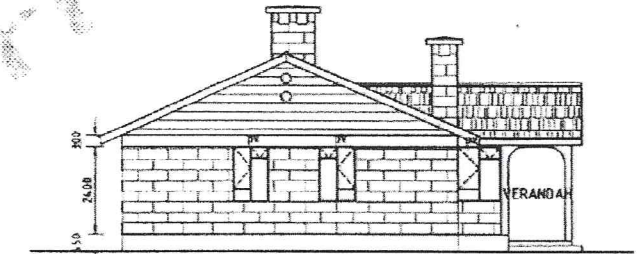
SECTION 1-1
SCALE 1:50

LIGHTING FITTINGS

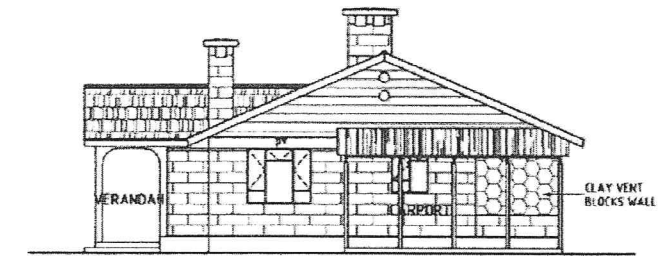
SYMBOL	DESCRIPTION
[Symbol]	METER BOARD
[Symbol]	DISTRIBUTION BOARD
[Symbol]	1 x 36W - 1200mm IP 65 RATED DUST AND MOISTURE RESISTANT FLUORESCENT FITTING WITH ACRYLIC DIFFUSER AS THORN
[Symbol]	WALL MOUNTED LUMINAIRE, 1x16W COMPACT FLUORESCENT LAMP AS PHILIPS BULKHEAD
[Symbol]	TELEPHONE OUTLET
[Symbol]	70A DOUBLE POLE SWITCH
[Symbol]	2 No. 13A SWITCHED SOCKET OUTLET (CLEAN POWER AND NORMAL POWER)
[Symbol]	13A SINGLE SWITCHED SOCKET OUTLET
[Symbol]	6A ONE GANG TWO WAY DOUBLE THROW SWITCH
[Symbol]	6A ONE GANG ONE WAY SWITCH
[Symbol]	CEILING ROSE LAMP HOLDER
[Symbol]	COOKER CONTROL UNIT



