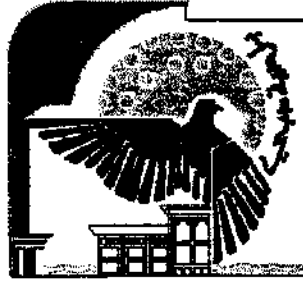


ISSUE: _____



بلدية دبي

**DUBAI MUNICIPALITY
DRAINAGE & IRRIGATION DEPT.**

**STANDARD DETAILS
FOR SEWERAGE AND DRAINAGE**

DUBAI MUNICIPALITY – DRAINAGE & IRRIGATION DEPARTMENT
STANDARD DETAILS FOR SEWERAGE & DRAINAGE CONSTRUCTION

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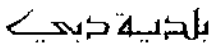
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***DUBAI MUNICIPALITY – DRAINAGE &
IRRIGATION DEPARTMENT***


***STANDARD DETAILS FOR SEWERAGE &
DRAINAGE CONSTRUCTION***

00 NOTES

1. ALL DIMENSIONS SHOWN ON STANDARD DETAIL DRAWINGS ARE IN MILLIMETRES UNLESS OTHERWISE INDICATED
2. ALL CONCRETE SHALL BE CLASS 'A' UNLESS OTHERWISE INDICATED. SULPHATE RESISTING PORTLAND CEMENT (TYPE V) COMPLYING WITH B.S. 4027 SHALL BE USED IN ALL CONCRETE MIXES.
3. STEEL REINFORCEMENT SHALL BE GRADE 460 (BS4449) STEEL BARS OR AS SPECIFIED.
4. ALL REINFORCEMENT IN MANHOLES/CHAMBERS SHALL BE EPOXY COATED AS SPECIFIED.
5. MINIMUM COVER TO REINFORCEMENT SHALL BE 50mm.
6. EXTERNAL CONCRETE SURFACES BELOW GROUND SHALL BE PROTECTED WITH BITUMINOUS WATERPROOF TANKING MEMBRANE AS SPECIFIED.
7. INTERNAL BACKDROP CONNECTIONS SHALL BE PROVIDED FOR SEWERS AND HOUSE CONNECTIONS ONLY WHERE EXTERNAL CONSTRUCTION IS NOT POSSIBLE.
8. DIMENSIONS AND CONSTRUCTION OF BACKDROP CONNECTIONS SHALL BE AS SHOWN ON DETAIL DRAWING. THE DROP PIPE SHALL HAVE THE SAME DIAMETER AS THE SEWER DISCHARGING INTO THE MANHOLE.
9. BACKDROP CONNECTIONS SHALL NOT BE PROVIDED FOR STORM WATER CARRIER DRAINS UNLESS INSTRUCTED BY THE ENGINEER.
10. A BACKDROP OR BRANCH SEWER INLET SHALL HAVE LEVEL SOFFITS WITH A LARGER PIPE DIAMETER. THE BACKDROP OR BRANCH SEWERS SHALL HAVE INVERT LEVELS AT MAIN SEWER SPRING LINES ON PIPES OF THE SAME DIAMETER.
11. GRANOLITHIC CONCRETE SHALL BE FORMED IN ALL MANHOLE CHANNELS TO PROVIDE A SMOOTH TRANSITION OF SIZE AND GRADIENT FROM THE INLET(S) TO THE OUTLET SEWER INVERTS.
12. ALL FOUL SEWER MANHOLE CONCRETE BENCHINGS AND CHANNELS SHALL BE PROTECTED WITH GRP LAMINATION.
13. ALL DRAINAGE MANHOLE BENCHING AND CHANNELS SHALL BE FORMED WITH EPOXY MORTAR OR WITH GRANOLITHIC CONCRETE PROTECTED WITH GRP LAMINATION.
14. INTERNAL CEMENT MORTAR JOINTS OF SEWERAGE MANHOLE EXTENSION RINGS SHALL BE RAKED OUT AND ALL EXPOSED FACES SHALL BE LAMINATED WITH GRP.
15. ALL SEWERAGE MANHOLES AND INSPECTION CHAMBERS SHALL BE FITTED WITH HEAVY DUTY D.I. COVER AND FRAMES WITH A CLEAR OPENING OF 600 x 600mm (DOUBLE TRIANGULAR FOR MANHOLES) AND 600 x 600mm SQUARE FOR INSPECTION CHAMBERS AS SPECIFIED.
16. ALL DRAINAGE MANHOLES AND CHAMBERS SHALL BE FITTED WITH HEAVY DUTY D.I. COVER AND FRAME HAVING A CLEAR OPENING OF 600mm DIA. AS SPECIFIED.
17. GRP LINERS SHALL HAVE A MINIMUM THICKNESS OF 6.5mm AND BE CONSTRUCTED AS SPECIFIED.
18. GRP BANDAGES TO LINERS SHALL EXTEND 100mm EITHER SIDE OF A JOINT.
19. GRANULAR BED AND SURROUND TO PIPES SHALL BE ENCLOSED IN GEOTEXTILE AS SPECIFIED WHERE PIPELINES ARE BELOW THE WATER TABLE AND AS DIRECTED BY THE ENGINEER.
20. ANY PIPELINE BELOW GROUND LEVEL ENTERING OR PROTRUDING FROM ANY STRUCTURE SHALL HAVE TWO FLEXIBLE JOINTS ADJACENT TO THE STRUCTURE AS SPECIFIED UNLESS INDICATED OTHERWISE.
21. PROTECTION SLABS SHALL BE PROVIDED OVER GRAVITY SEWER PIPELINES WHERE COVER IS LESS THAN 1.2 METERS.
22. PROTECTION SLABS SHALL BE PROVIDED OVER uPVC HOUSE CONNECTION PIPELINES WHERE THE COVER IS LESS THAN 0.9 METRES AND WHERE INSTRUCTED BY THE ENGINEER.

DATE	REVISION	INITIALS	 DUBAI MUNICIPALITY DRAINAGE & IRRIGATION DEPT.		
			GENERAL NOTES 1		
			Service SEW	Scale N.T.S	Detail No. 01

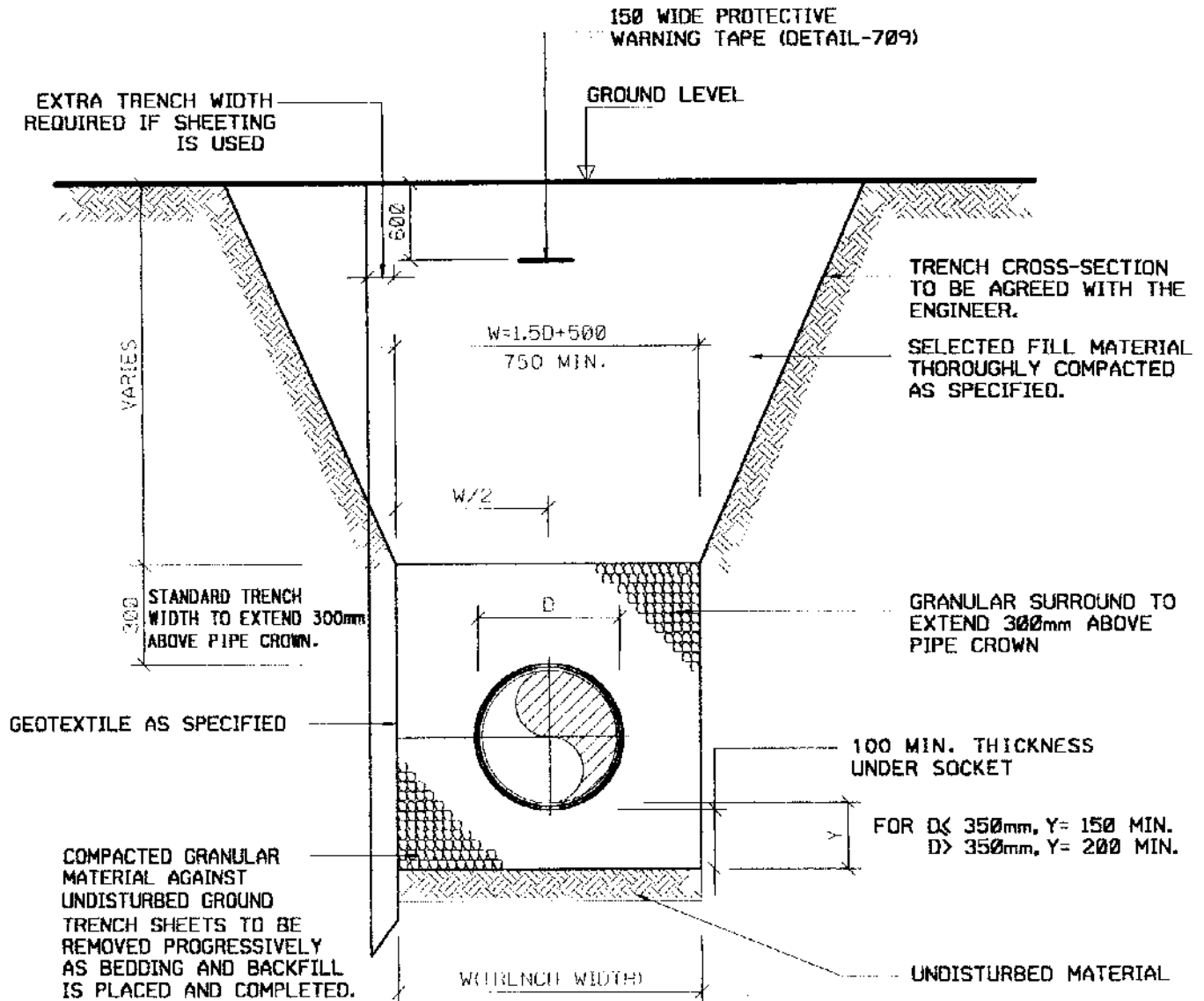
23. PROTECTION SLABS SHALL BE PROVIDED OVER PRESSURE PIPE LINES AT ANY DEPTH UNDER ROADWAYS.
24. CONCRETE SURROUND SHALL BE PROVIDED TO GRP PIPES WHERE THE COVER IS LESS THAN 1.5 METERS AND THE PIPELINES LIE WITHIN A STRIP OF 20 METRES EACH SIDE OF THE CENTERLINE OF ROAD CORRIDORS.
25. GRIT SHALL BE FIXED TO SECTIONS OF UPVC AND GRP PIPEWORK TO BE EMBEDDED IN CONCRETE TO IMPROVE BONDING.
26. OVER-EXCAVATION BELOW PIPELINES AT MANHOLE EXCAVATIONS SHALL BE FILLED WITH CLASS 'C' CONCRETE TO THE PIPE TRENCH FORMATION LEVEL OVER THE TRENCH WIDTH.
27. TYPICALLY 3 NO. CONCRETE EXTENSION RINGS SHALL BE INCLUDED BELOW MANHOLE COVERS. THIS MAY BE INCREASED OR REDUCED AS DIRECTED BY THE ENGINEER. GRP SEALING PLATE REQUIRED AT ALL SEWERAGE AND DRAINAGE MANHOLES AS SPECIFIED.

DATE	REVISION	INITIALS	 دبي بلدية DUBAI MUNICIPALITY DRAINAGE & IRRIGATION DEPT.		
			GENERAL NOTES 2		
			Service SEW	Scale N T S	Detail No 02

***DUBAI MUNICIPALITY – DRAINAGE &
IRRIGATION DEPARTMENT***

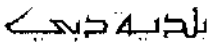
***STANDARD DETAILS FOR SEWERAGE &
DRAINAGE CONSTRUCTION***

100 SEWERAGE PIPELINE DETAILS



NOTE :

1. THE TRENCH WIDTHS STATED ARE FOR FULLY STABLE SOIL CONDITIONS.
2. TRENCH WIDTHS IN EXCESS OF THE NOMINAL WIDTHS MAY BE INSTRUCTED WHERE THE EXISTING GROUND IS PROVEN TO HAVE LESS THAN THE REQUIRED PASSIVE RESISTANCE.

DATE	REVISION	INITIALS	 DUBAI MUNICIPALITY DRAINAGE & IRRIGATION DEPT.		
			FLEXIBLE PIPE INSTALLATION		
			Service	Scale	Detail No.
			SEW	N T S	101

***DUBAI MUNICIPALITY – DRAINAGE &
IRRIGATION DEPARTMENT***


***STANDARD DETAILS FOR SEWERAGE &
DRAINAGE CONSTRUCTION***

200 SEWERAGE MANHOLE DETAILS

MANHOLE TYPE	LOWER SHAFT DIA	UPPER SHAFT DIA	PIPE DIA RANGE	SOFFIT DEPTH RANGE		LOWER SHAFT MIN. DEPTH	UPPER SHAFT DEPTH RANGE		BASE SLAB THICKNESS	LOWER SHAFT WALL THICKNESS	UPPER SHAFT WALL THICKNESS	REDUCER SLAB THICKNESS	TOP SLAB THICKNESS
				MIN	MAX		MIN	MAX					
SPECIAL	1000	N/A	(200	>1000	(1400	N/A	N/A	N/A	225	200	N/A	N/A	225
A	1200	N/A	200	>1400	(2800	N/A	N/A	N/A	250	225	N/A	N/A	250
B	1500	N/A	200-600	>2800	(3500	N/A	N/A	N/A	250	250	N/A	N/A	250
C	1500	1000	200-600	>3500	(5400	2100	600	2500	300	300	200	300	260
D	1600	1000	700-900	>3800	7700	2400	600	2500	350	350	200	300	250
E	2100	1000	1000-1100	>4000	9000	2600	600	2500	400	350	200	300	250
F	2400	1000	>1200	>4000	9000	2600	600	2500	400	350	200	300	250

NOTES :

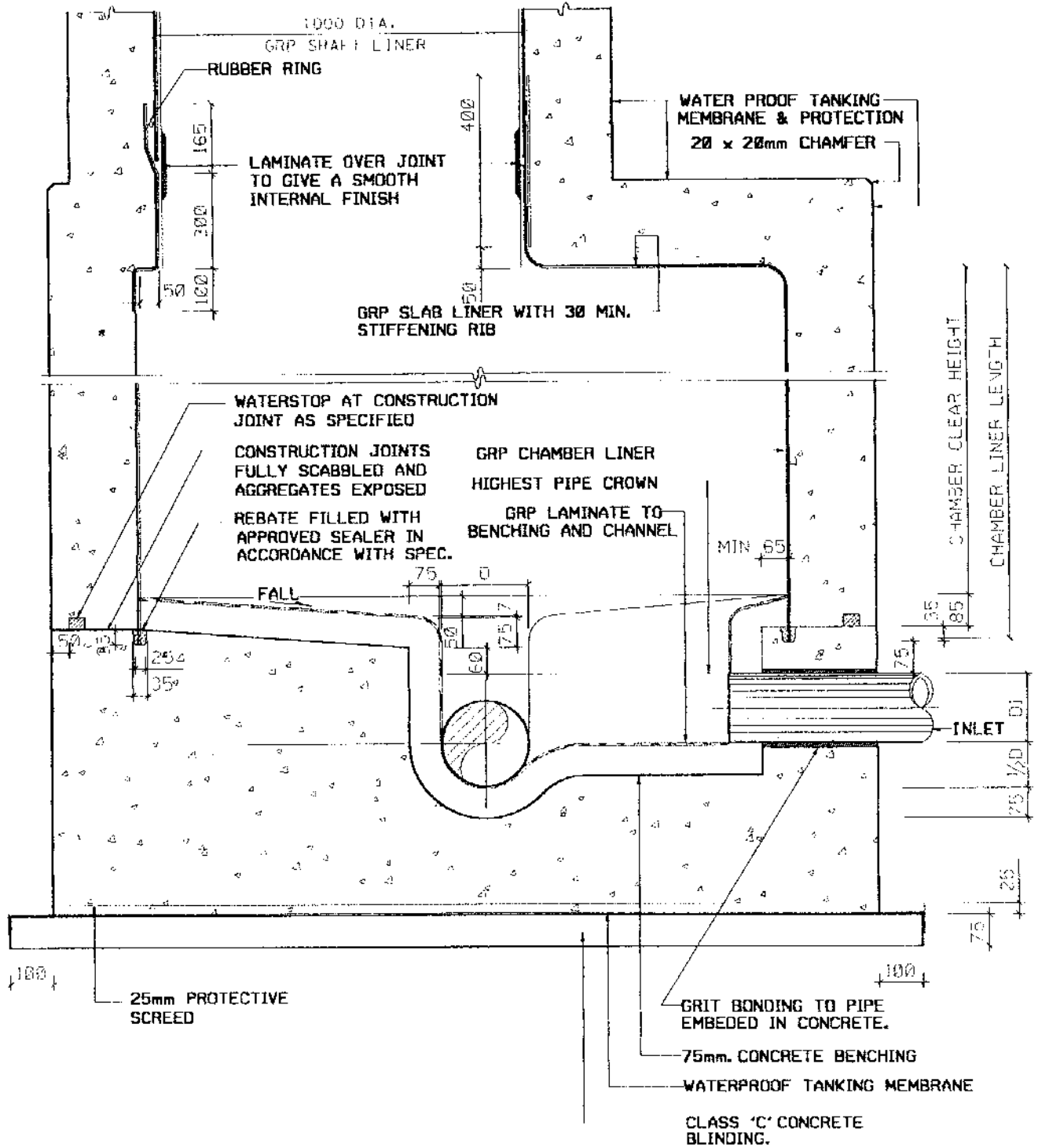
1. SPECIAL MANHOLES ONLY: ACCEPTABLE UNDER UNUSUAL CIRCUMSTANCES DISCOVERED DURING CONSTRUCTION AND AS ADVISED BY THE ENGINEER.
2. DEPTH MEASURED FROM TOP OF MANHOLE COVER TO OUTLET PIPE SOFFIT.
3. MANHOLE DETAILS OUTSIDE THESE PARAMETERS SHALL BE DETAILED SEPARATELY OR ADVISED BY THE ENGINEER.


DATE		REVISION		INITIALS	
 DUBAI MUNICIPALITY DRAINAGE & IRRIGATION DEPT.					
SEWERAGE MANHOLE SELECTION AND DIMENSIONS					
Service		Scale		Detail No.	
SEW		NTS		201	
DW-DESIGN-3/510-06 / GEN/SEWER/DT-201.06K 20/2000					

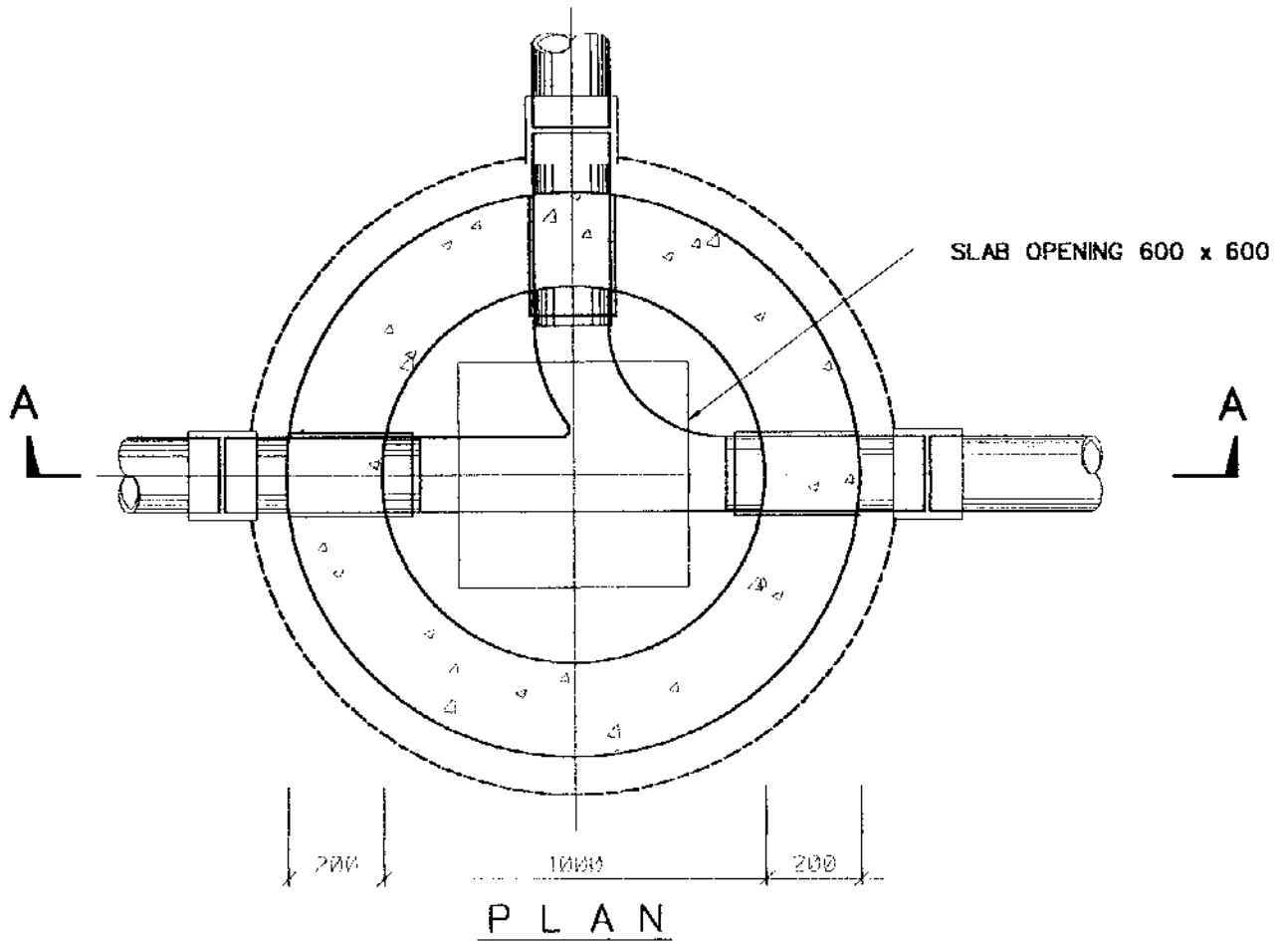
LINER JOINT CONNECTION DETAILS - SHAFT TO CHAMBER LINER