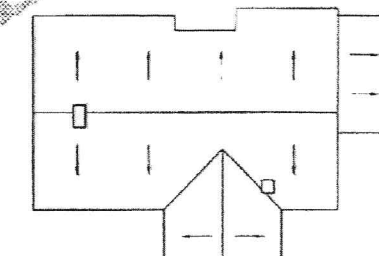
ELEVATION 01
SCALE 1:100



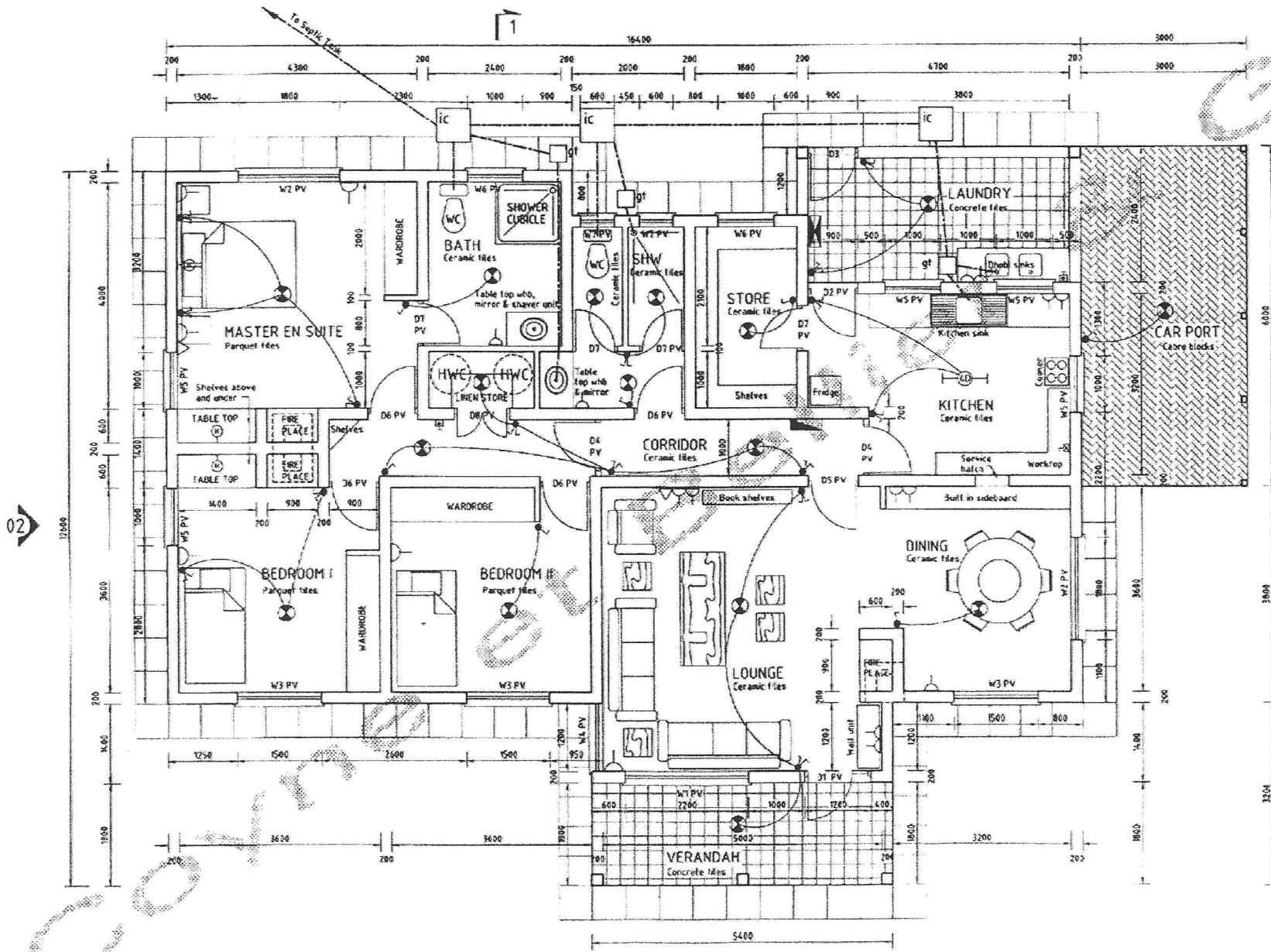
ELEVATION 02
SCALE 1:100



ELEVATION 03
SCALE 1:100



ROOF PLAN
SCALE 1:200



FLOOR PLAN
SCALE 1:50

SCHEDULE OF DOORS

DOOR	OPENING	DESCRIPTION	No.
D1	1200 x 2400	STEEL CASEMENT DOOR	1
D2	900 x 2400	HARDWOOD PANEL DOOR WITH FANLIGHT	1
D3	900 x 2100	STEEL GRILLE DOOR	1
D4	1800 x 2430	HARDWOOD PANEL DOOR WITH FANLIGHT	2
D5	900 x 2400	HARDWOOD PANEL DOOR WITH FANLIGHT	1
D6	900 x 2400	SOLID FLUSH DOOR WITH FANLIGHT	4
D7	800 x 2400	SOLID FLUSH DOOR WITH FANLIGHT	4
D8	1000 x 2400	SOLID BLOCKBOARD DOUBLE LEAF DOOR WITH FANLIGHT	1

SCHEDULE OF WINDOWS

WINDOW	OPENING	DESCRIPTION	No.
W1	2200 x 1500	STEEL CASEMENT WINDOW	1
W2	1800 x 1500	-	2
W3	1500 x 1500	-	3
W4	1200 x 1500	-	1
W5	1000 x 1200	-	2
W6	1300 x 1300	-	3
W7	600 x 900	-	2
W8	600 x 900	-	2

NOTES

1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE STATED.
2. SETTING OUT TO BE CHECKED AND CONFIRMED BY THE ENGINEER ON SITE BEFORE COMMENCING THE WORKS.
3. FOUNDATION TO BE ON FIRM GROUND DETERMINED ON SITE BY THE ENGINEER.
4. LAY BITUMINOUS FELT DPC UNDER ALL WALLS.
5. LAY 1000 GAUGE POLYTHENE SHEET DPM UNDER FLOOR SLAB.
6. BLEND HARDWARE WITH 50MM THICK LAYER OF SELECTED, COMPACTED AND TREATED MURRAM.
7. WALLS ARE CONSTRUCTED OF BLOCKS POINTED EXTERNALLY AND PLASTERED INTERNALLY.
8. ALL WALLS ARE REINFORCED WITH HOOP IRON AT EVERY ALTERNATE COURSE.
9. ALL DOORS AND WINDOWS EXCEPT DOORS TO WC'S ARE TO BE FITTED WITH PERMANENT VENTS ON TOP.
10. FURNITURE AND EQUIPMENT FOR ILLUSTRATIVE PURPOSES ONLY.