BELLMOUTH SOCKET DETAIL

'REKA' COUPLING DETAIL



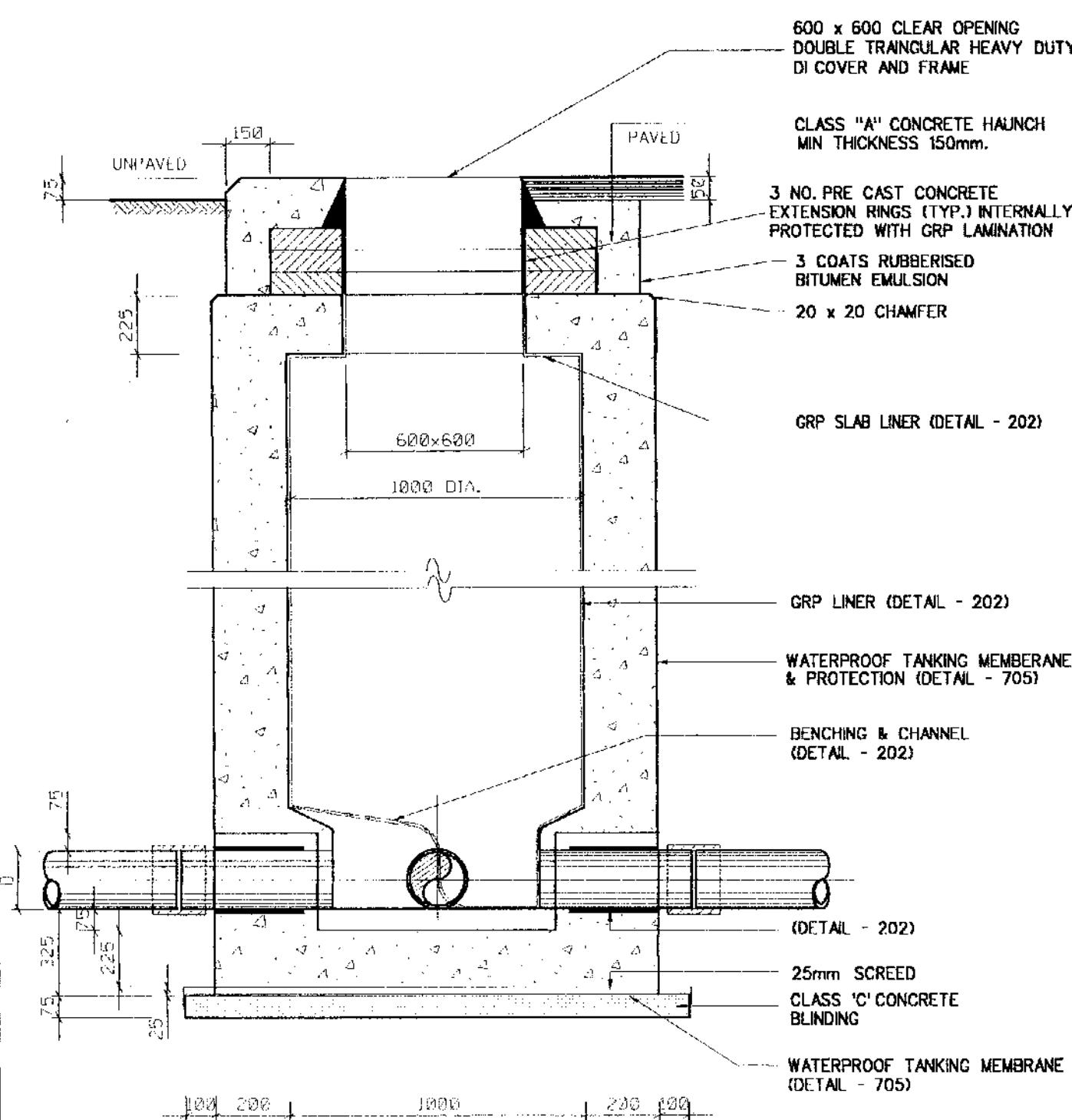
DAH	REVISION	INITIALS	 DURAI MUNICIPALITY DRAINAGE & IRRIGATION DEPT.		
			GENERAL SEWERAGE MANHOLE DETAIL		
			Service SEW	Scale NTS	Detail No. 202



NOTES :

1. MINOR SEWERS ONLY DIA. \leq 200mm
2. DEPTH FROM TOP OF COVER TO SOFFIT OF OUTLET PIPE EXCEEDING 1000 BUT NOT EXCEEDING 1400

DATE	REVISION	INITIALS	 DUBAI MUNICIPALITY DRAINAGE & IRRIGATION DEPT.	
			SEWERAGE MANHOLE TYPE 'SPECIAL' PLAN	
			Service SEW	Scale 1 : 20
			Detail No. 203	



600 x 600 CLEAR OPENING
DOUBLE TRIANGULAR HEAVY DUTY
DI COVER AND FRAME

CLASS "A" CONCRETE HAUNCH
MIN THICKNESS 150mm.

3 NO. PRE CAST CONCRETE
EXTENSION RINGS (TYP.) INTERNALLY
PROTECTED WITH GRP LAMINATION

3 COATS RUBBERISED
BITUMEN EMULSION

20 x 20 CHAMFER

GRP SLAB LINER (DETAIL - 202)

GRP LINER (DETAIL - 202)

WATERPROOF TANKING MEMBRANE
& PROTECTION (DETAIL - 705)


BENCHING & CHANNEL
(DETAIL - 202)

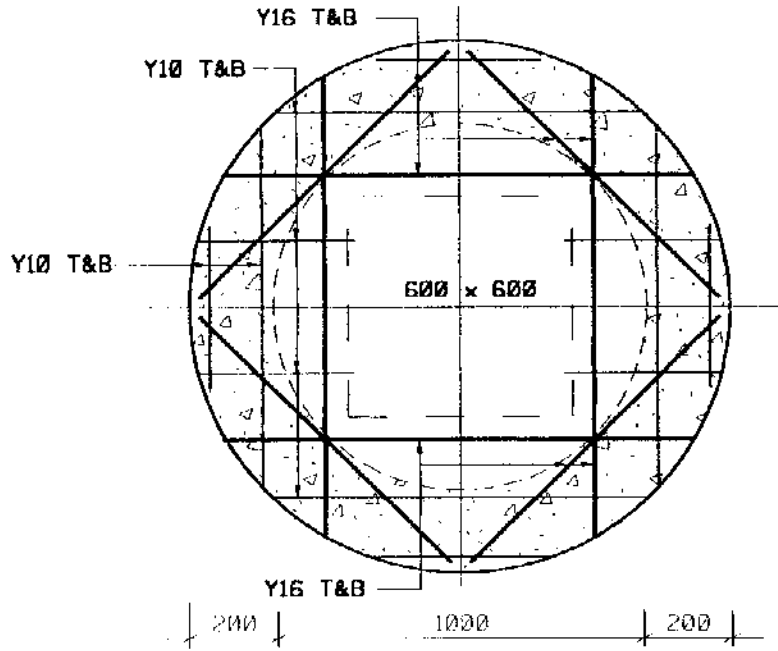
(DETAIL - 202)

25mm SCREED
CLASS 'C' CONCRETE
BLINDING

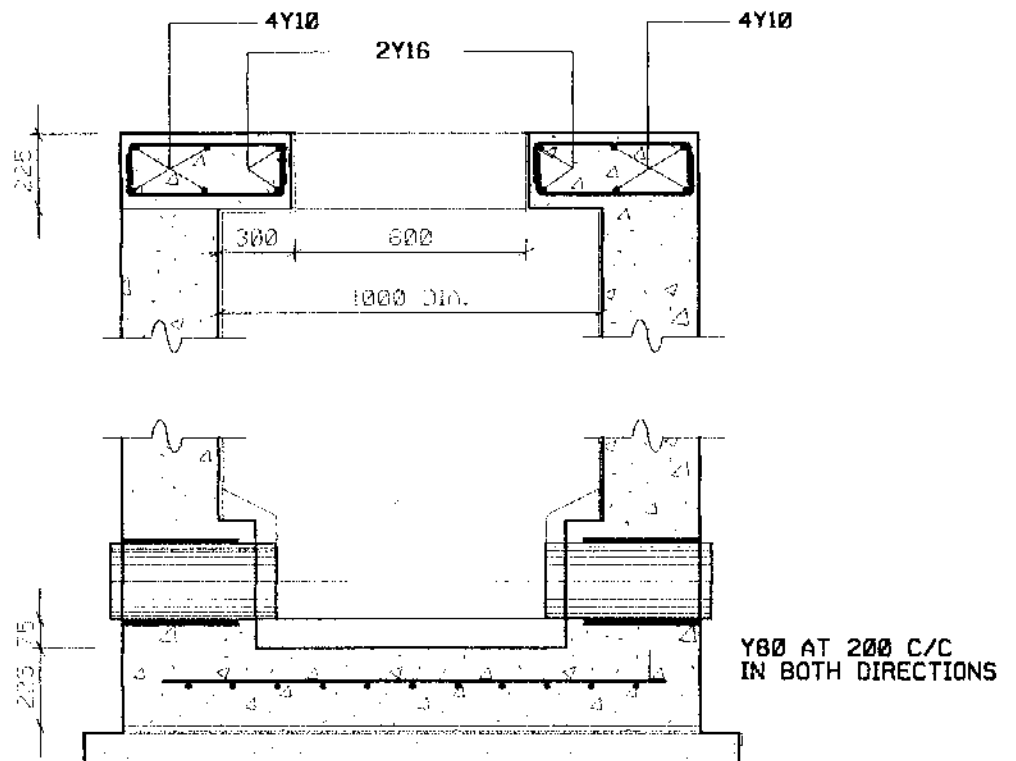
WATERPROOF TANKING MEMBRANE
(DETAIL - 705)

SECTION A-A

DATE	REVISION	INITIALS			
			DUBAI MUNICIPALITY DRAINAGE & IRRIGATION DEPT.		
			SEWERAGE MANHOLE TYPE 'SPECIAL' SECTION A-A		
			Service	Scale	Detail No.
			SEW	1:20	204




COVER SLAB PLAN

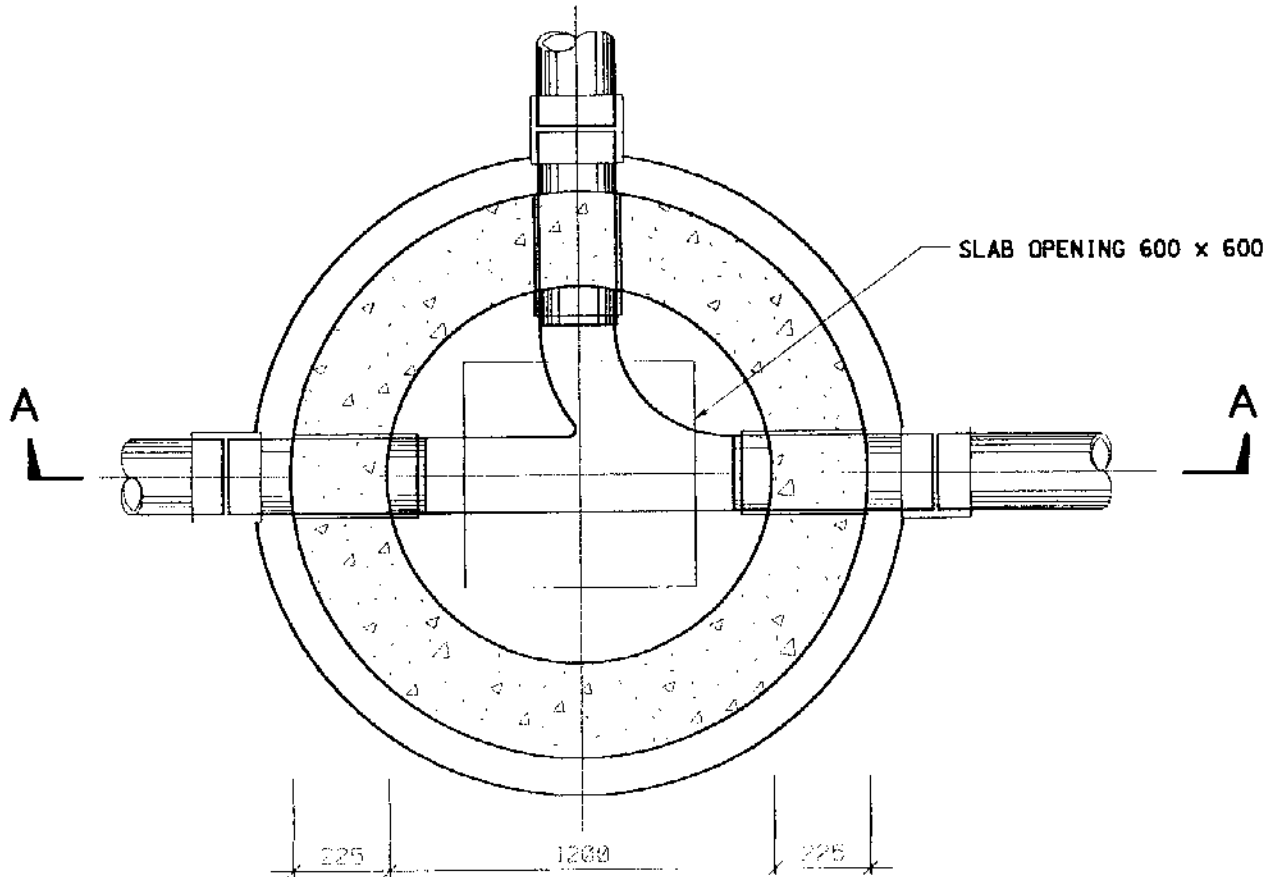


SECTION

NOTES :

1. STEEL REINFORCEMENT TO BE GRADE 460 (BS4449)
2. MINIMUM COVER TO REINFORCEMENT TO BE 50mm.
3. STEEL REINFORCEMENT TO BE EPOXY COATED.

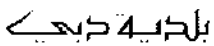
DATE	REVISION	INITIALS	 DUBAI MUNICIPALITY DRAINAGE & IRRIGATION DEPT.		
			SEWERAGE MANHOLE TYPE 'SPECIAL' STRUCTURAL REINFORCEMENT		
			Service	Scale	Detail No.
			SEW	NTS	205

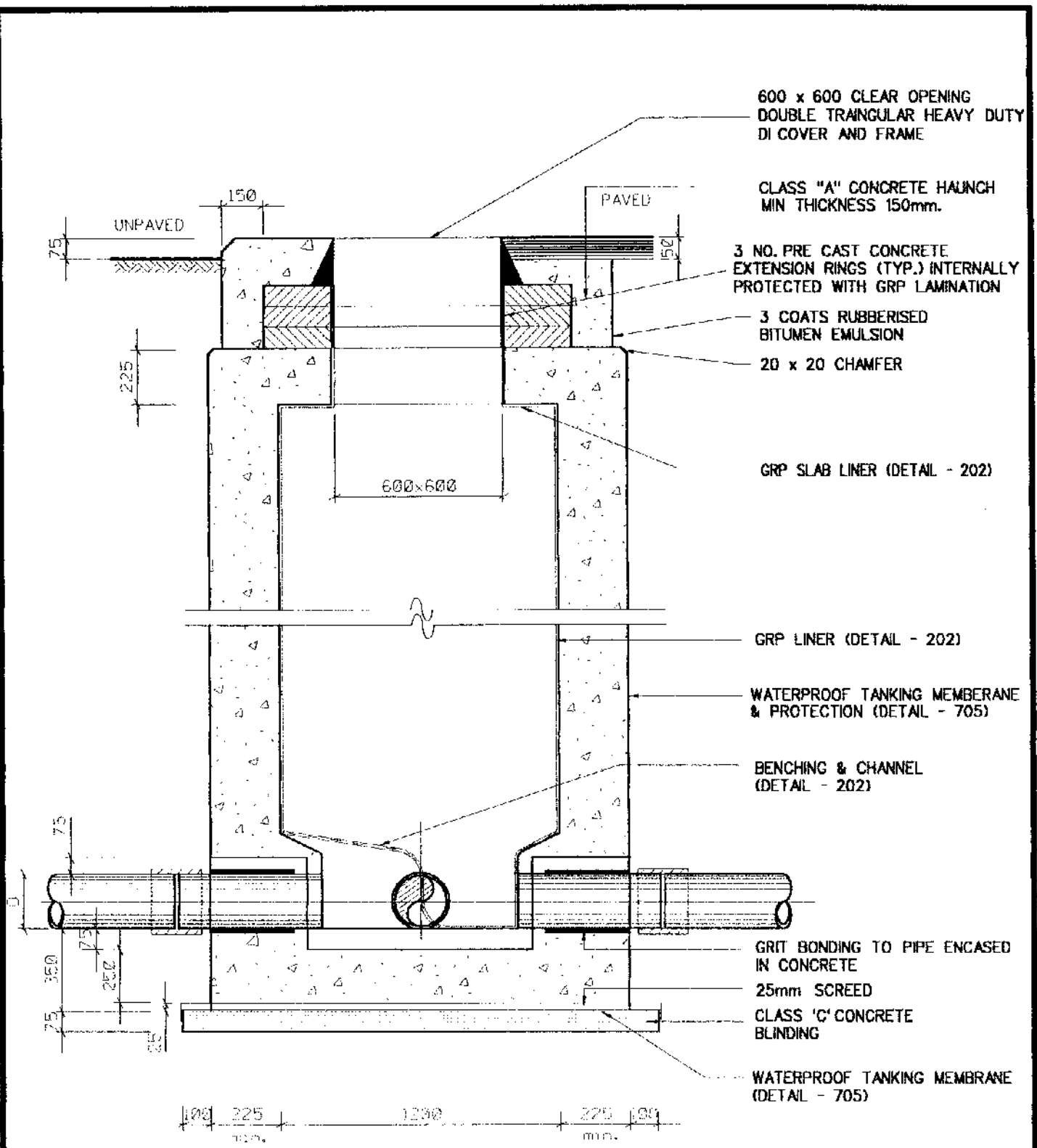


P L A N

NOTES :

- 1. MINOR SEWERS ONLY DIA. < 200mm
- 2. DEPTH FROM TOP OF COVER TO SOFFIT OF OUTLET PIPE EXCEEDING 1400 BUT NOT EXCEEDING 2600

DATE	REVISION	INITIALS	 DUBAI MUNICIPALITY DRAINAGE & IRRIGATION DEPT.		
			SEWERAGE MANHOLE TYPE 'A' PLAN		
			Service SEW	Scale 1 : 20	Detail No. 206



600 x 600 CLEAR OPENING
DOUBLE TRIANGULAR HEAVY DUTY
DI COVER AND FRAME

CLASS "A" CONCRETE HAUNCH
MIN THICKNESS 150mm.

3 NO. PRE CAST CONCRETE
EXTENSION RINGS (TYP.) INTERNALLY
PROTECTED WITH GRP LAMINATION

3 COATS RUBBERISED
BITUMEN EMULSION

20 x 20 CHAMFER

GRP SLAB LINER (DETAIL - 202)

GRP LINER (DETAIL - 202)

WATERPROOF TANKING MEMBERANE
& PROTECTION (DETAIL - 705)

BENCHING & CHANNEL
(DETAIL - 202)

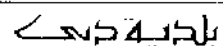
GRIT BONDING TO PIPE ENCASED
IN CONCRETE

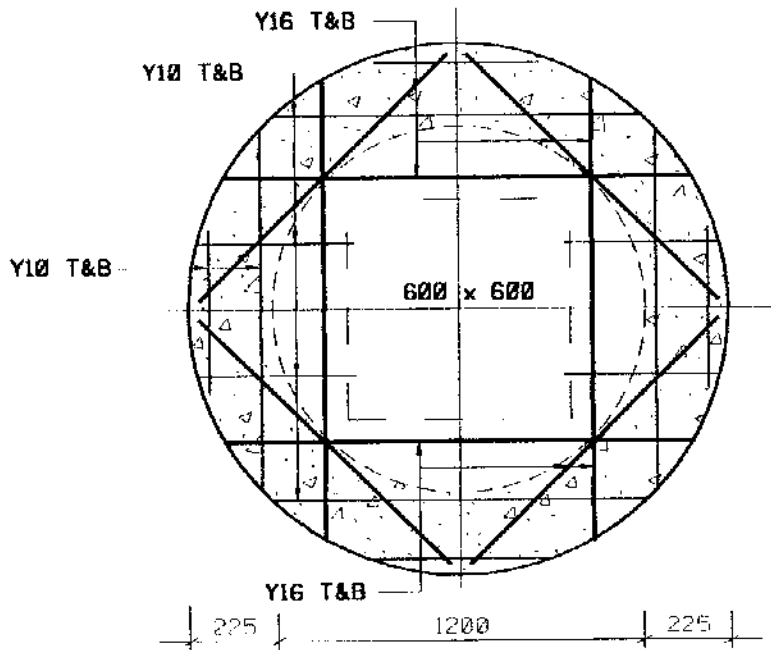
25mm SCREED

CLASS 'C' CONCRETE
BLINDING

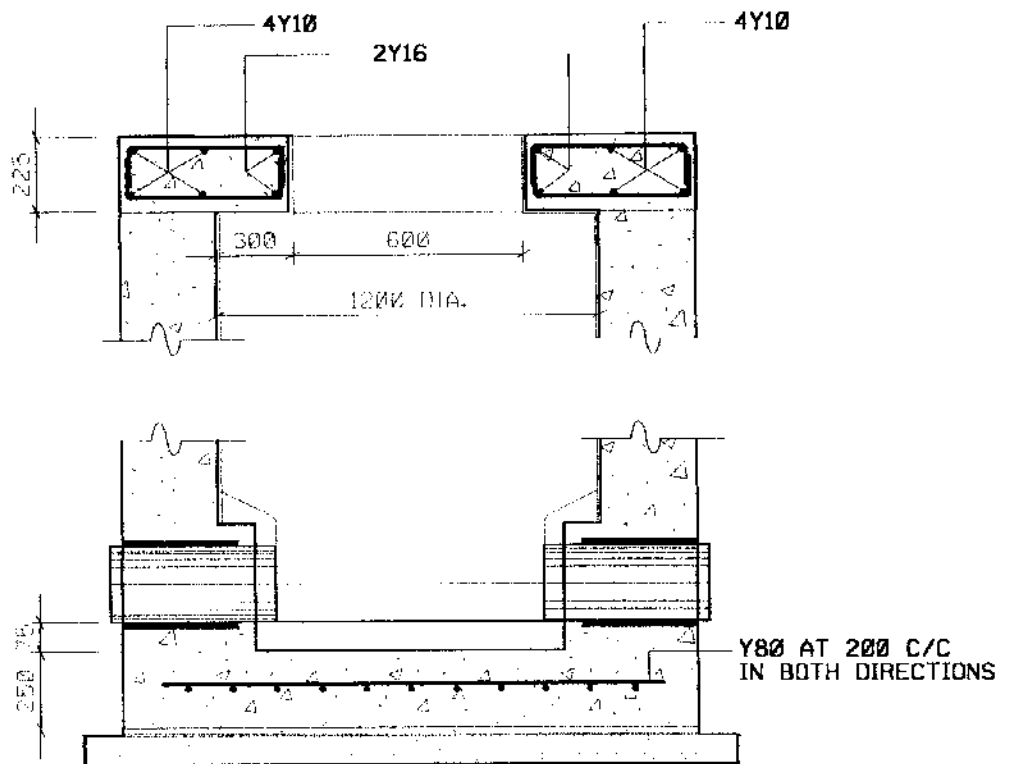
WATERPROOF TANKING MEMBERANE
(DETAIL - 705)

SECTION A-A

DATE	REVISION	INITIALS	 DUBAI MUNICIPALITY DRAINAGE & IRRIGATION DEPT.		
			SEWERAGE MANHOLE TYPE 'A' SECTION A-A		
			Service	Scale	Detail No.
			SEW	1:20	207



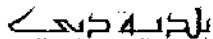
COVER SLAB PLAN

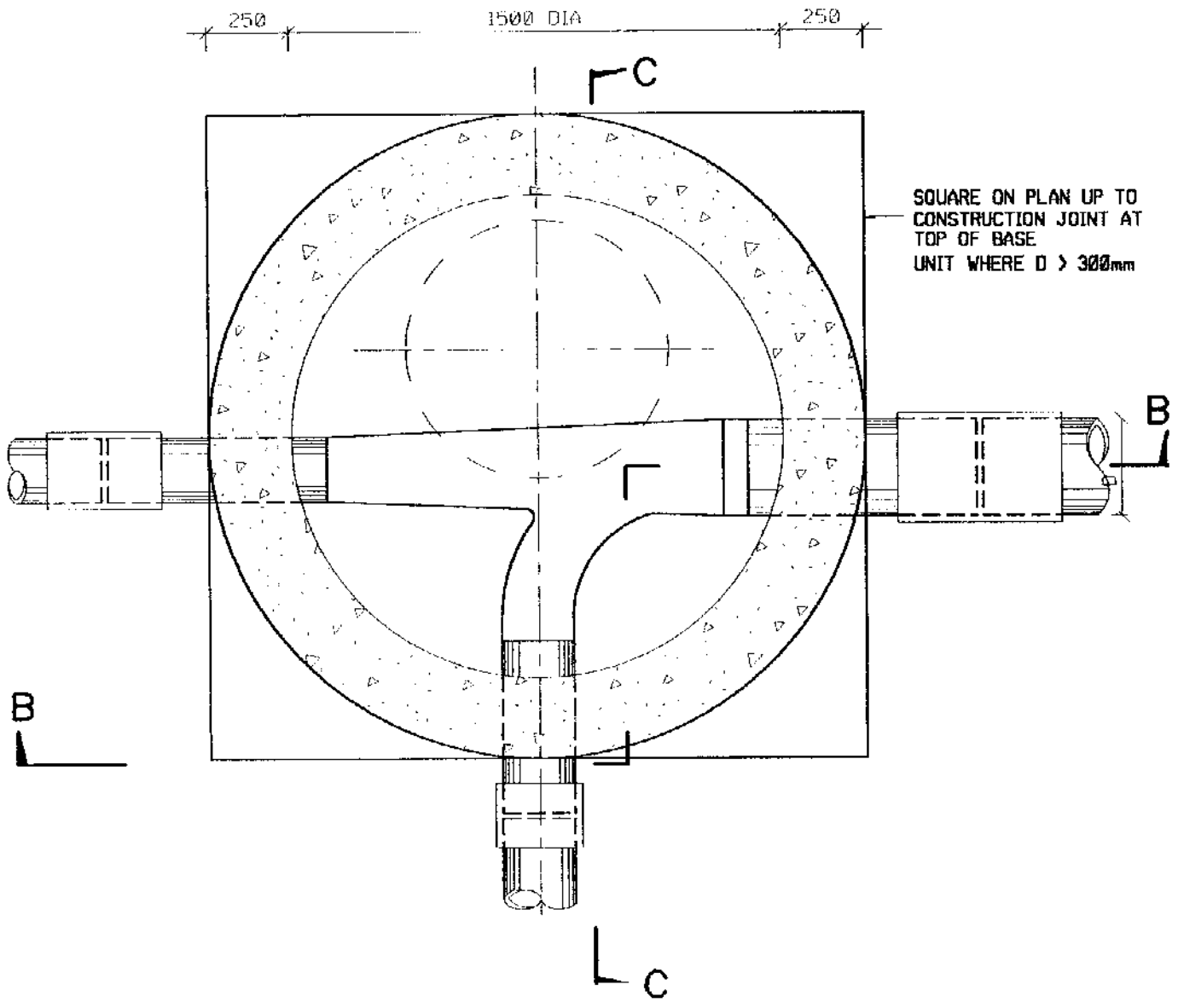


SECTION

NOTES :

1. STEEL REINFORCEMENT TO BE GRADE 460 (BS4449)
2. MINIMUM COVER TO REINFORCEMENT TO BE 50mm.
3. STEEL REINFORCEMENT TO BE EPOXY COATED.

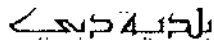
DATE	REVISION	INITIALS	 DUBAI MUNICIPALITY DRAINAGE & IRRIGATION DEPT.		
			SEWERAGE MAN-HOLE TYPE 'A' STRUCTURAL REINFORCEMENT		
			Service SEW	Scale NTS	Detail No. 208

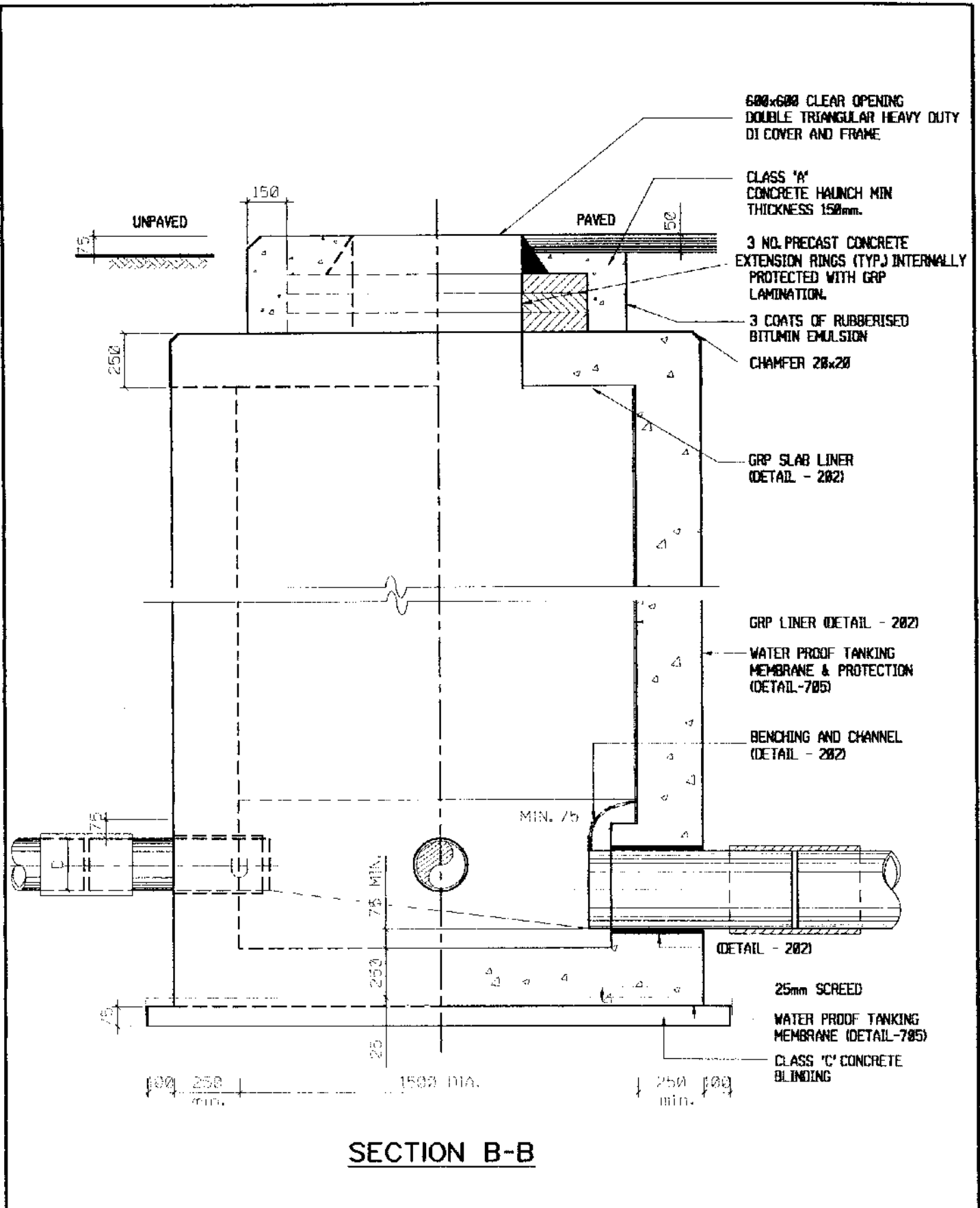


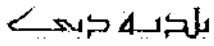
PLAN

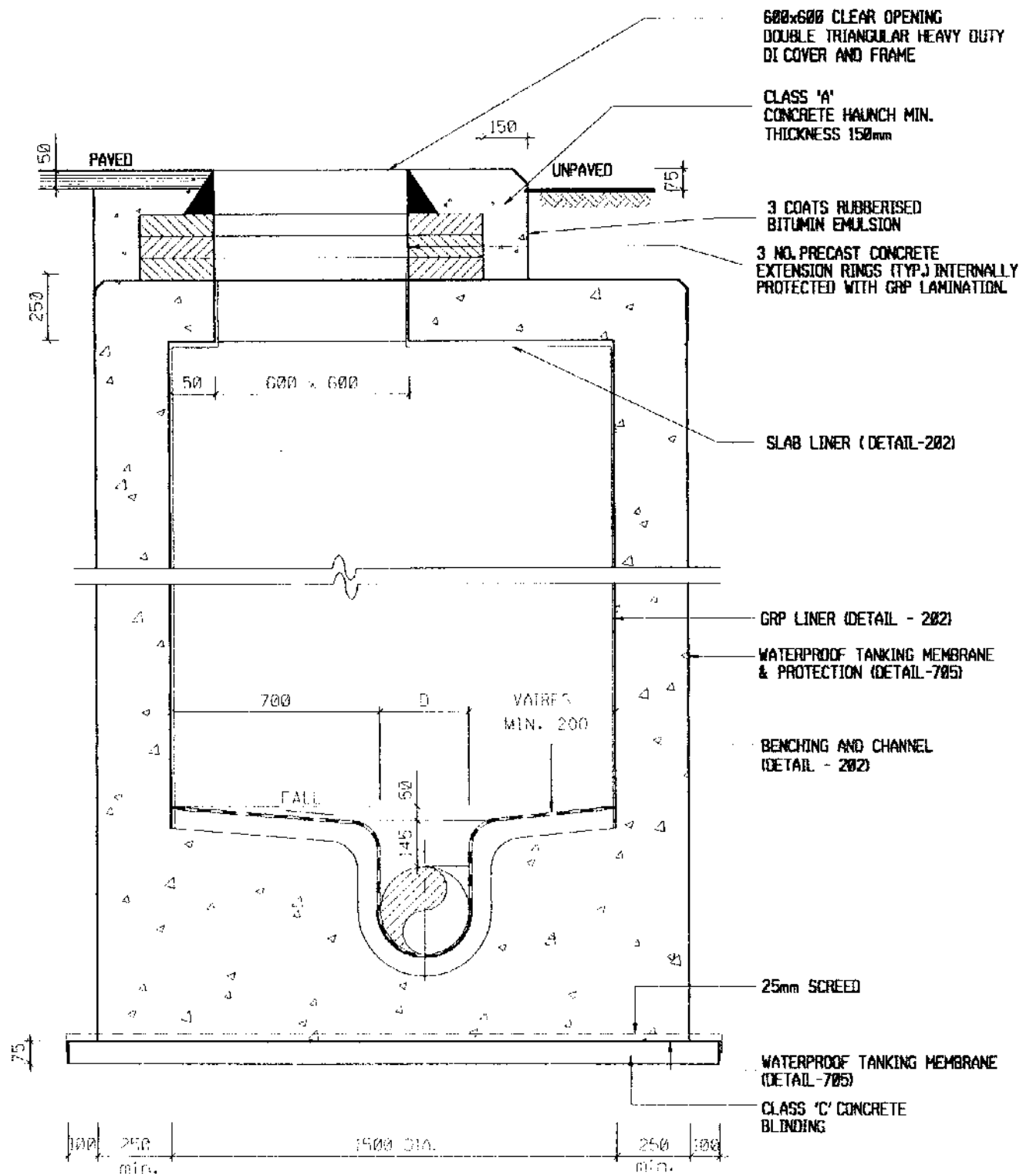
NOTES :

- 1. SEWERS 200 TO 600 DIA.
- 2. DEPTH FROM TOP OF MANHOLE COVER TO OUTLET PIPE SOFFIT EXCEEDING 2600 BUT NOT EXCEEDING 3500

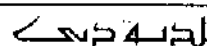
DATE	REVISION	INITIALS	 DUBAI MUNICIPALITY DRAINAGE & IRRIGATION DEPT.		
			SEWERAGE MANHOLE TYPE 'B' PLAN		
			Service SEW	Scale 1 : 20	Detail No. 209

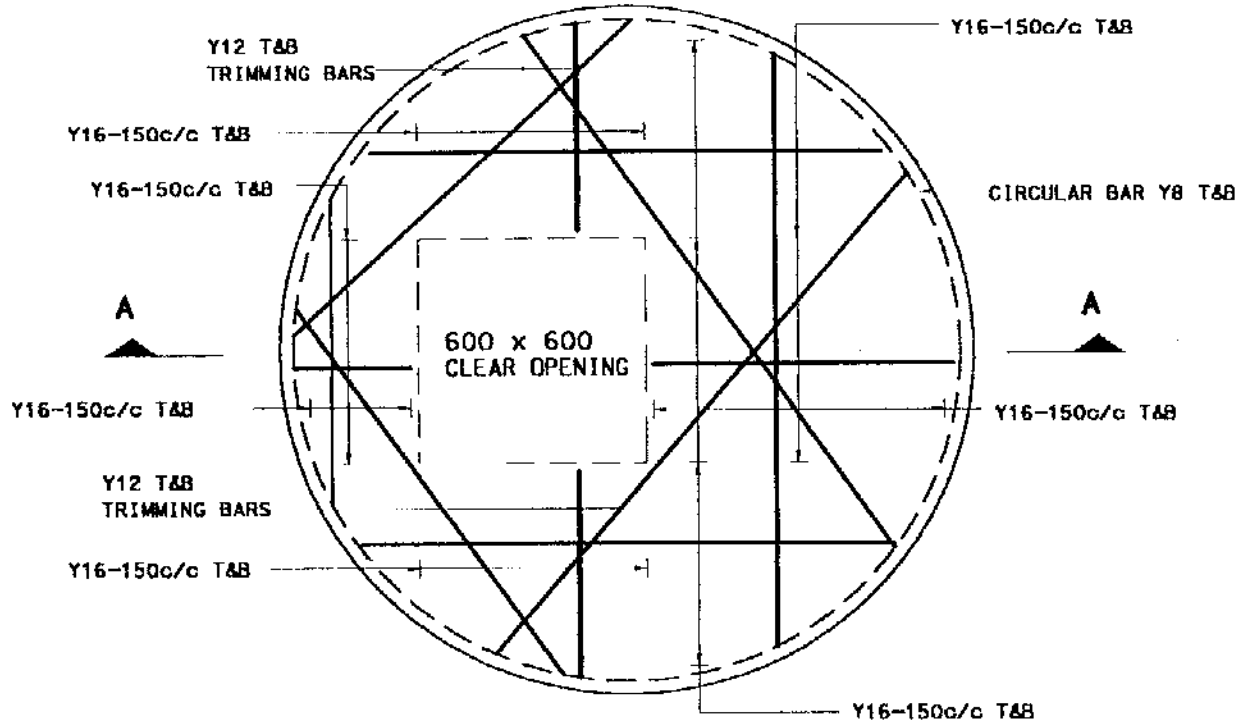


DATE	REVISION	INITIALS	 DUBAI MUNICIPALITY DRAINAGE & IRRIGATION DEPT.		
			SEWERAGE MANHOLE TYPE 'B' SECTION B-B		
			Service	Scale	Detail No.
			SEW	1 : 20	210

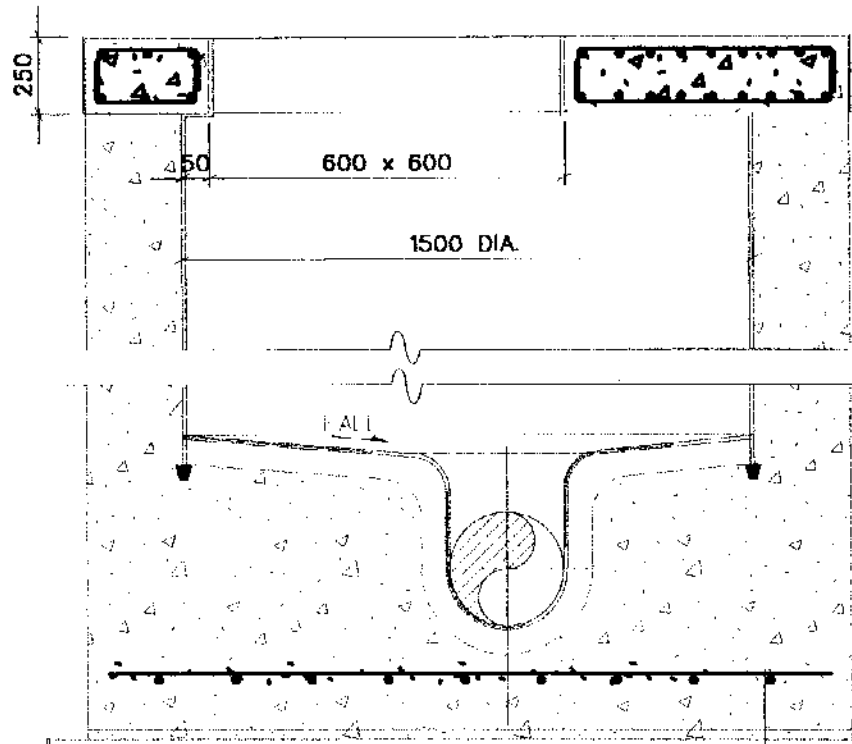


SECTION C-C

DATE	REVISION	INITIALS	 DUBAI MUNICIPALITY DRAINAGE & IRRIGATION DEPT.		
			SEWERAGE MANHOLE TYPE 'B' SECTION C-C		
			Service SEW	Scale 1:20	Detail No. 211



COVER SLAB PLAN




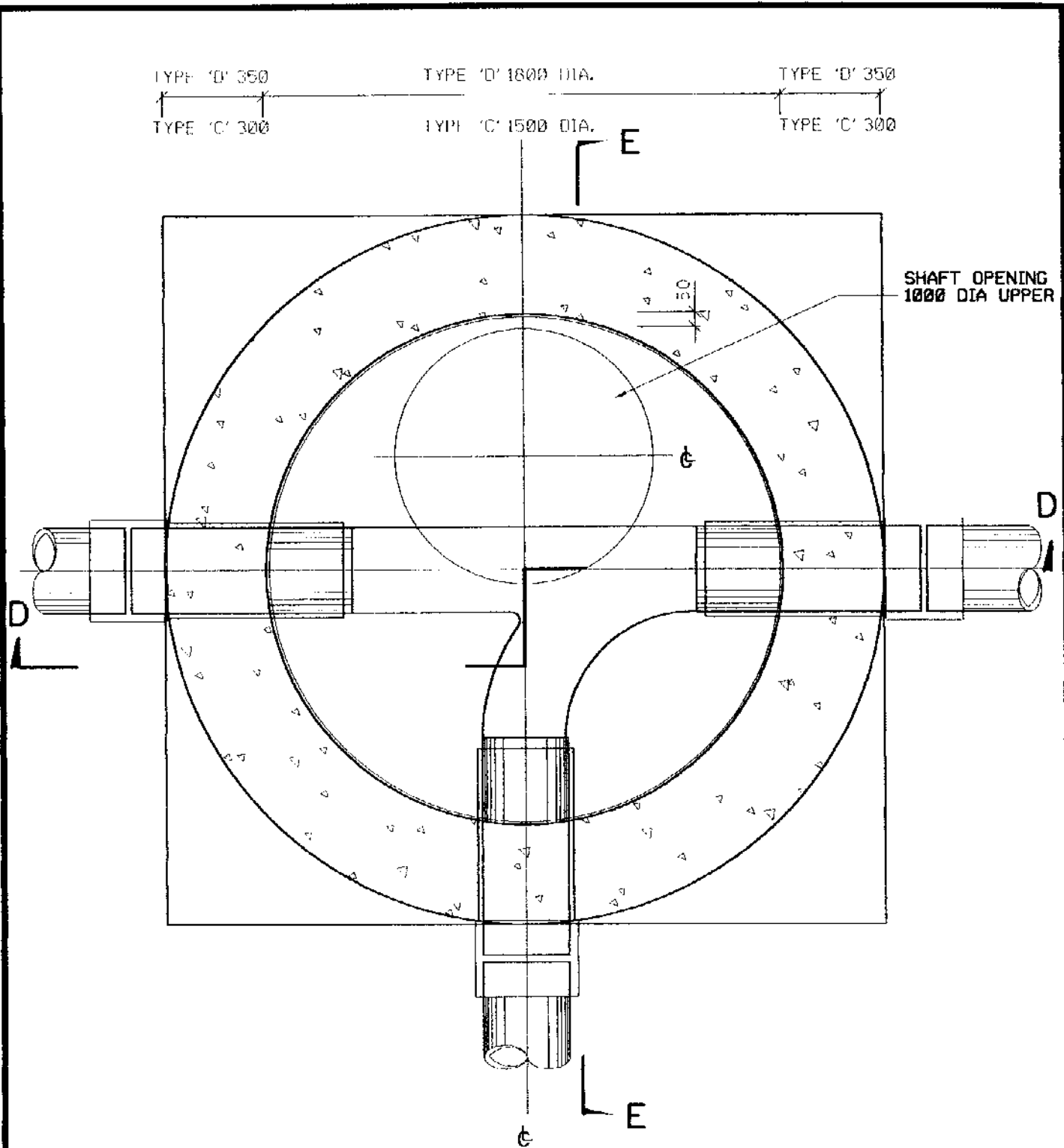
SECTION

**Y8 AT 200 C/C
IN BOTH DIRECTION**

NOTES :

1. STEEL REINFORCEMENT TO BE GRADE 460 (BS4449)
2. MINIMUM COVER TO REINFORCEMENT TO BE 50mm.
3. STEEL REINFORCEMENT TO BE EPOXY COATED.