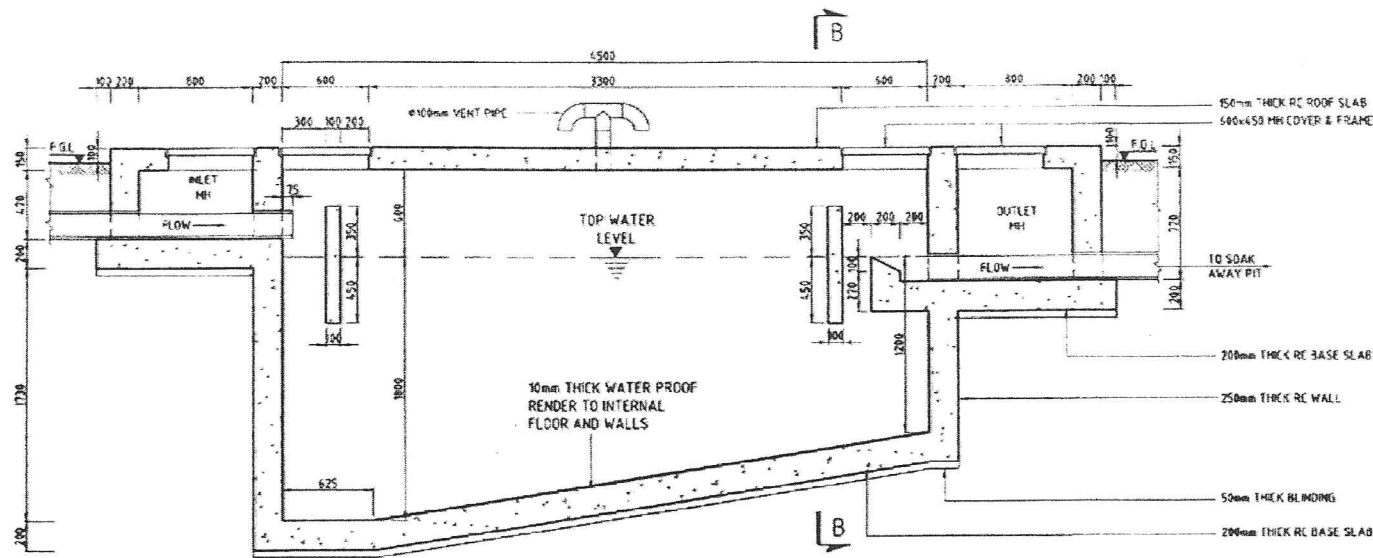
A	AUG 2007	SMK	AEF	JUV	Final Design	
Drawn	DATE	DESIGNED BY	CHECKED BY	APPROVED BY	SIGNATURE OF REVISION	STATUS

REPUBLIC OF KENYA
ATHI WATER SERVICES BOARD

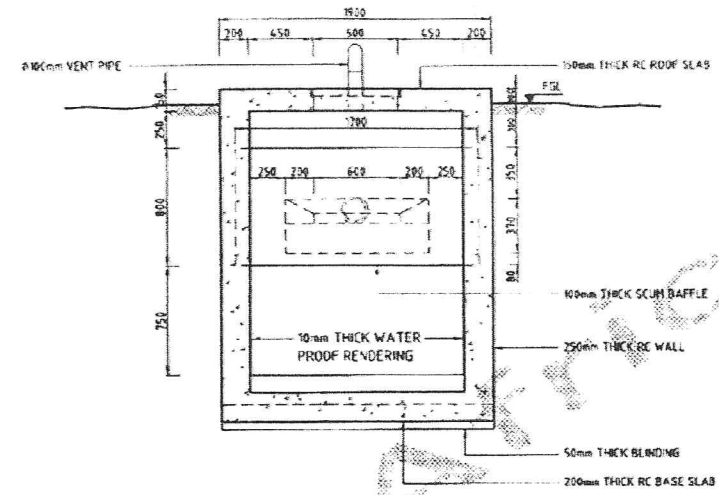
ENGINEER'S CAMP
ENGINEER'S CAMP
SENIOR STAFF HOUSE