DATE	REVISION	INITIALS	 DUBAI MUNICIPALITY DRAINAGE & IRRIGATION DEPT.		
			SEWERAGE MANHOLE TYPE 'B' STRUCTURAL REINFORCEMENT		
			SEW	NTS	212



NOTES :

1. TYPE 'C' MH PIPE DIA RANGE 200 TO 600 INCLUSIVE
TYPE 'D' MH PIPE DIA RANGE 700 TO 900 INCLUSIVE
2. DEPTH FROM TOP OF COVER TO SOFFIT OF
OUTLET PIPE : TYPE 'C' EXCEEDING 3500 BUT NOT EXCEEDING 5400
TYPE 'D' EXCEEDING 3800 BUT NOT ECXCEEDING 7700

DATE	REVISION	INITIALS

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DRAINAGE & IRRIGATION DEPT.

**SEWERAGE MANHOLE
TYPES 'C' & 'D' PLAN**

Service SEW	Scale 1 : 20	Detail No 213
-----------------------	------------------------	-------------------------

UNPAVED

PAVED

600x600 CLEAR OPENING
DOUBLE TRIANGULAR HEAVY DUTY
DI COVER AND FRAME

3 NO. PRE-CAST
CONCRETE EXTENSION RINGS (TYP.)
INTERNALLY PROTECTED
WITH GRP LAMINATION

CLASS 'A' CONCRETE HAUNCH
THICKNESS 150 MM

3 COATS RUBBERISED
BITUMEN EMULSION

20 x 20 CHAMFER

250
VARIES 600 MIN.
2500 MAX.

300

TYPE 'C' 2120 MIN.
TYPE 'D' 2400 MIN.

CHAMFER 20 x 20

WATERPROOF TANKING
MEMBRANE & PROTECTION
(DETAIL - 705)

GRP SLAB LINER
(DETAIL - 202)

CHAMBER LINER
(DETAIL - 202)

GRP LAMINATE TO
BENCHING & CHANNEL.

GRIT BONDING TO PIPE
ENCASED IN CONCRETE.

NEOPRENE RUBBER
SURROUND TO GRP
PIPES (10mm THICK
x 150mm WIDE)

MIN. 75

WATERPROOF TANKING MEMBRANE
(DETAIL 705)

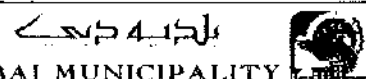
25mm SCREED

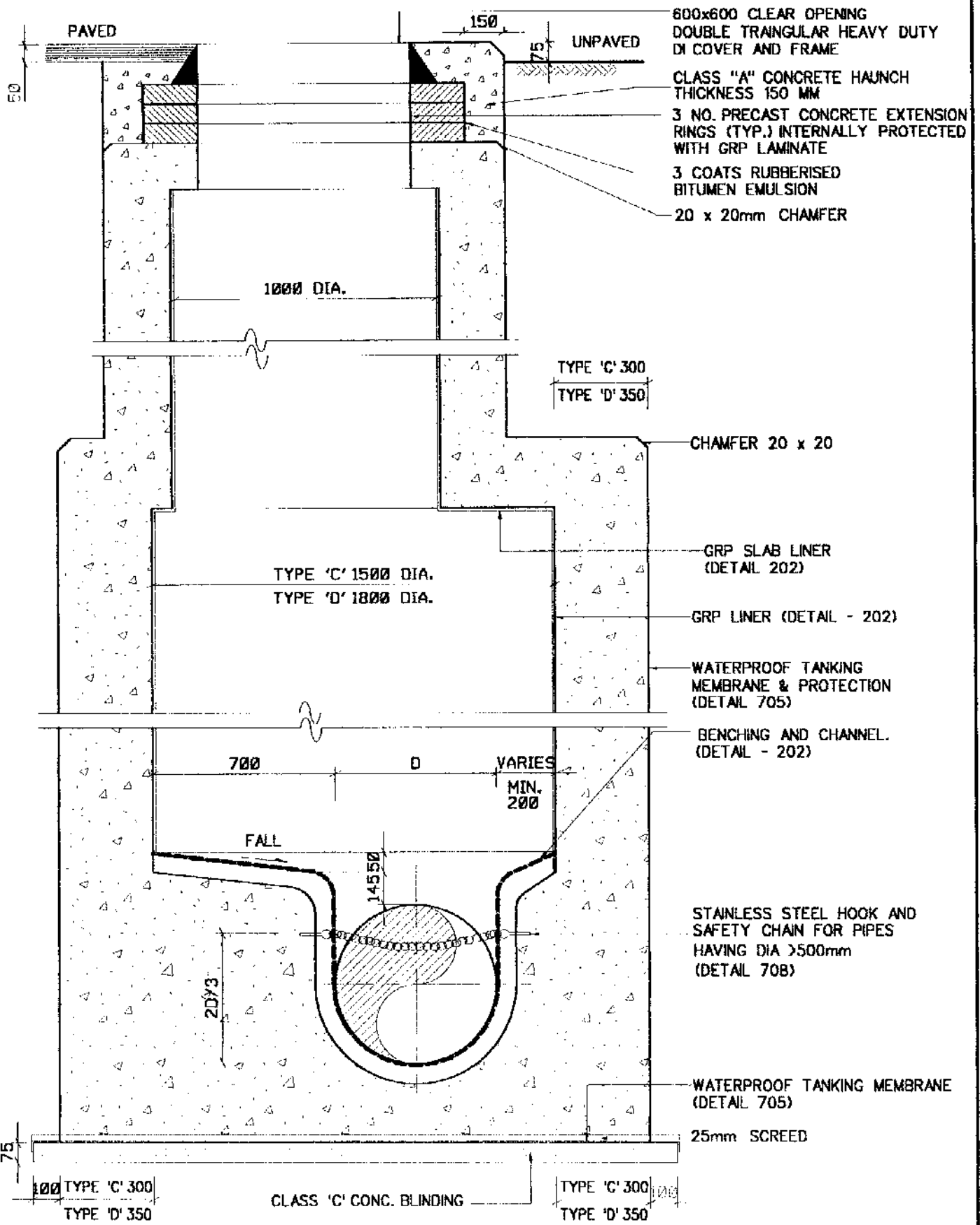
100 TYPE 'C' 300
TYPE 'D' 300

SECTION D-D

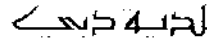
TYPE 'C' 300 100
TYPE 'D' 350

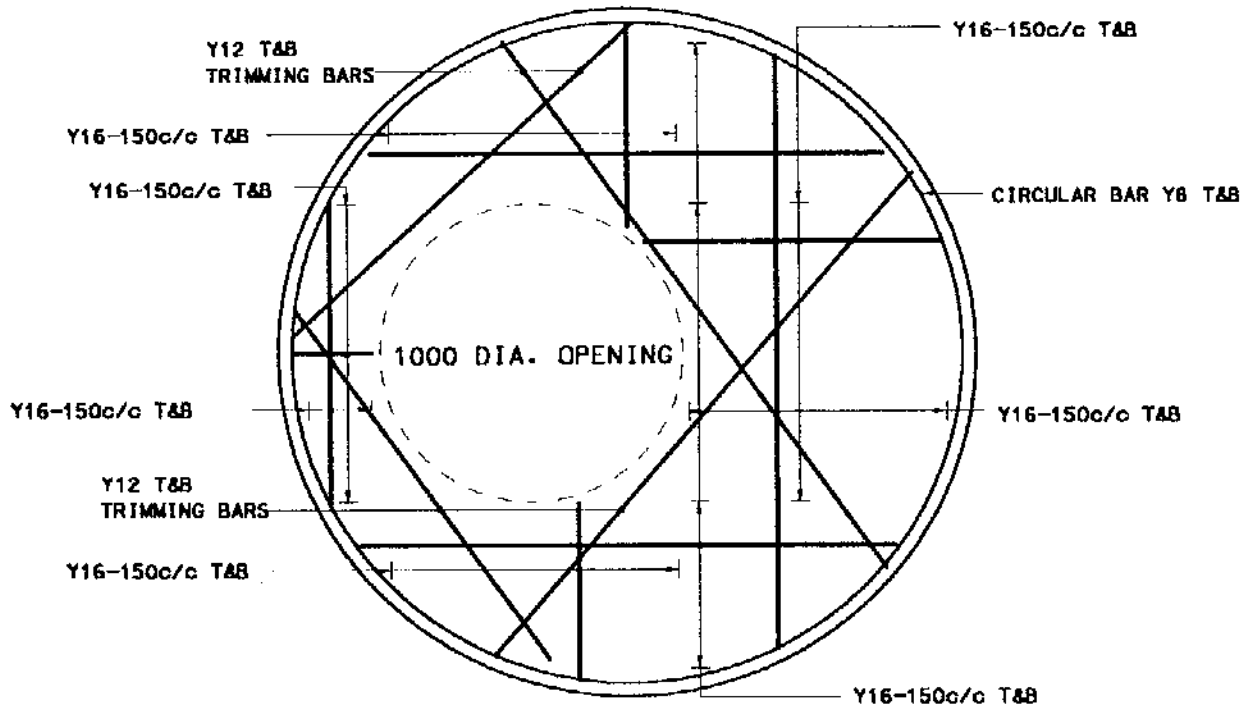
CLASS 'C' CONC. BLINDING

DATE	REVISION	INITIALS	 DUBAI MUNICIPALITY DRAINAGE & IRRIGATION DEPT.		
			SEWERAGE MANHOLE TYPES 'C' & 'D' SECTION D-D		
			Service	Scale	Detail No.
			SEW	1 : 20	214



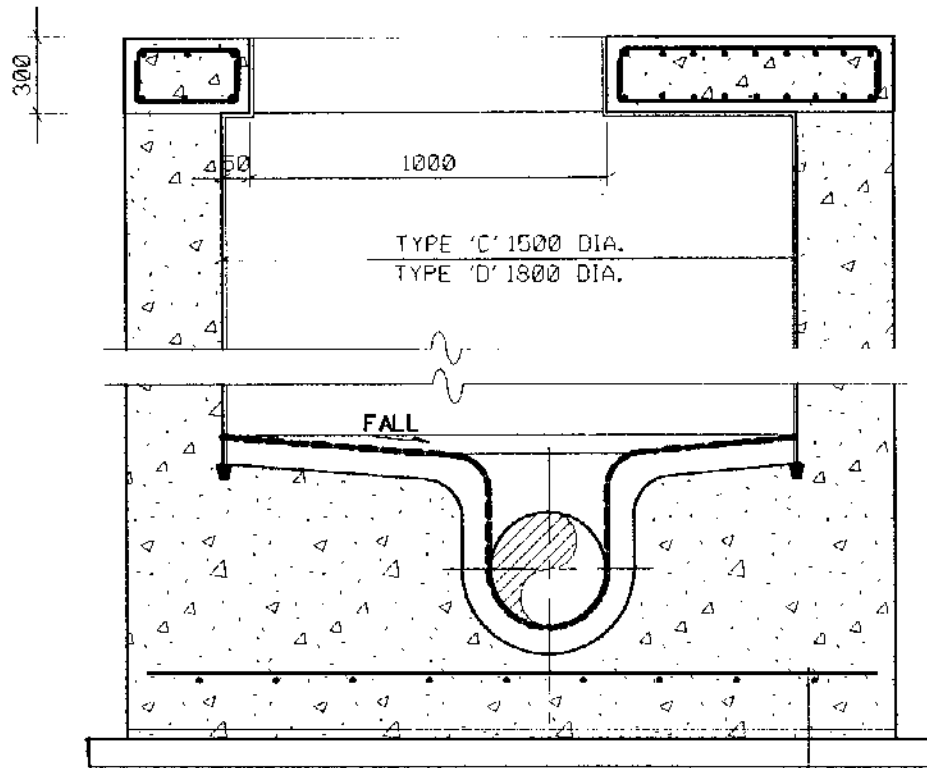
- 800x600 CLEAR OPENING
DOUBLE TRIANGULAR HEAVY DUTY
DI COVER AND FRAME
- CLASS "A" CONCRETE HAUNCH
THICKNESS 150 MM
- 3 NO. PRECAST CONCRETE EXTENSION
RINGS (TYP.) INTERNALLY PROTECTED
WITH GRP LAMINATE
- 3 COATS RUBBERISED
BITUMEN EMULSION
- 20 x 20mm CHAMFER
- TYPE 'C' 300
TYPE 'D' 350
- CHAMFER 20 x 20
- GRP SLAB LINER
(DETAIL 202)
- GRP LINER (DETAIL - 202)
- WATERPROOF TANKING
MEMBRANE & PROTECTION
(DETAIL 705)
- BENCHING AND CHANNEL.
(DETAIL - 202)
- 700 D VARIES
MIN.
200
- FALL
- 145.50
- 20Y3
- STAINLESS STEEL HOOK AND
SAFETY CHAIN FOR PIPES
HAVING DIA >500mm
(DETAIL 708)
- WATERPROOF TANKING MEMBRANE
(DETAIL 705)
- 25mm SCREED
- 100 TYPE 'C' 300
TYPE 'D' 350
- CLASS 'C' CONC. BLINDING
- TYPE 'C' 300
TYPE 'D' 350

DATE	REVISION	INITIALS	 DUBAI MUNICIPALITY DRAINAGE & IRRIGATION DEPT.		
			SEWERAGE MANHOLE TYPES 'C' & 'D' SECTION E-E		
			Service SEW	Scale 1 : 20	Detail No. 215



REDUCER SLAB PLAN

TYPE 'C' 300	TYPE 'C' 1500 DIA.	TYPE 'C' 300
TYPE 'D' 350	TYPE 'D' 1800 DIA.	TYPE 'D' 350



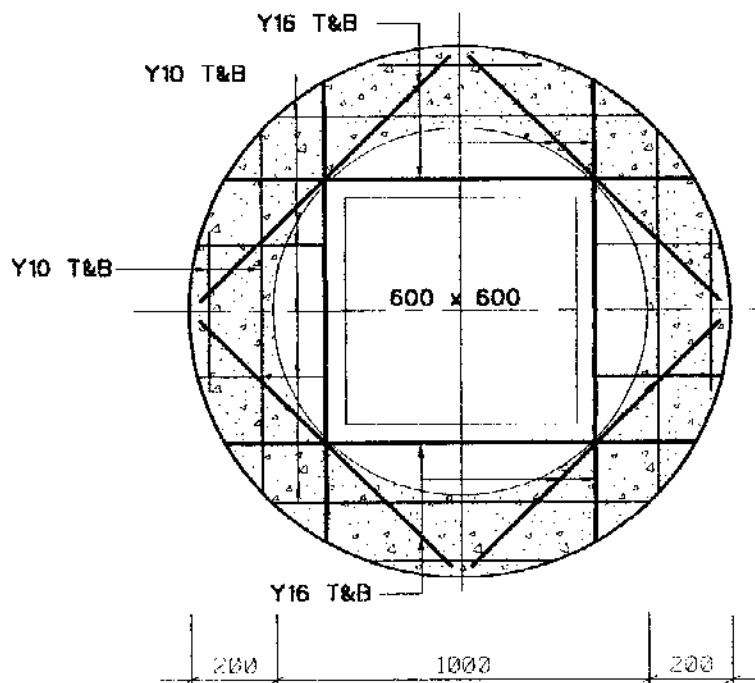
NOTES :

1. STEEL REINFORCEMENT TO BE GRADE 460 (BS4449)
2. MINIMUM COVER TO REINFORCEMENT TO BE 50mm.
3. STEEL REINFORCEMENT TO BE EPOXY COATED.

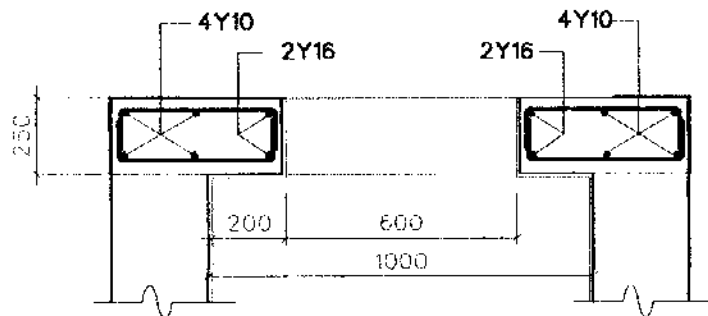
SECTION

Y8 AT 200 C/C
IN BOTH DIRECTION

DATE	REVISION	INITIALS	 DUBAI MUNICIPALITY DRAINAGE & IRRIGATION DEPT.		
			SEWERAGE MANHOLE TYPES 'C' & 'D' STRUCTURAL REINFORCEMENT SHEET 1 OF 2		
			Service	Scale	Detail No.
			SEW	NTS	216



TOP SLAB PLAN

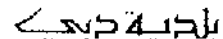



SECTION

NOTES :

1. STEEL REINFORCEMENT TO BE GRADE 460 (BS4449)
2. MINIMUM COVER TO REINFORCEMENT TO BE 50mm.
3. STEEL REINFORCEMENT TO BE EPOXY COATED.

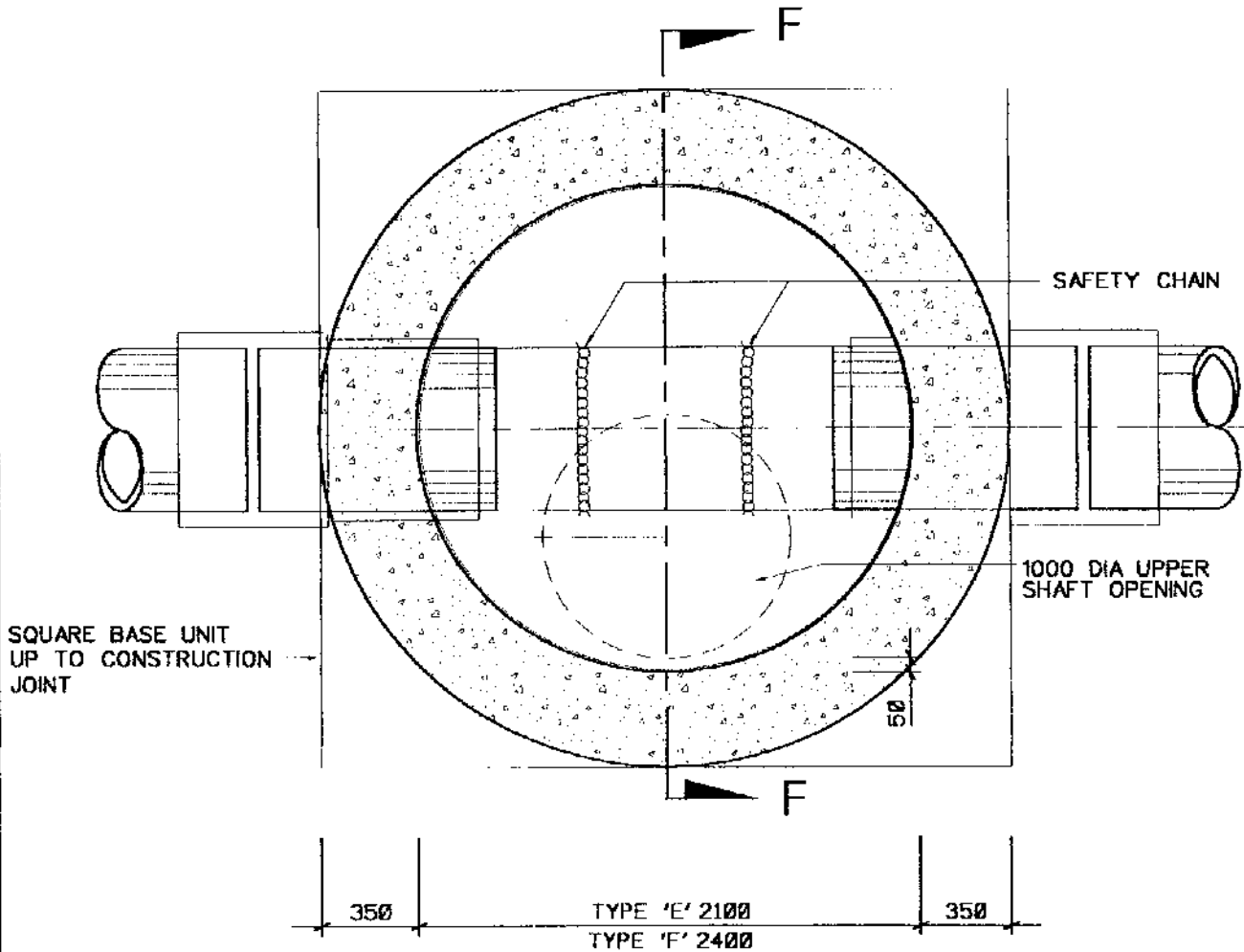
DATE	REVISION	INITIALS

DUBAI MUNICIPALITY
 DRAINAGE & IRRIGATION DEPT.