Project No. 11835 Revision
No. F.D.703.A

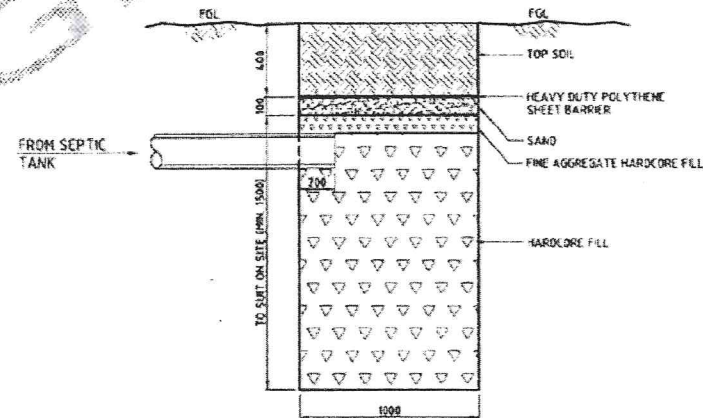
COYNE ET BELLIER
GIBB Africa



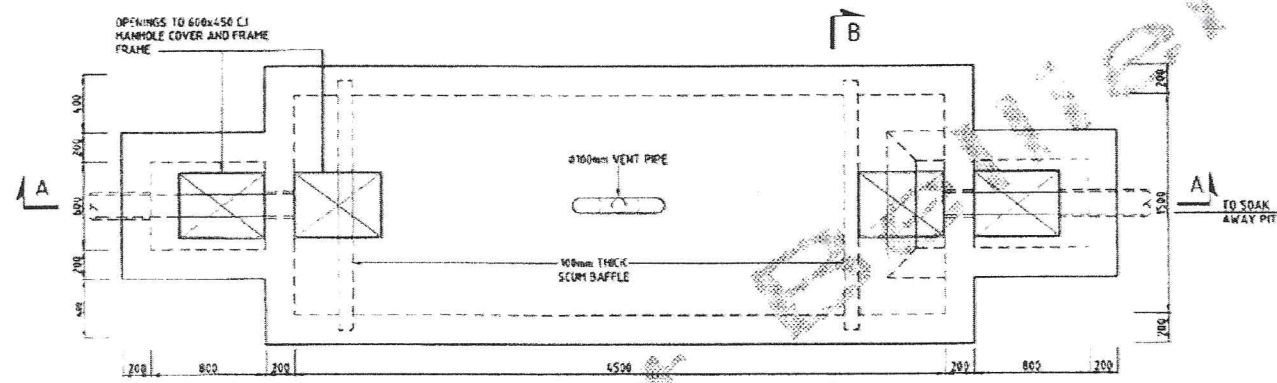
SECTION A-A
SCALE 1:25



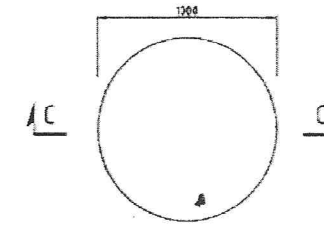
SECTION B-B
SCALE 1:25



SECTION C-C
SCALE 1:25



SEPTIC TANK PLAN
SCALE 1:25



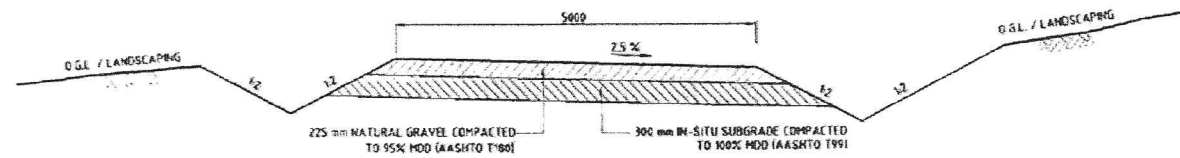
SOAK AWAY PIT
PLAN
SCALE 1:25

REV	DATE	BY	CHECKED BY	APPROVED BY	REVISION
A	AUG 2007	CLK	MEF	JMY	Final design

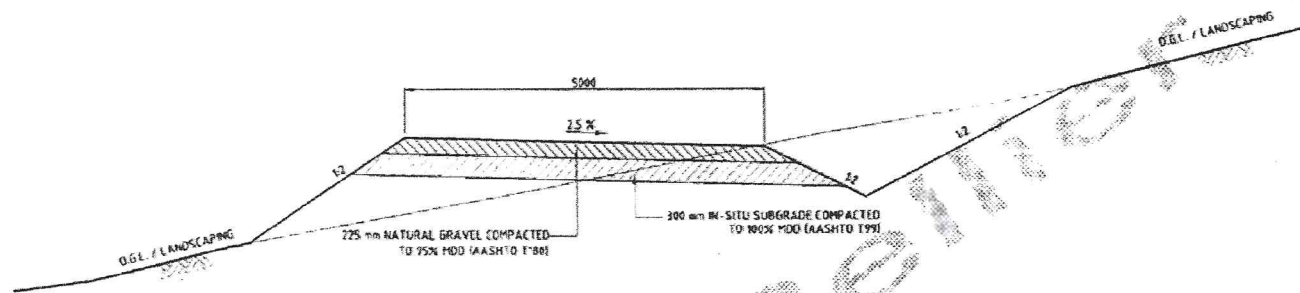
REPUBLIC OF KENYA
ATHI WATER SERVICES BOARD

ENGINEER'S CAMP
ENGINEER'S CAMP
SEPTIC TANK

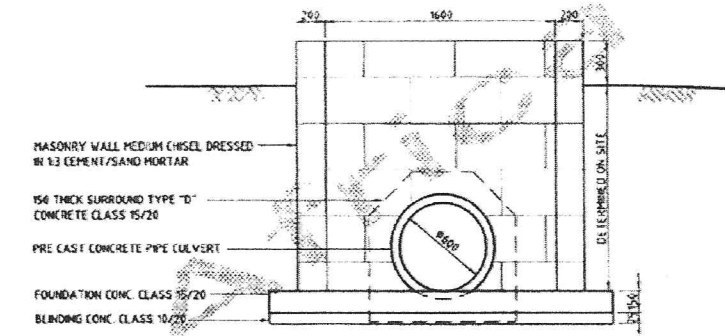
 COYNE ET BELLIER BUREAU D'INGENIERIE ET D'ARCHITECTURE ESTABLISHED 1962	 GIBB Africa CONSULTANTS AND ENGINEERS ESTABLISHED 1962	Project No : 118.35 No : ED 704 A	Revision
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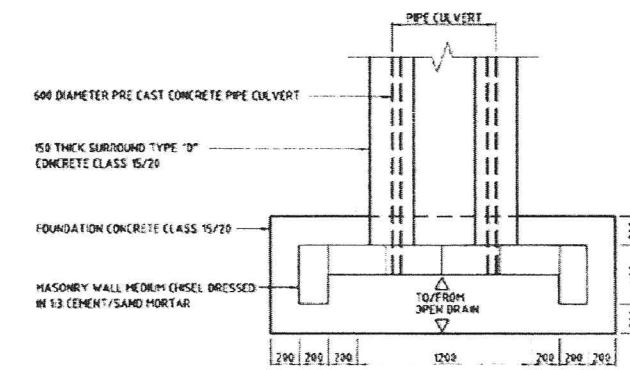
TYPICAL ACCESS ROAD CROSS SECTION X - X
SCALE 1:50 (AT A1), 1:100 (AT A3)



TYPICAL CUT / FILL CROSS SECTION Y - Y
SCALE 1:50 (AT A1), 1:100 (AT A3)



FRONT ELEVATION
SCALE 1:25 (AT A1), 1:50 (AT A3)



PLAN
SCALE 1:25 (AT A1), 1:50 (AT A3)

CULVERT HEADWALL

A	AUG 2007	CHK	ADF	JUV	Final design	
Rev.	DATE	DRAWN BY	CHECKED BY	APPROVED BY	NATURE OF REVISION	STATUS

REPUBLIC OF KENYA
ATHI WATER SERVICES BOARD

ENGINEER'S CAMP
ENGINEER'S CAMP - ACCESS ROAD
TYPICAL CROSS SECTIONS & CULVERT DETAILS

Computer File	FD 705 Vol IV.dwg	Project No	T/18.35	Revision	
COYNE ET BELLIER	GIBB Africa	No	FD 705	A	