SEWERAGE MANHOLE TYPES 'C' & 'D'
STRUCTURAL REINFORCEMENT
SHEET 2 OF 2


Service SEW	Scale NTS	Detail No. 217
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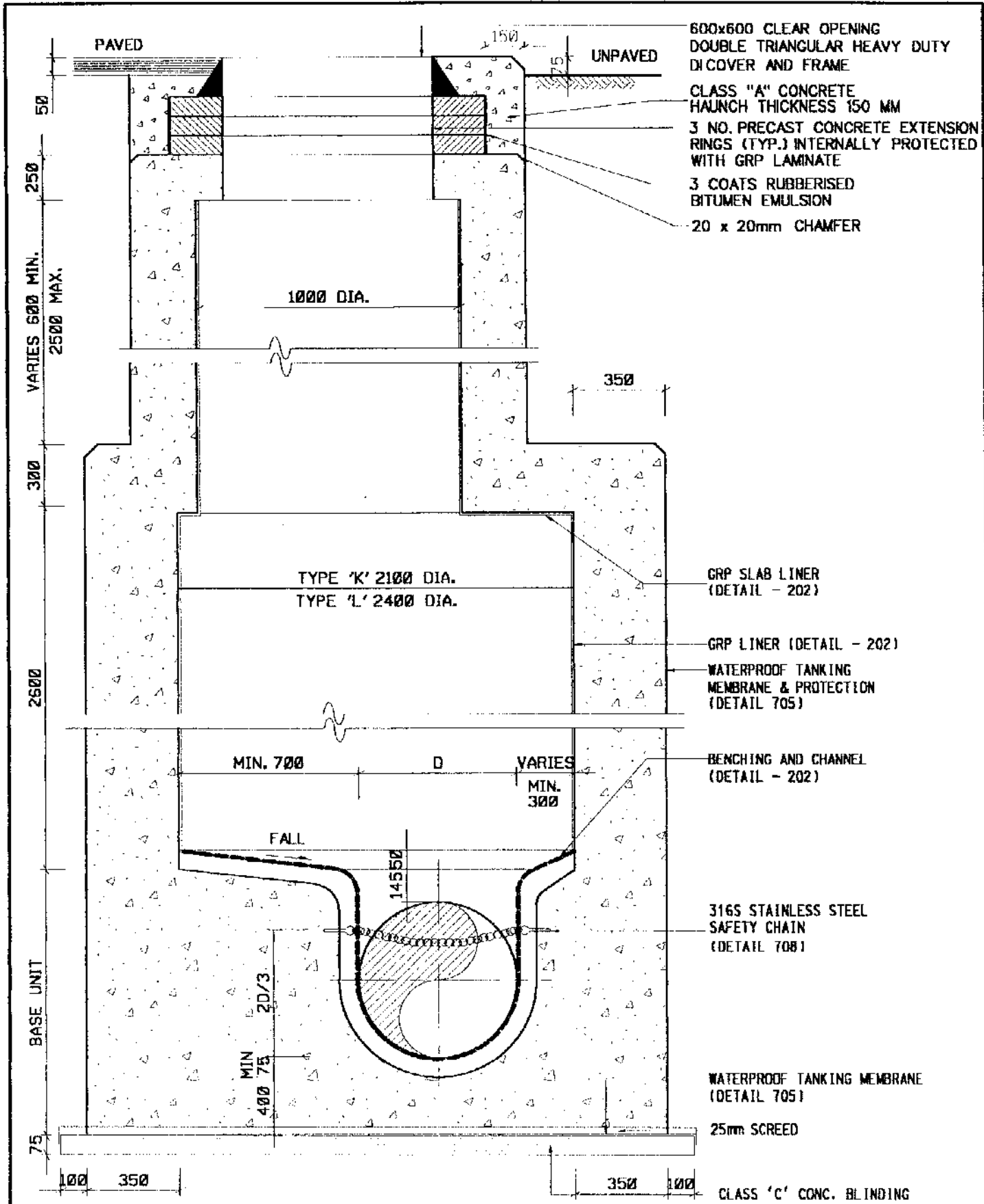



PLAN

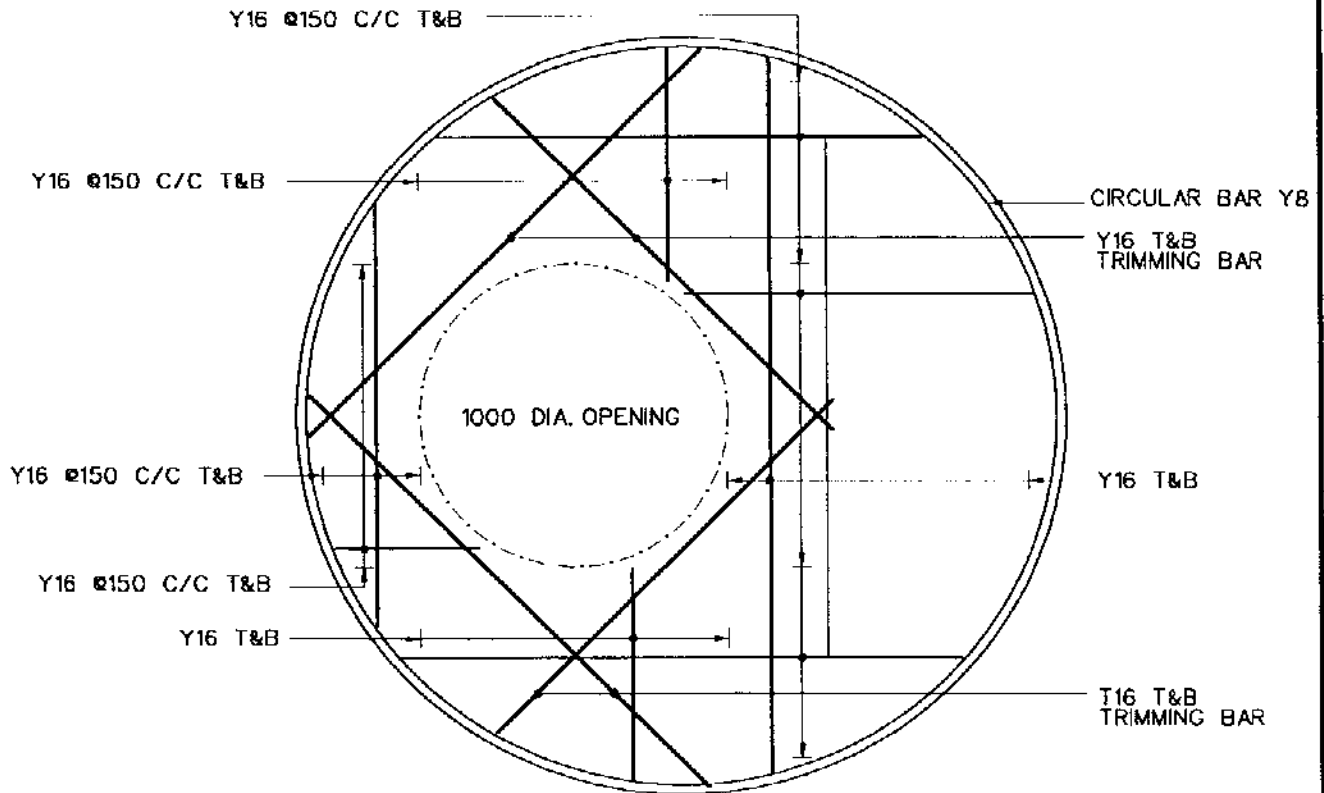
NOTES :

1. TYPE 'E' MH PIPE DIA. 1000 AND 1100
TYPE 'F' MH PIPE DIA. DIA \geq 1200
2. DEPTH FROM TOP OF COVER TO SOFFIT OF OUTLET PIPE:
TYPE 'E' MIN. 4000 MAX. 9000
TYPE 'F' MIN. 4000 MAX. 9000

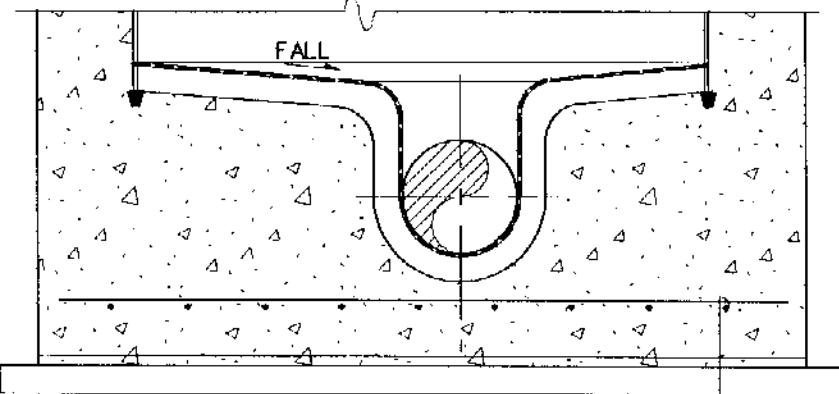
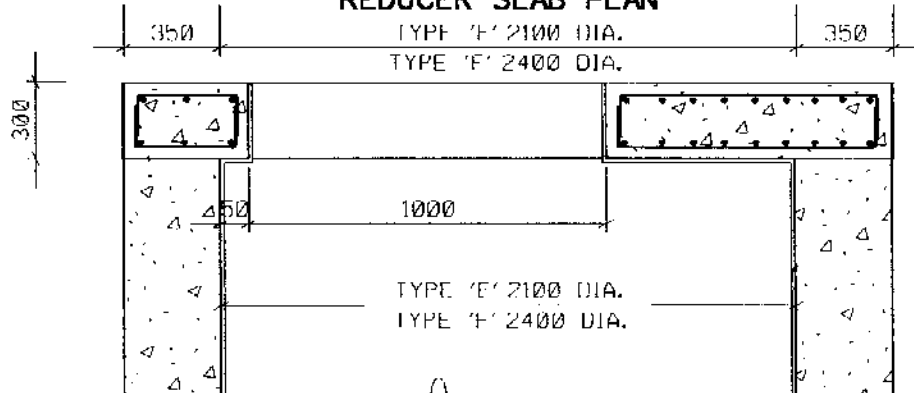
DATE	REVISION	INITIALS	 دبلية DUBAI MUNICIPALITY DRAINAGE & IRRIGATION DEPT.		
			SEWERAGE MANHOLE TYPES 'E' & 'F' PLAN		
			Service SEW	Scale NTS	Detail No. 218



DATE	REVISION	INITIALS	 دولة دبي DUBAI MUNICIPALITY DRAINAGE & IRRIGATION DEPT.		
			SEWERAGE MANHOLE TYPES 'E' & 'F' SECTION F-F		
			Service	Scale	Dr/Trill No.
			SEW	1:20	219



REDUCER SLAB PLAN




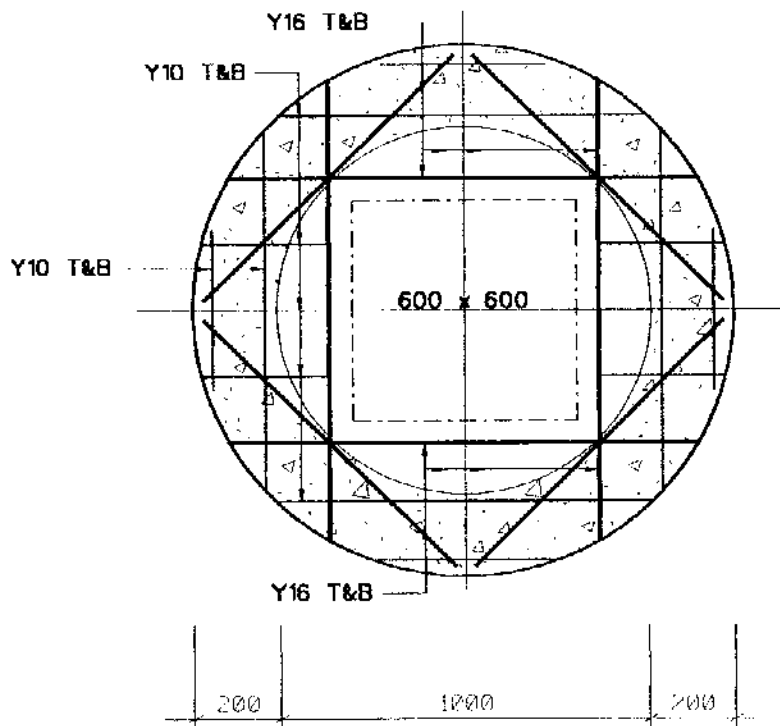
SECTION

T8 AT 200 C/C
IN BOTH DIRECTION

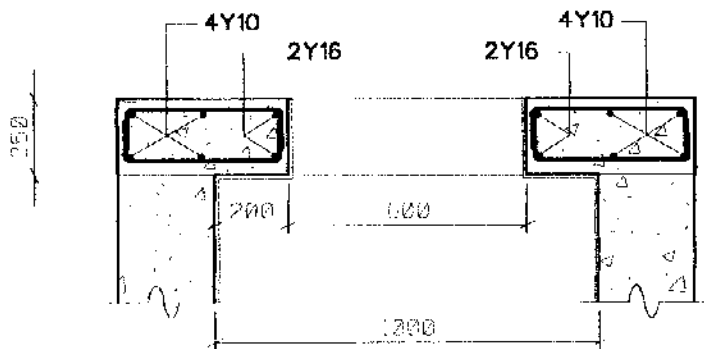
NOTES :

1. STEEL REINFORCEMENT TO BE GRADE 460 (BS1449)
2. MINIMUM COVER TO REINFORCEMENT TO BE 50mm.
3. STEEL REINFORCEMENT TO BE EPOXY COATED.


DATE	REVISION	INITIALS	 DUBAI MUNICIPALITY DRAINAGE & IRRIGATION DEPT.		
			SEWERAGE MANHOLE TYPES 'E' & 'F' STRUCTURAL REINFORCEMENT SHEET 1 OF 2		
			Service	Scale	Detail No
			SEW	N15	220



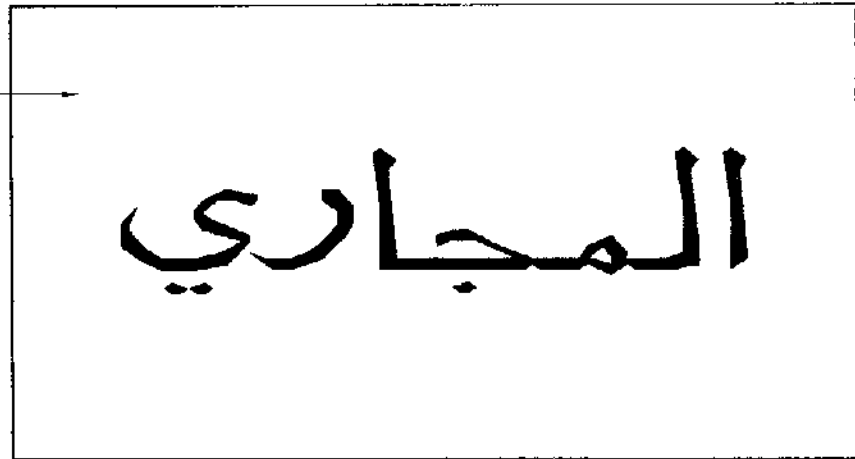
TOP SLAB PLAN



SECTION

DATE	REVISION	INITIALS	 دبي بلدية DUBAI MUNICIPALITY DRAINAGE & IRRIGATION DEPT.		
			SEWERAGE MANHOLE TYPES 'E' & 'F' STRUCTURAL REINFORCEMENT SHEET 2 OF 2		
			Service	Scale	Detail No.
			SEW	NTS	221

AREA FREE OF
SURFACE PATTERN

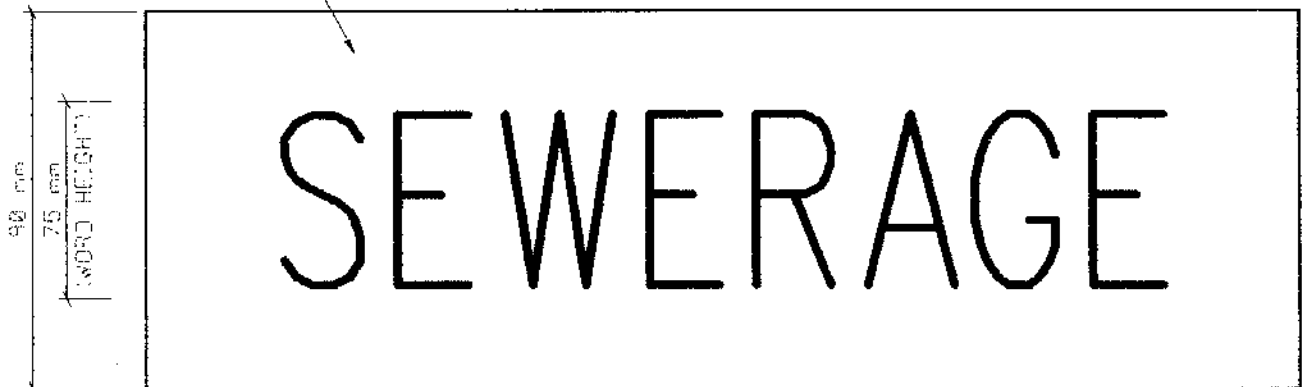


75 mm
(WORD HEIGHT)
40 mm

WORD LENGTH = 40mm

AREA FREE OF
SURFACE PATTERN


ARABIC INSCRIPTION

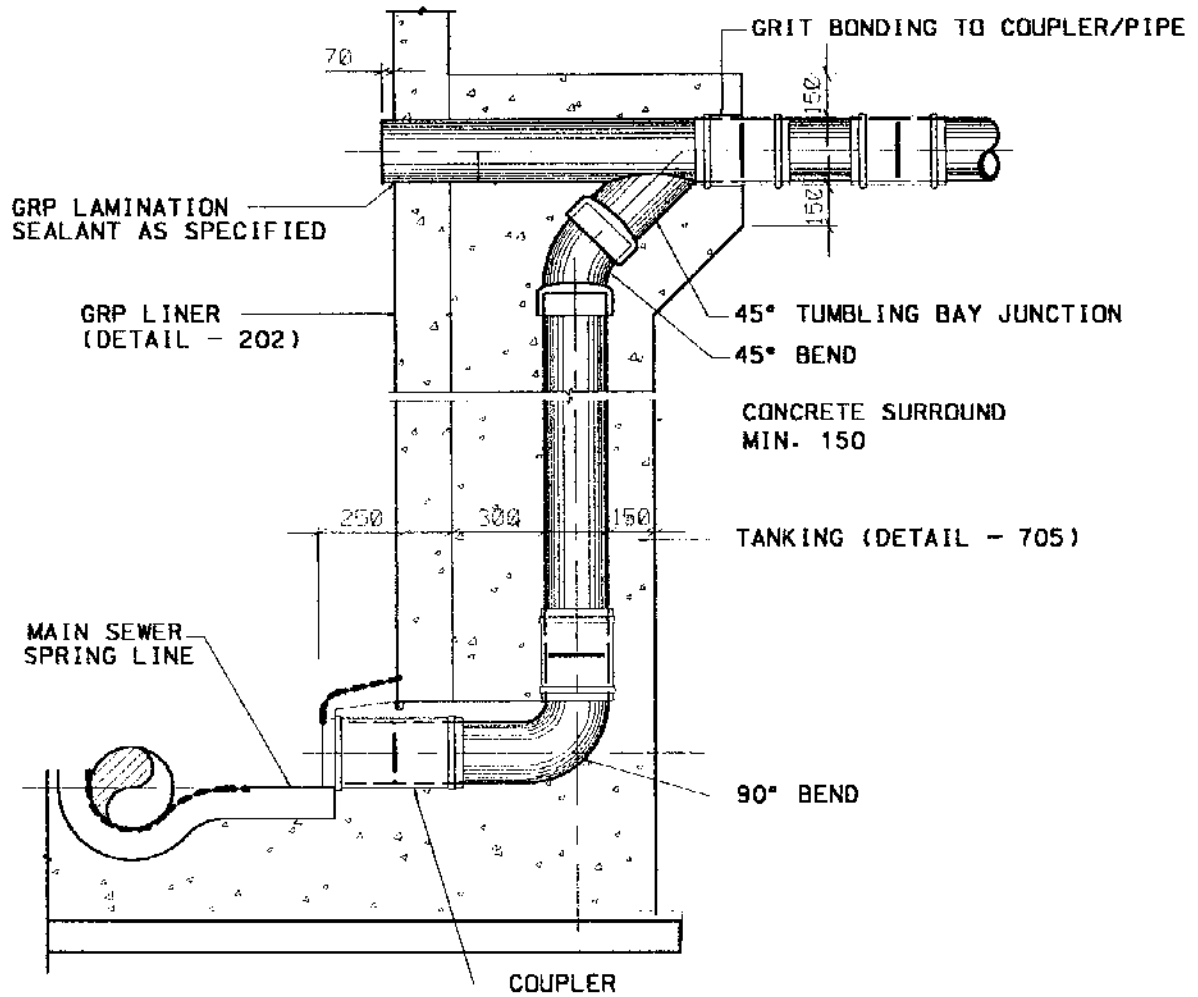



75 mm
(WORD HEIGHT)
40 mm

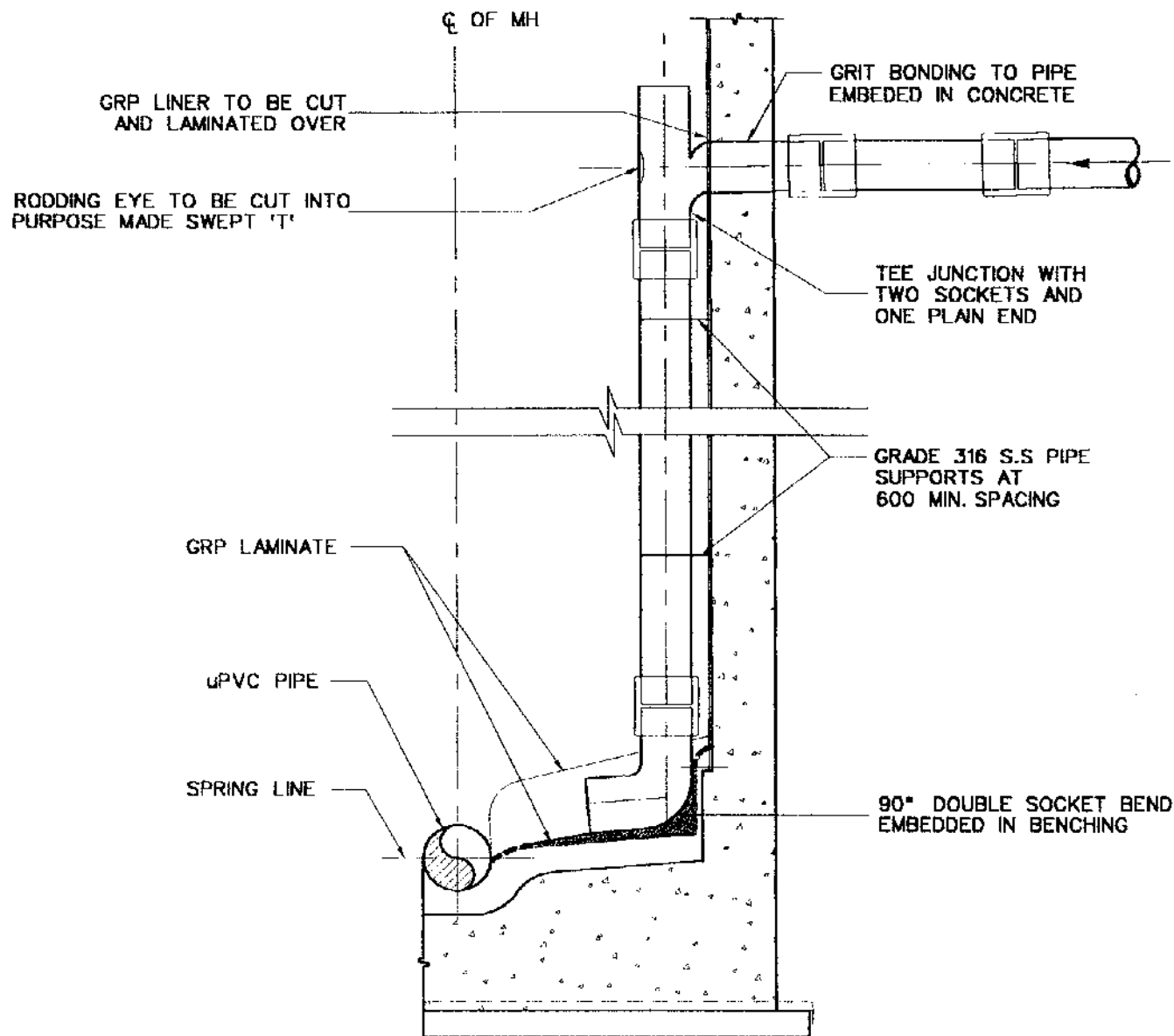
WORD LENGTH = 40 mm

ENGLISH INSCRIPTION

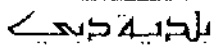
DATE	REVISION	INITIALS	 بلدية دبي DUBAI MUNICIPALITY DRAINAGE & IRRIGATION DEPT.		
			SEWERAGE MANHOLE COVER INSCRIPTION		
			Service	Scale	Detail No.
			SEW	NIS	222



DATE	REVISION	INITIALS	 بلدية دبي DUBAI MUNICIPALITY DRAINAGE & IRRIGATION DEPT.		
			TYPICAL BACKDROP CONNECTION		
			Service	Scale	Detail No
			SEW	1 : 25	223



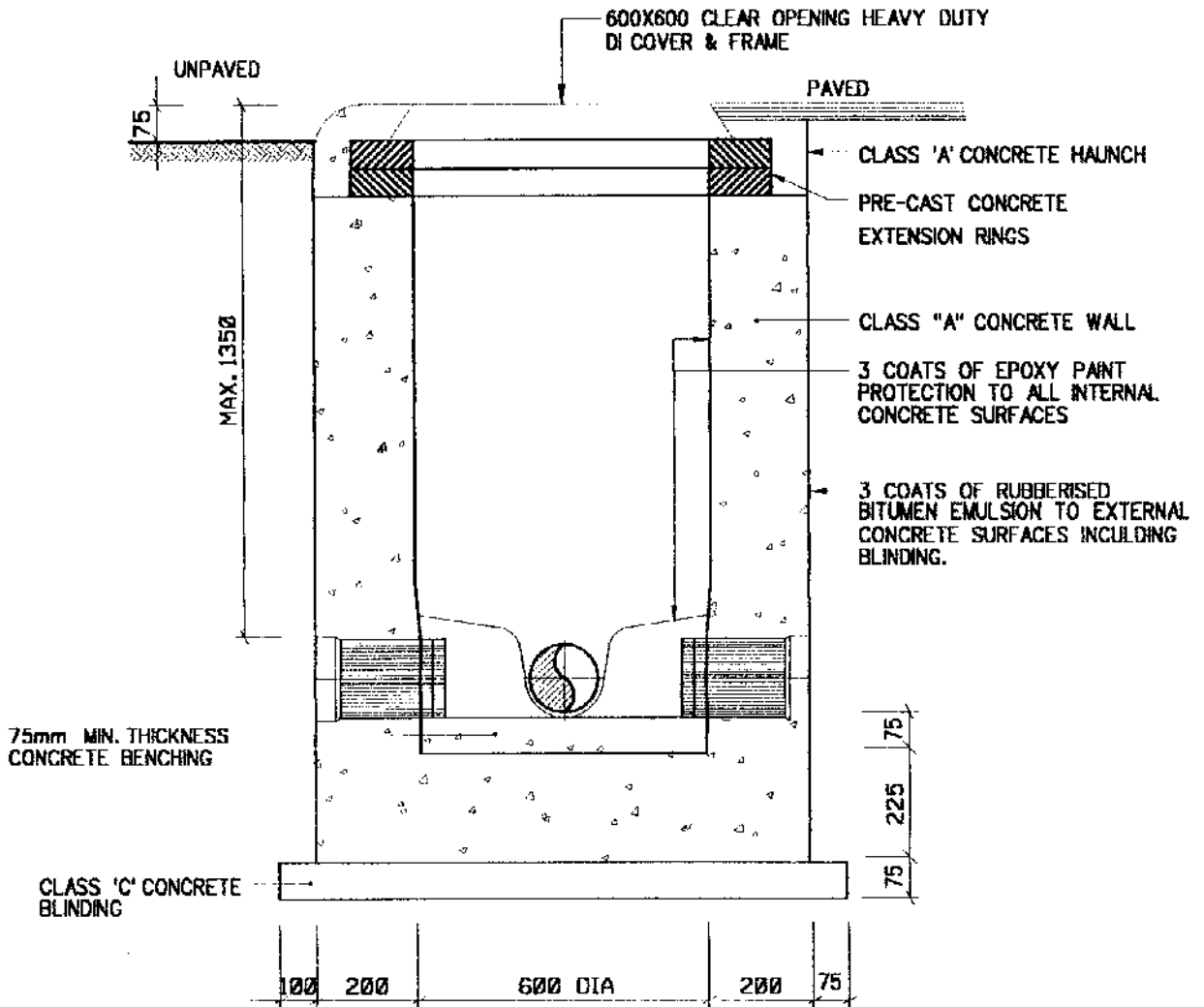
NOTE:-
 TO BE USED ONLY
 WHERE DIRECTED BY THE ENGINEER.

DATE	REVISION	INITIALS	 DUBAI MUNICIPALITY DRAINAGE & IRRIGATION DEPT.		
			INTERNAL BACKDROP CONNECTION		
			Service	Scale	Detail No.
			SEW	1 : 20	224


***DUBAI MUNICIPALITY – DRAINAGE &
IRRIGATION DEPARTMENT***

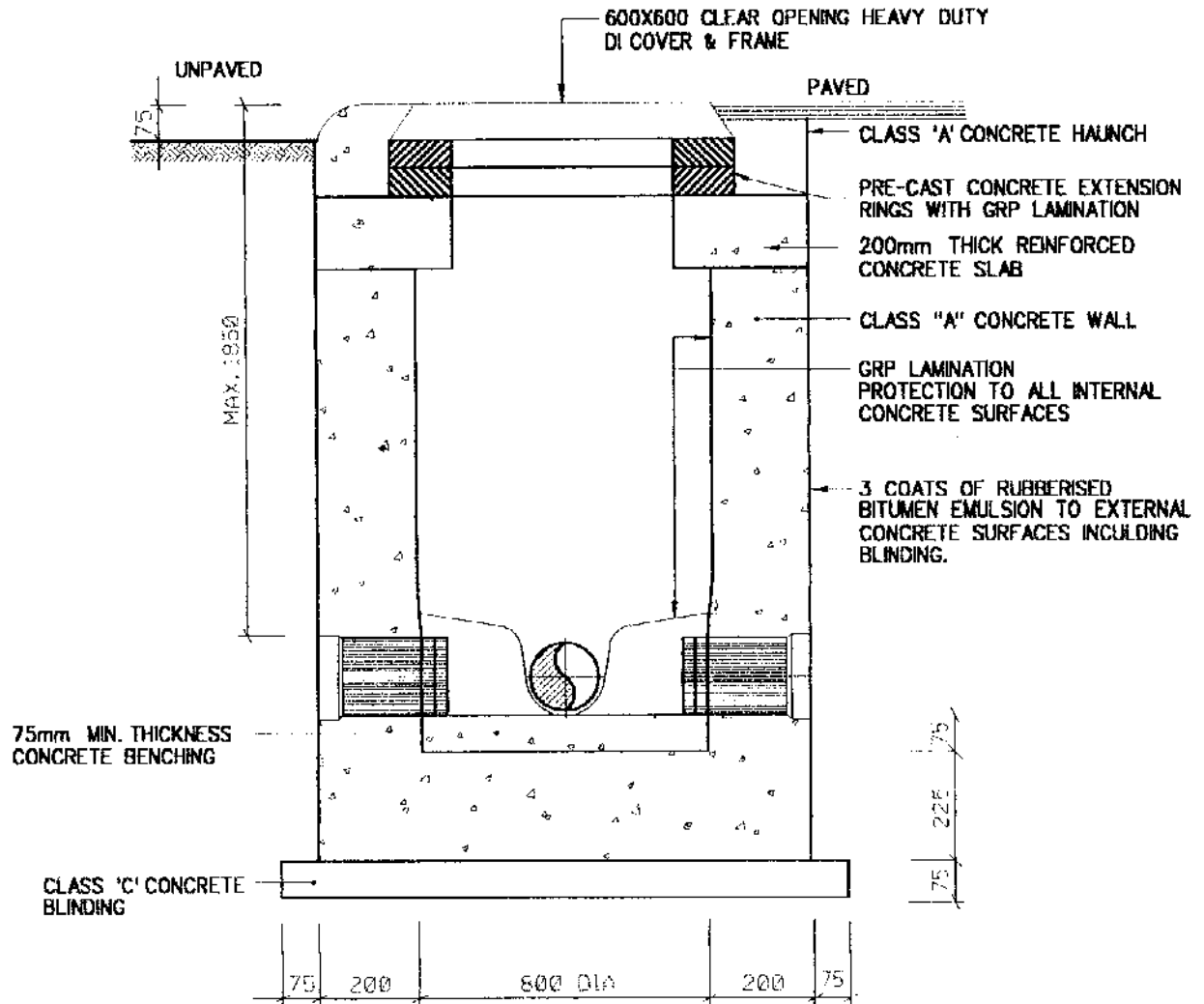
***STANDARD DETAILS FOR SEWERAGE &
DRAINAGE CONSTRUCTION***

300 HOUSE CONNECTION DETAILS




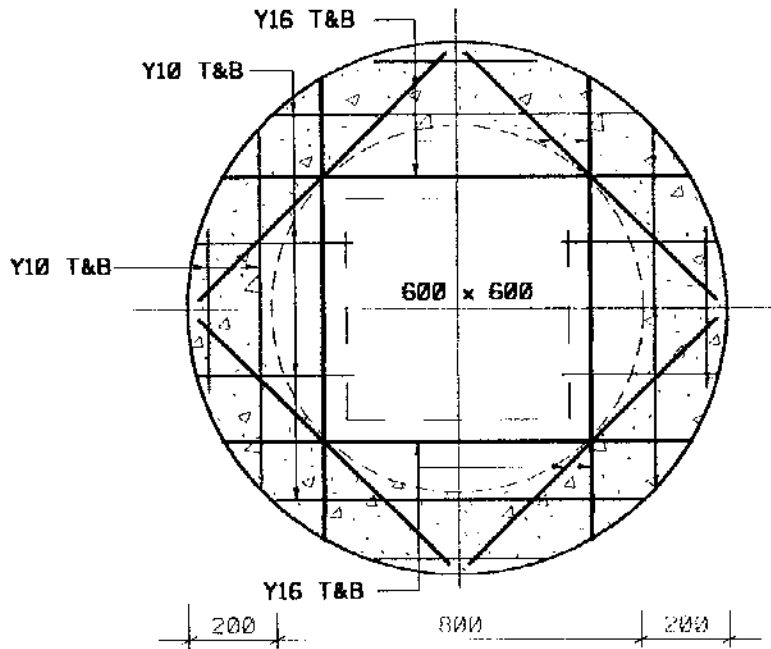
NOTE:-
CHAMBERS MAY BE PRECAST SUBJECT TO THE APPROVAL OF THE ENGINEER

DATE	REVISION	INITIALS	 دولة دبي DUBAI MUNICIPALITY DRAINAGE & IRRIGATION DEPT.		
			HOUSE CONNECTION CHAMBER, TYPE 'A'		
			Service SEW	Scale 1 : 15	Detail No. 301

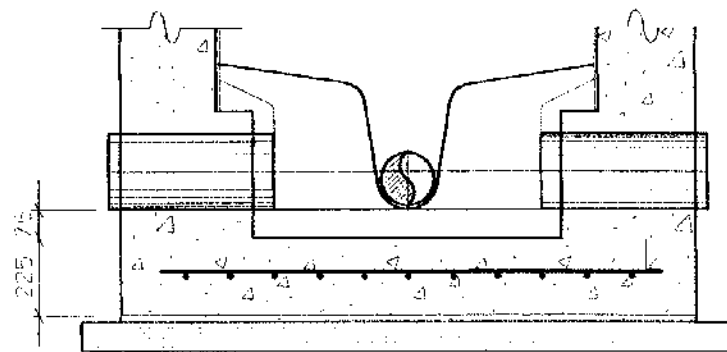
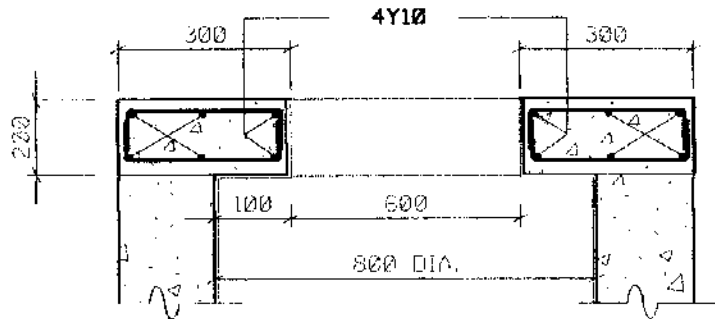


NOTE:-
CHAMBERS MAY BE PRECAST SUBJECT TO THE APPROVAL OF THE ENGINEER

DATE	REVISION	INITIALS	 DUBAI MUNICIPALITY DRAINAGE & IRRIGATION DEPT.		
			HOUSE CONNECTION CHAMBER, TYPE 'B'		
			Service	Scale	Detail No.
			SEW	1 : 20	302



COVER SLAB PLAN




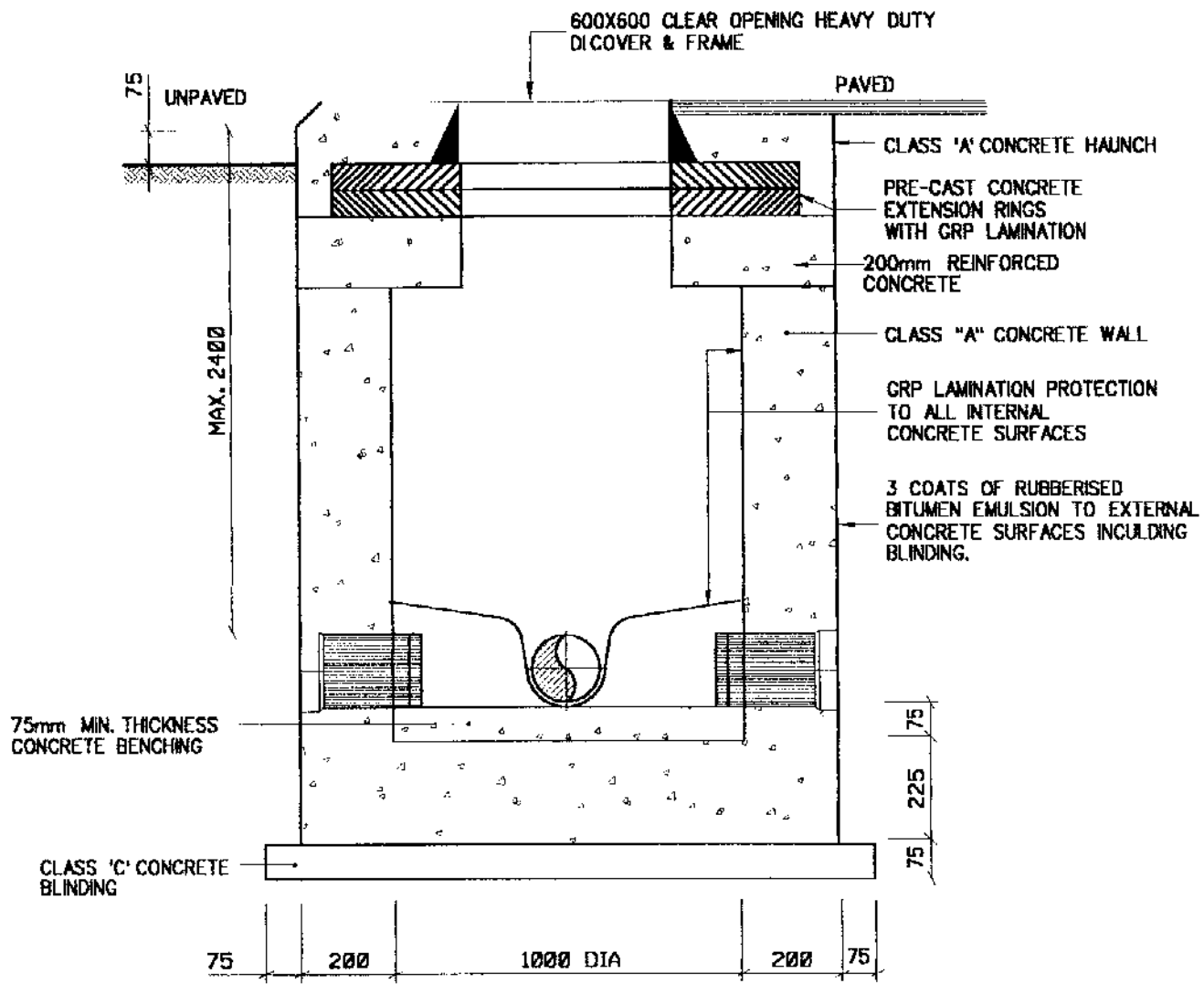
Y80 AT 200 C/C
IN BOTH DIRECTIONS

SECTION


NOTES :

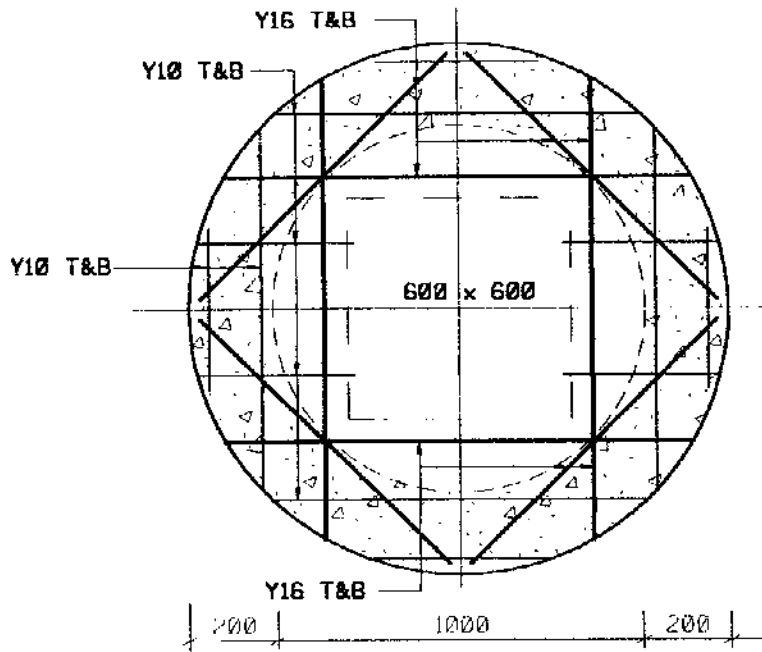
1. STEEL REINFORCEMENT TO BE GRADE 460 (BS4449)
2. MINIMUM COVER TO REINFORCEMENT TO BE 50mm.
3. STEEL REINFORCEMENT TO BE EPOXY COATED.

DATE	REVISION	INITIALS	 DUBAI MUNICIPALITY DRAINAGE & IRRIGATION DEPT.		
			H.C. CHAMBER TYPE 'B' STRUCTURAL REINFORCEMENT		
			Service SEW	Scale NTS	Detail No. 303

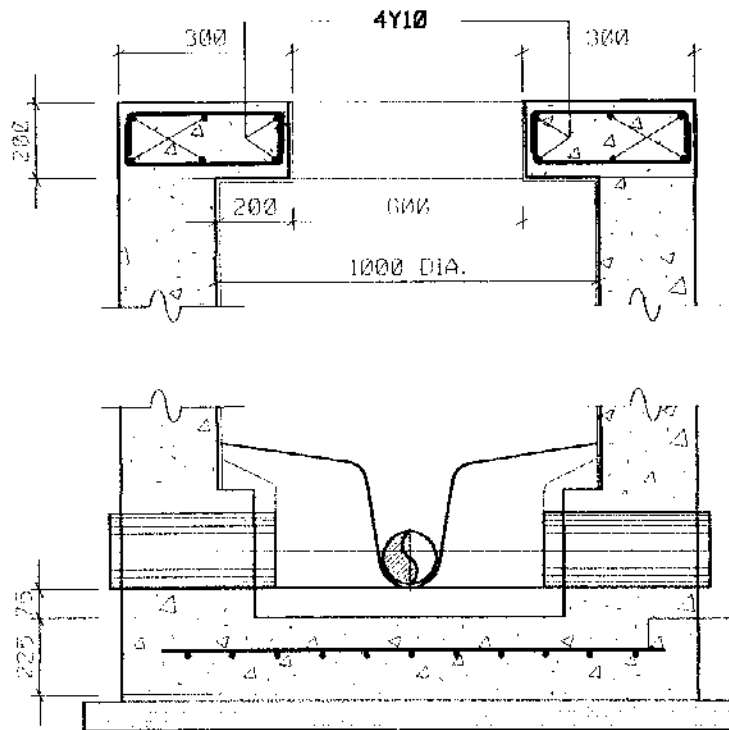


NOTE:-
CHAMBERS MAY BE PRECAST SUBJECT TO THE APPROVAL OF THE ENGINEER

DATE	REVISION	INITIALS	 بلدية دبي DUBAI MUNICIPALITY DRAINAGE & IRRIGATION DEPT.		
			HOUSE CONNECTION CHAMBER, TYPE 'C'		
			Service SEW	Scale 1 : 20	Detail No. 304



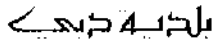
COVER SLAB PLAN



SECTION

NOTES :

1. STEEL REINFORCEMENT TO BE GRADE 460 (BS4449)
2. MINIMUM COVER TO REINFORCEMENT TO BE 50mm.
3. STEEL REINFORCEMENT TO BE EPOXY COATED.

DATE	REVISION	INITIALS	 DUBAI MUNICIPALITY DRAINAGE & IRRIGATION DEPT.		
			H.C CHAMBER TYPE "C" STRUCTURAL REINFORCEMENT		
			Service	Scale	Detail No.
			SEW	1 : 20	305

Ø200 SEMICIRCULAR GRP CONE DETAIL TO BE APPROVED BY ENGINEER

PLOT BOUNDARY WALL

Ø100mm GRP PIPE 10mm WALL THICKNESS PAINTED WHITE ABOVE GROUND AND FIXED TO WALL

APPROVED STAINLESS STEEL GRADE 316 S16 CLAMPING BANDS

RIGHT SIDE

FINISHED PAVEMENT LEVEL

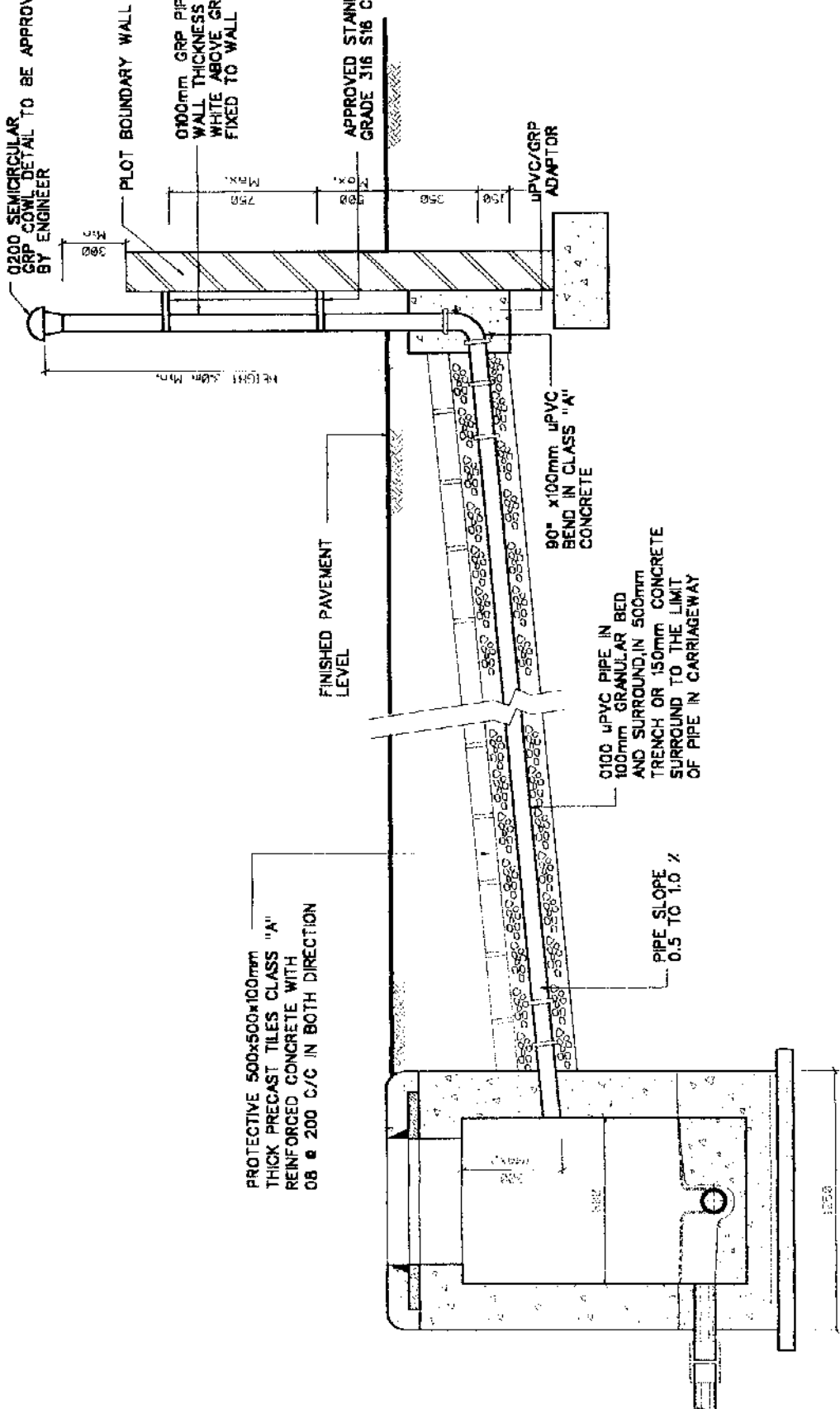
PROTECTIVE 500x500x100mm THICK PRECAST TILES CLASS "A" REINFORCED CONCRETE WITH Ø8 @ 200 C/C IN BOTH DIRECTION

PIPE SLOPE 0.5 TO 1.0 %

Ø100 UPVC PIPE IN 100mm GRANULAR BED AND SURROUND IN 500mm TRENCH OR 150mm CONCRETE SURROUND TO THE LIMIT OF PIPE IN CARRIAGEWAY

90° x100mm UPVC BEND IN CLASS "A" CONCRETE

UPVC/GRP ADAPTOR



دبي بلدية

DUBAI MUNICIPALITY
DRAINAGE & IRRIGATION DEPT.

INITIALS

REVISION

DATE

VENT PIPE ARRANGEMENT

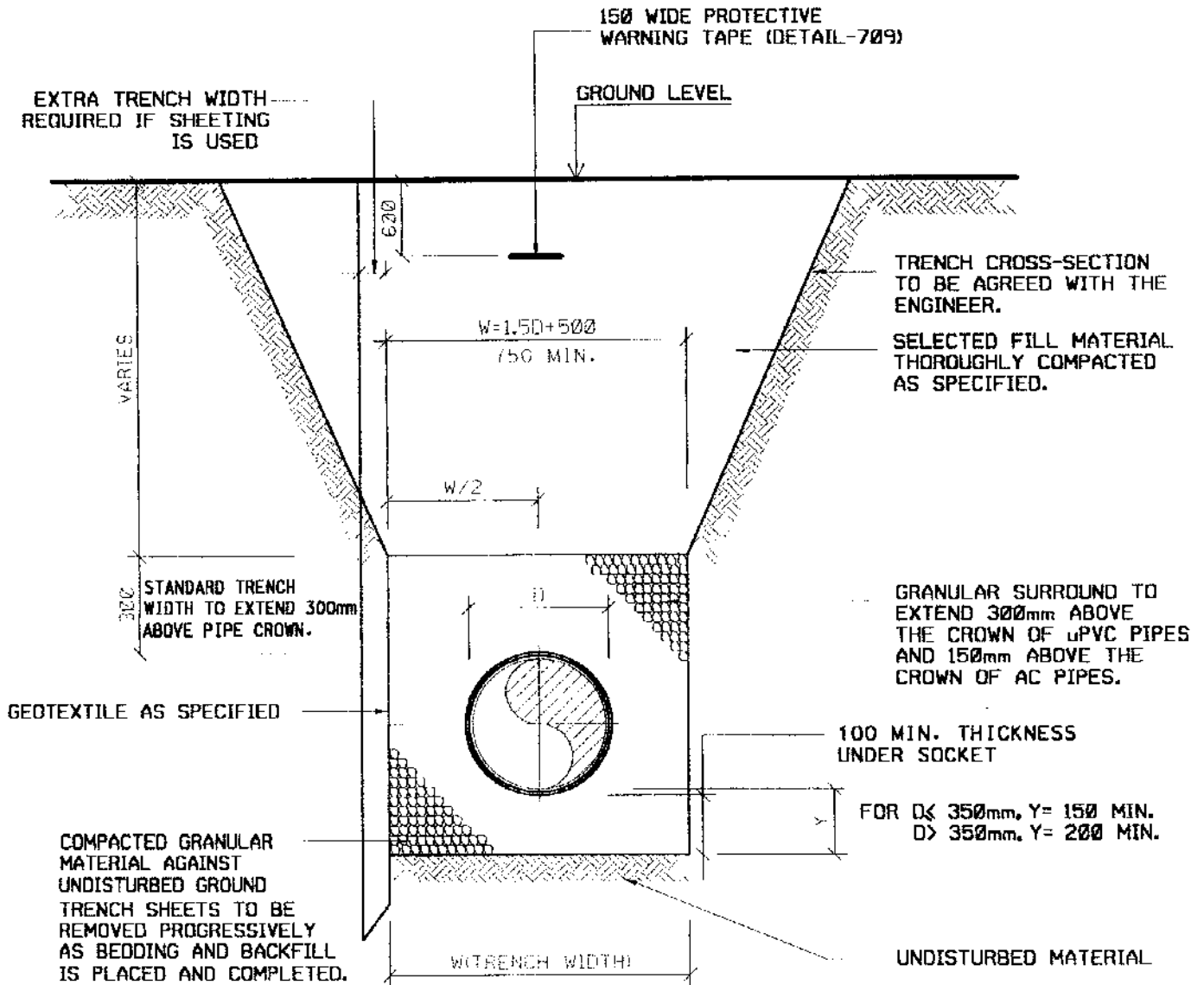
Service	Scale	Detail No.
SEW	1:30	306

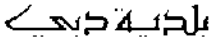
Dr/046831/6/STD-BET/ODW/SEW/01-306.DWG 01/2003

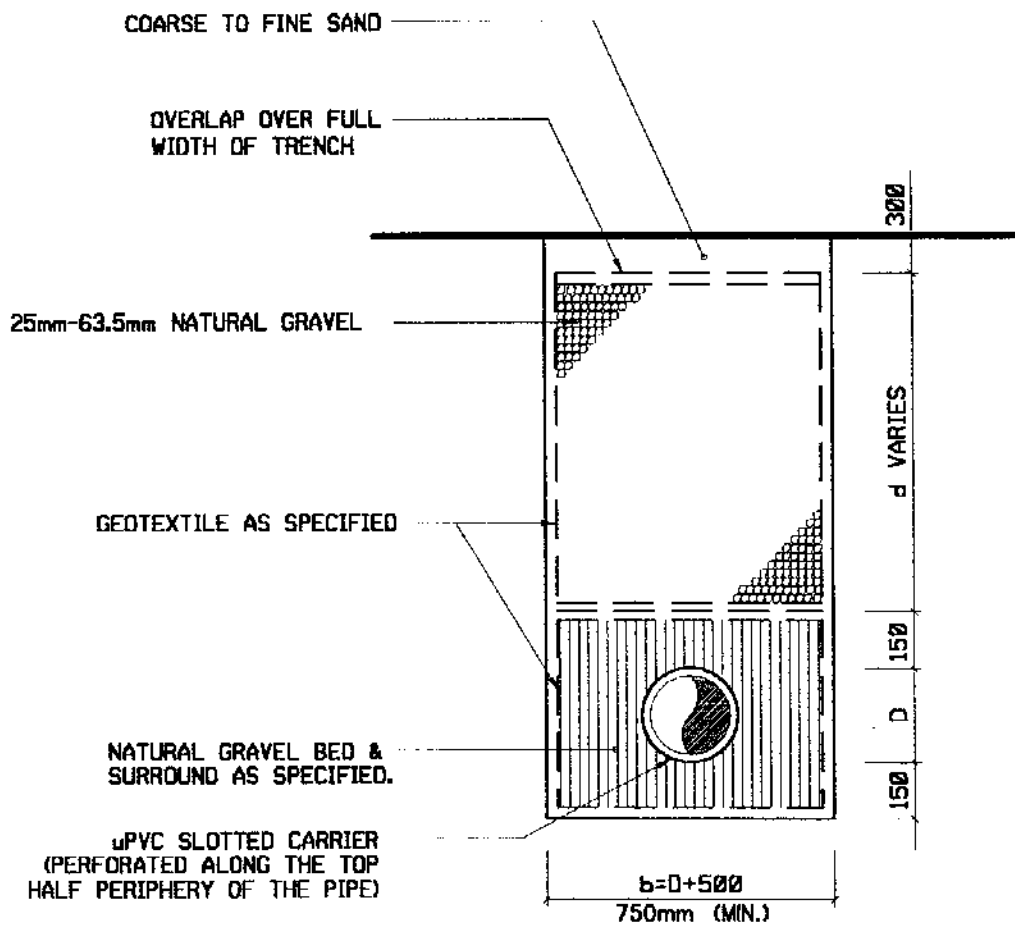
***DUBAI MUNICIPALITY – DRAINAGE &
IRRIGATION DEPARTMENT***

***STANDARD DETAILS FOR SEWERAGE &
DRAINAGE CONSTRUCTION***

***400 STORM WATER DRAINAGE PIPELINE
DETAILS***




DATE	REVISION	INITIALS	 DUBAI MUNICIPALITY DRAINAGE & IRRIGATION DEPT.		
			STORM WATER DRAINAGE PIPE INSTALLATION		
			Service SWD	Scale N T S	Detail No. 401

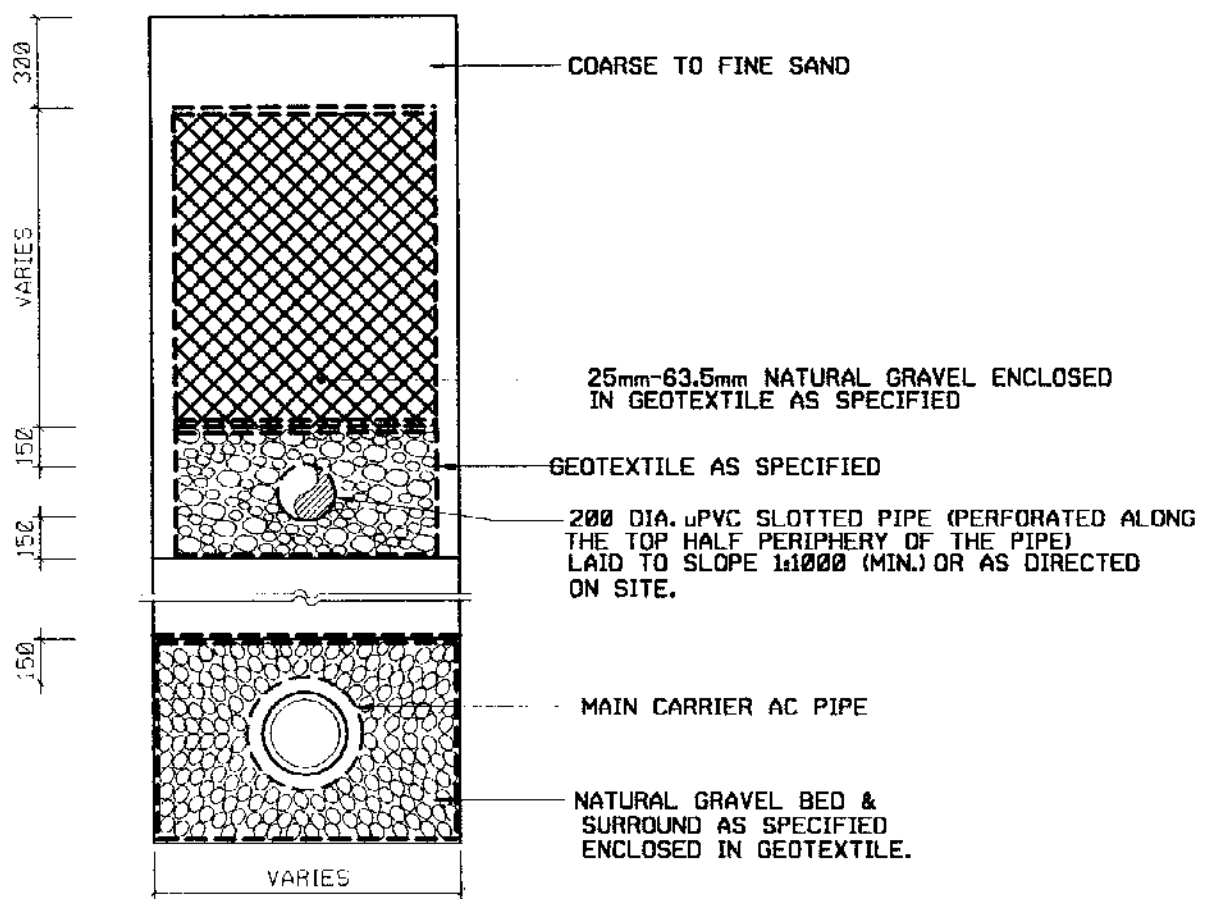


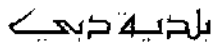
NOTE:

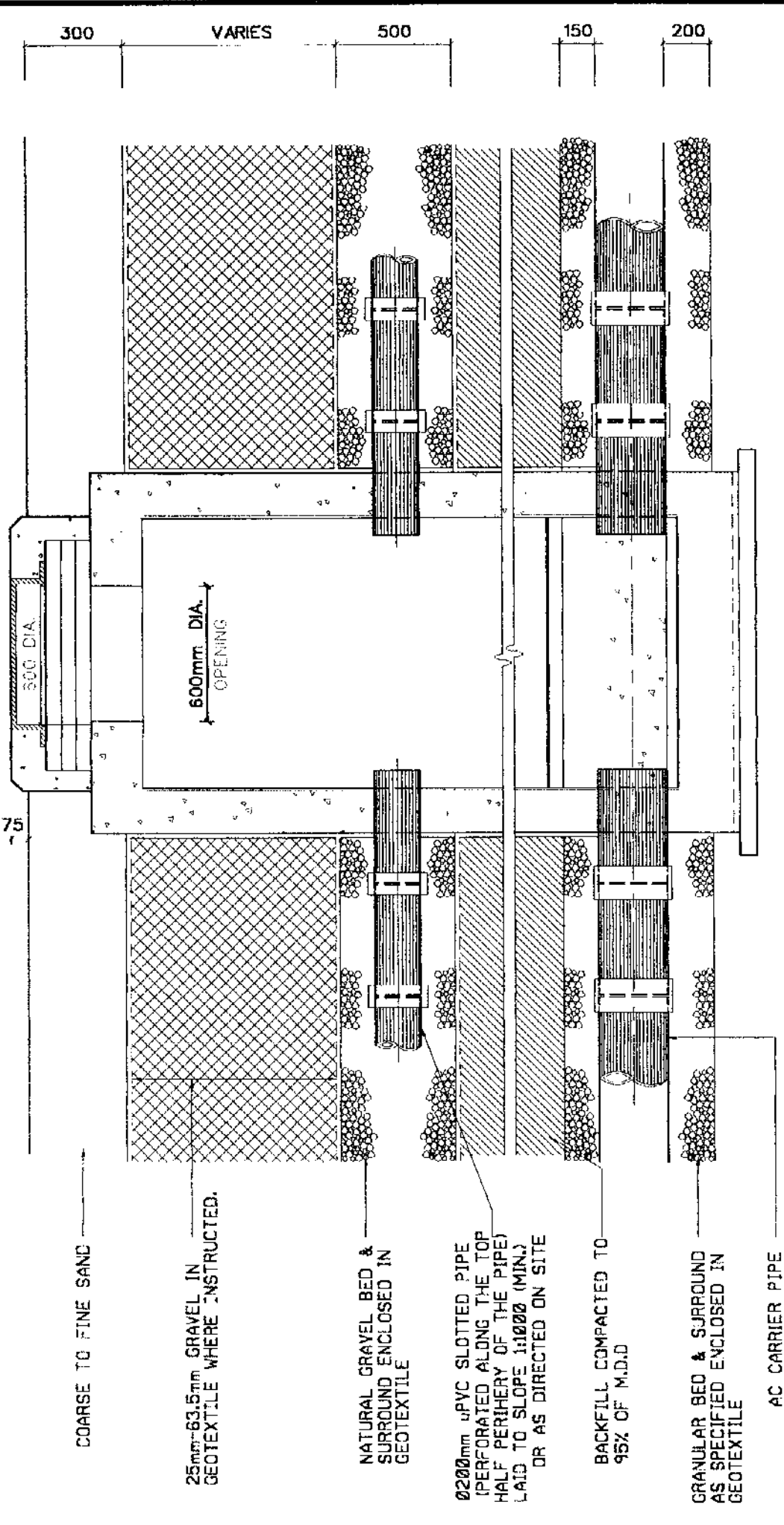
THE VALUE OF b & d SHALL VARY SUCH THAT $b \times d = 1.0 \text{ sq m. (Min.)}$

GRAVEL FILL TO TRENCH TO BE PROVIDED ONLY WHERE PROVISION HAS NOT BEEN MADE FOR EXISTING OR FUTURE GULLY CONNECTION OR WHERE INSTRUCTED BY THE ENGINEER.

DATE	REVISION	INITIALS	 DUBAI MUNICIPALITY DRAINAGE & IRRIGATION DEPT.		
			SLOTTED LAND DRAIN WITH GRAVEL TRENCH		
			Service	Scale	Detail No.
			SWD	1:20	402



DATE	REVISION	INITIALS	 DUBAI MUNICIPALITY DRAINAGE & IRRIGATION DEPT.		
			LAND DRAIN AND CARRIER MAIN IN A COMMON TRENCH		
			Service	Scale	Detail No.
			SWD	N T S	403



COARSE TO FINE SAND

25mm-63.5mm GRAVEL IN GEOTEXTILE WHERE INSTALLED.

NATURAL GRAVEL BED & SURROUND ENCLOSED IN GEOTEXTILE

Ø200mm uPVC SLOTTED PIPE (PERFORATED ALONG THE TOP HALF PERIPHERY OF THE PIPE) LAID TO SLOPE 1:1000 (MIN.) OR AS DIRECTED ON SITE

BACKFILL COMPACTED TO 95% OF M.D.D

GRANULAR BED & SURROUND AS SPECIFIED ENCLOSED IN GEOTEXTILE

AC CARRIER PIPE

DATE	REVISION	INITIALS

STORM DRAIN MANHOLE WITH
LAND DRAIN AND CARRIER MAIN

Service	Scale	Detail No.
SWD	1:25	404

***DUBAI MUNICIPALITY – DRAINAGE &
IRRIGATION DEPARTMENT***

***STANDARD DETAILS FOR SEWERAGE &
DRAINAGE CONSTRUCTION***

***500 STORM WATER DRAINAGE MANHOLE
DETAILS***

MANHOLE TYPE	LOWER SHAFT DIA	UPPER SHAFT DIA	PIPE DIA RANGE	SOFFT DEPTH RANGE		LOWER MIN SHAFT DEPTH	UPPER SHAFT DEPTH RANGE		BASE SLAB THICKNESS	LOWER WALL SHAFT THICKNESS	UPPER WALL SHAFT THICKNESS	REDUCER SLAB THICKNESS	TOP SLAB THICKNESS
				MIN.	MAX.		MIN.	MAX.					
G	1200	N/A	250	> 1100	< 2600	N/A	N/A	N/A	250	225	N/A	N/A	250
H	1500	N/A	250 TO 500	> 2600	< 3500	N/A	N/A	N/A	250	250	N/A	N/A	250
I	1500	1000	250 TO 600	> 3500	< 5400	2100	500	2500	300	300	200	300	250
J	1800	1000	700 TO 900	> 3600	7700	2400	500	2500	350	350	200	300	250
K	2100	1000	1000 TO 1100	4000	9000	2500	500	2500	400	350	200	300	250
L	2400	1000	>1200	4000	9000	2500	500	2500	400	350	200	300	250

NOTES :

1. MANHOLES DETAILS OUTSIDE THESE PARAMETERS TO BE DETAILED SEPERATELY OR ADVISED BY THE ENGINEER.

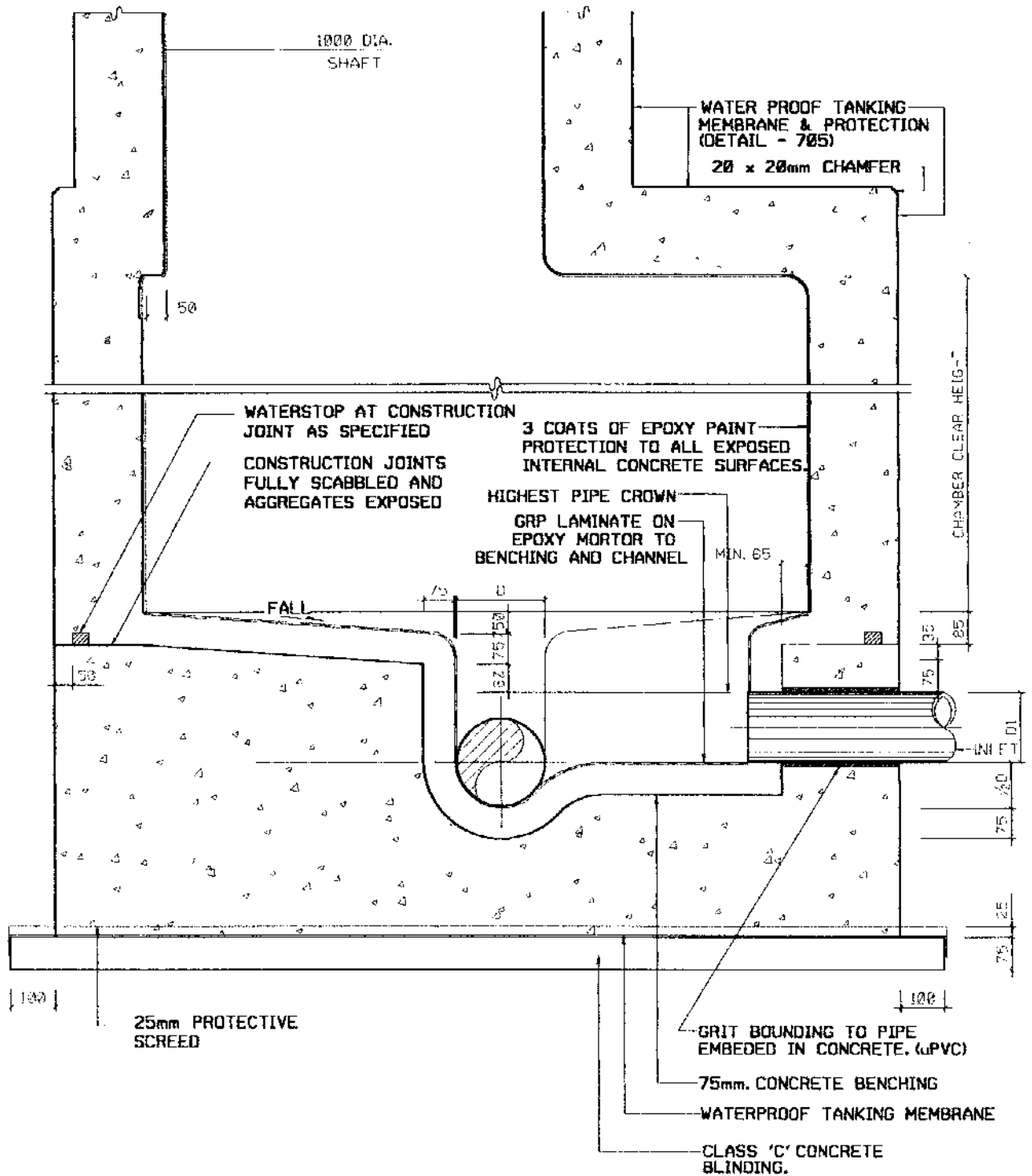
2. DEPTH MEASURED FROM TOP OF MANHOLE COVER TO OUTLET PIPE SOFFIT.


DATE		REVISION		INITIALS

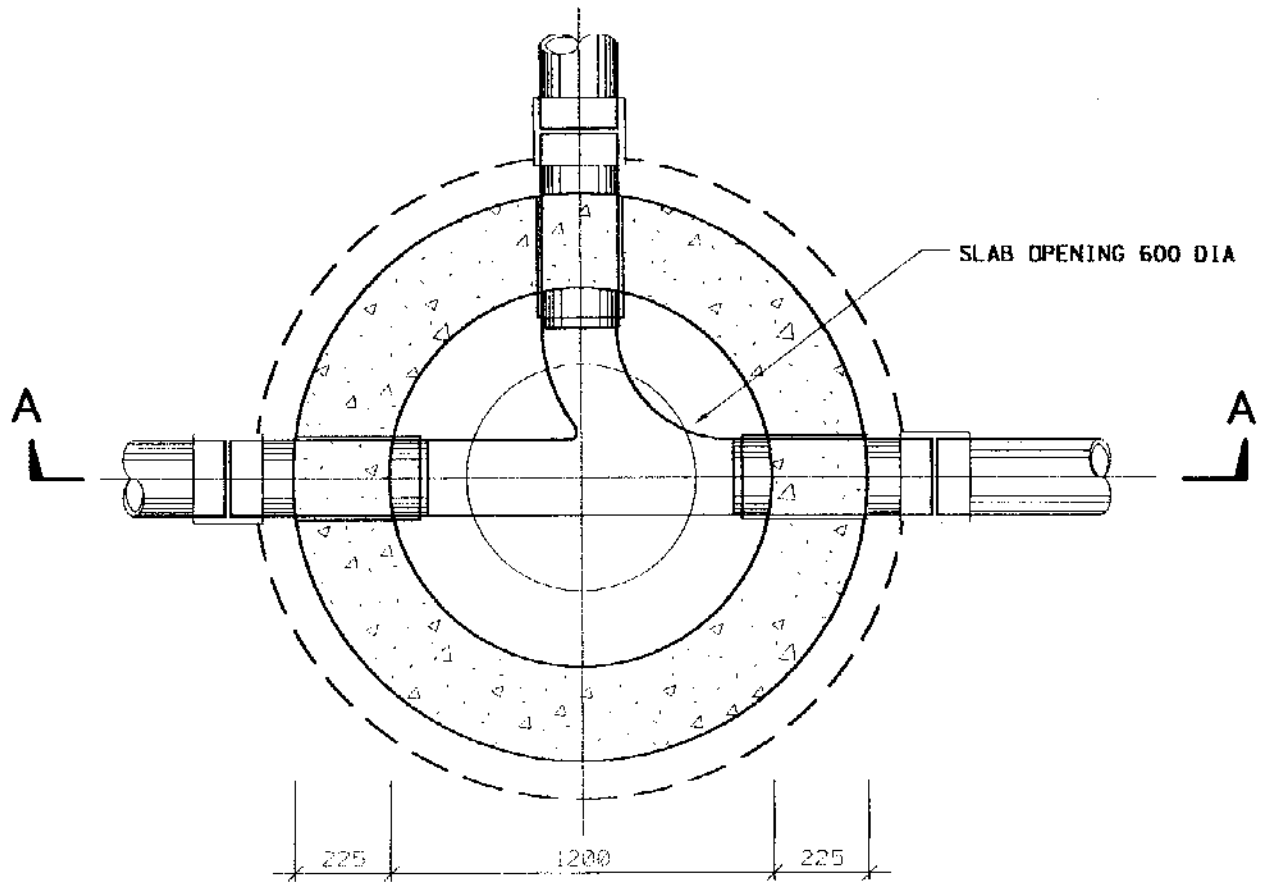
DUBAI MUNICIPALITY
DRAINAGE & IRRIGATION DEPT.

**STORM WATER DRAINAGE MANHOLE
SELECTION AND DIMENSIONS**

Service	SWD	Scale	NIS	Draw No.	501
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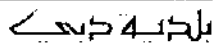
DATE	REVISION	INITIALS	 DUBAI MUNICIPALITY DRAINAGE & IRRIGATION DEPT.		
			STORM WATER DRAINAGE GENERAL MANHOLE DETAIL		
			Service SWD	Scale 1:25	Detail No. 502

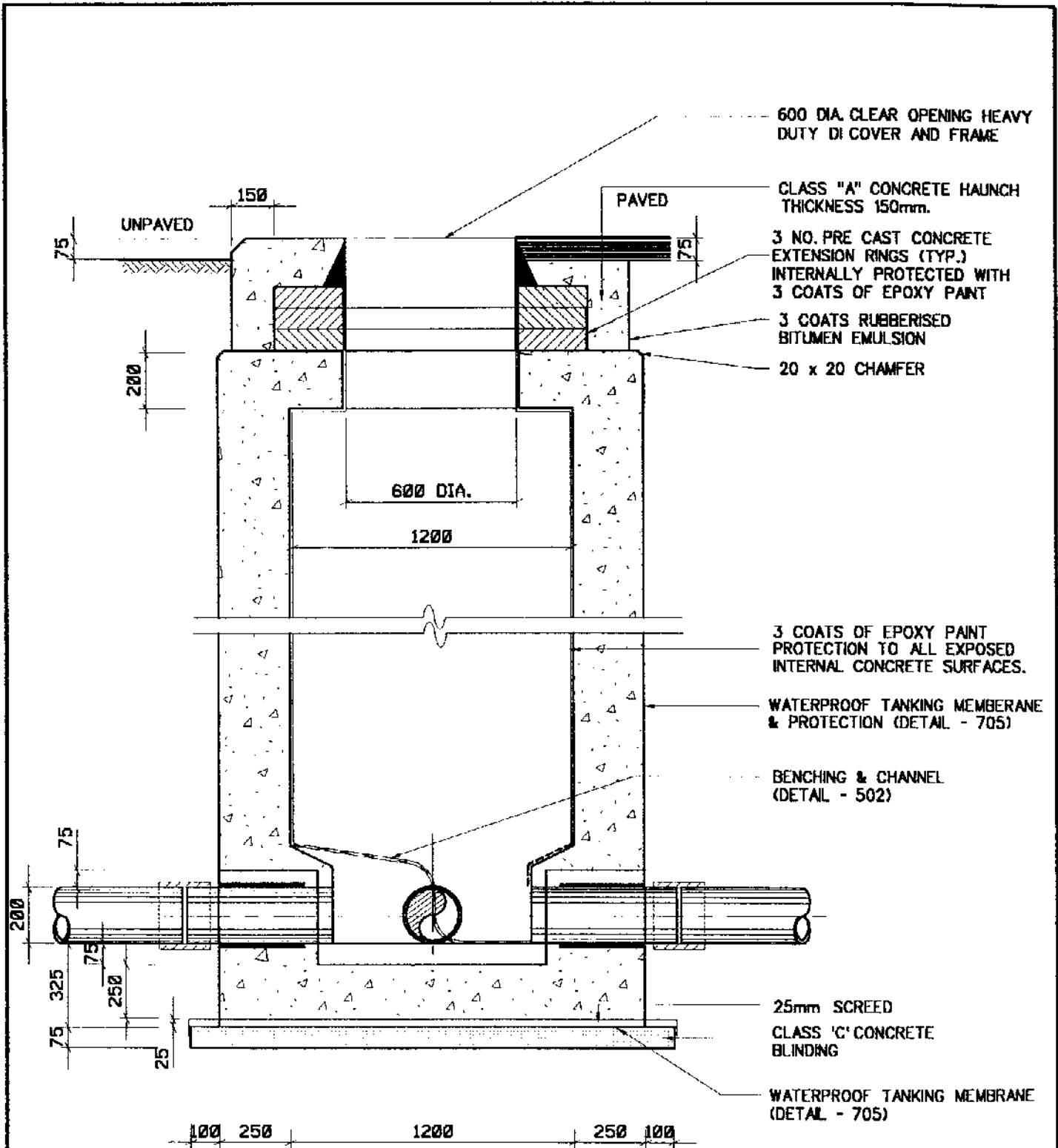


P L A N


NOTES :

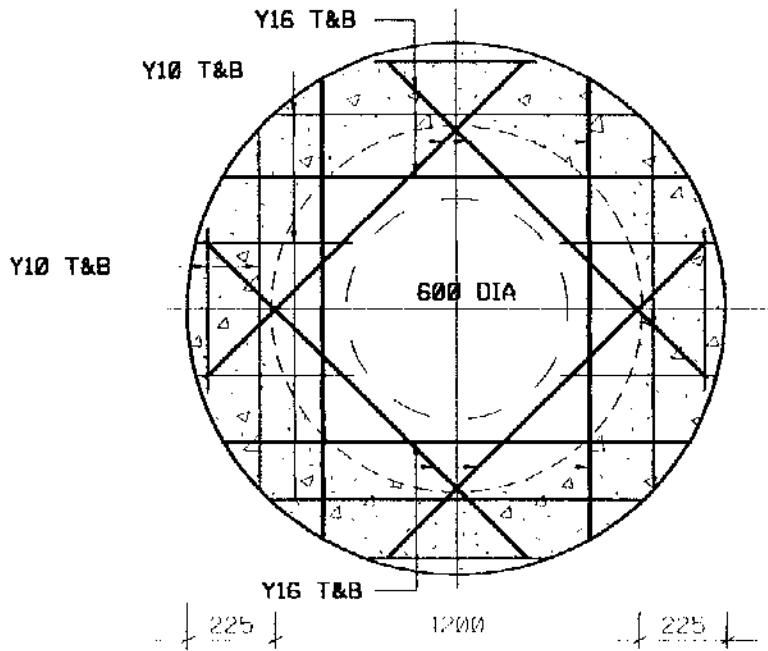
- 1. PIPELINE DIA. 250 MM
- 2. DEPTH FROM TOP OF COVER TO SOFFIT OF
OUTLET PIPE EXCEEDING 1100 BUT NOT
EXCEEDING 2600

DATE	REVISION	INITIALS	 DUBAI MUNICIPALITY DRAINAGE & IRRIGATION DEPT.		
			STORM WATER DRAINAGE MANHOLE TYPE 'G' PLAN		
			Service	Scale	Detail No.
			SWD	1 : 20	503

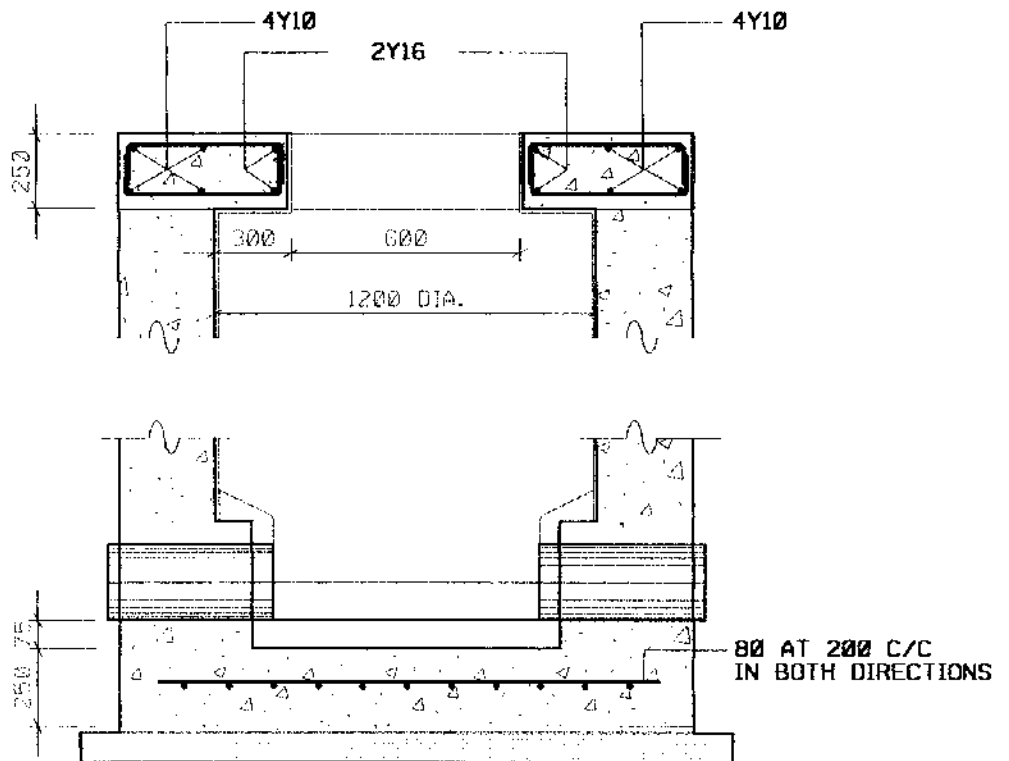


SECTION A-A

DATE	REVISION	INITIALS	 DUBAI MUNICIPALITY DRAINAGE & IRRIGATION DEPT.		
			STORM WATER DRAINAGE MANHOLE TYPE 'G' SECTION A-A		
			Service	Scale	Detail No.
			SWD	1:20	504




COVER SLAB PLAN

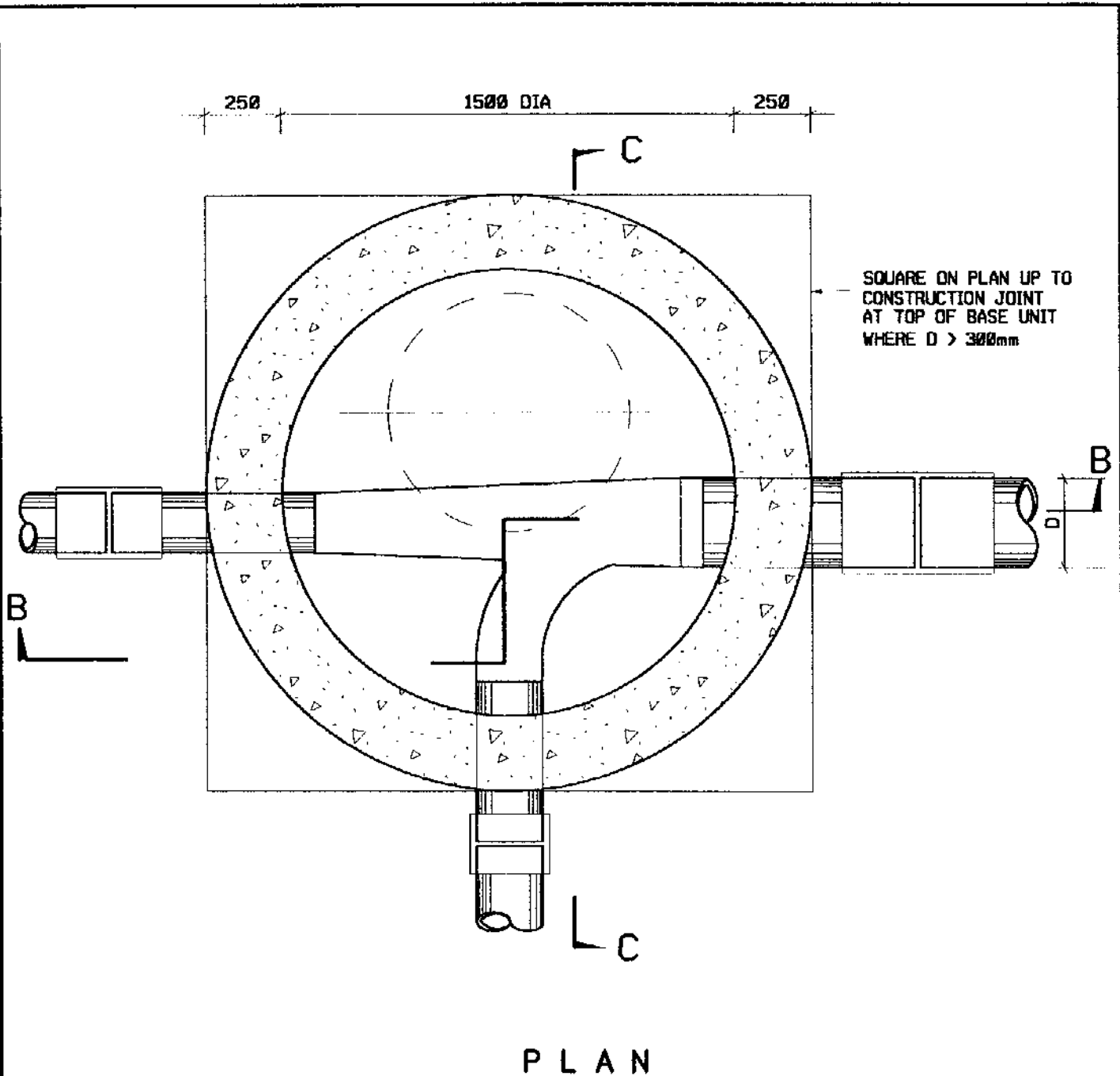


SECTION


NOTES :

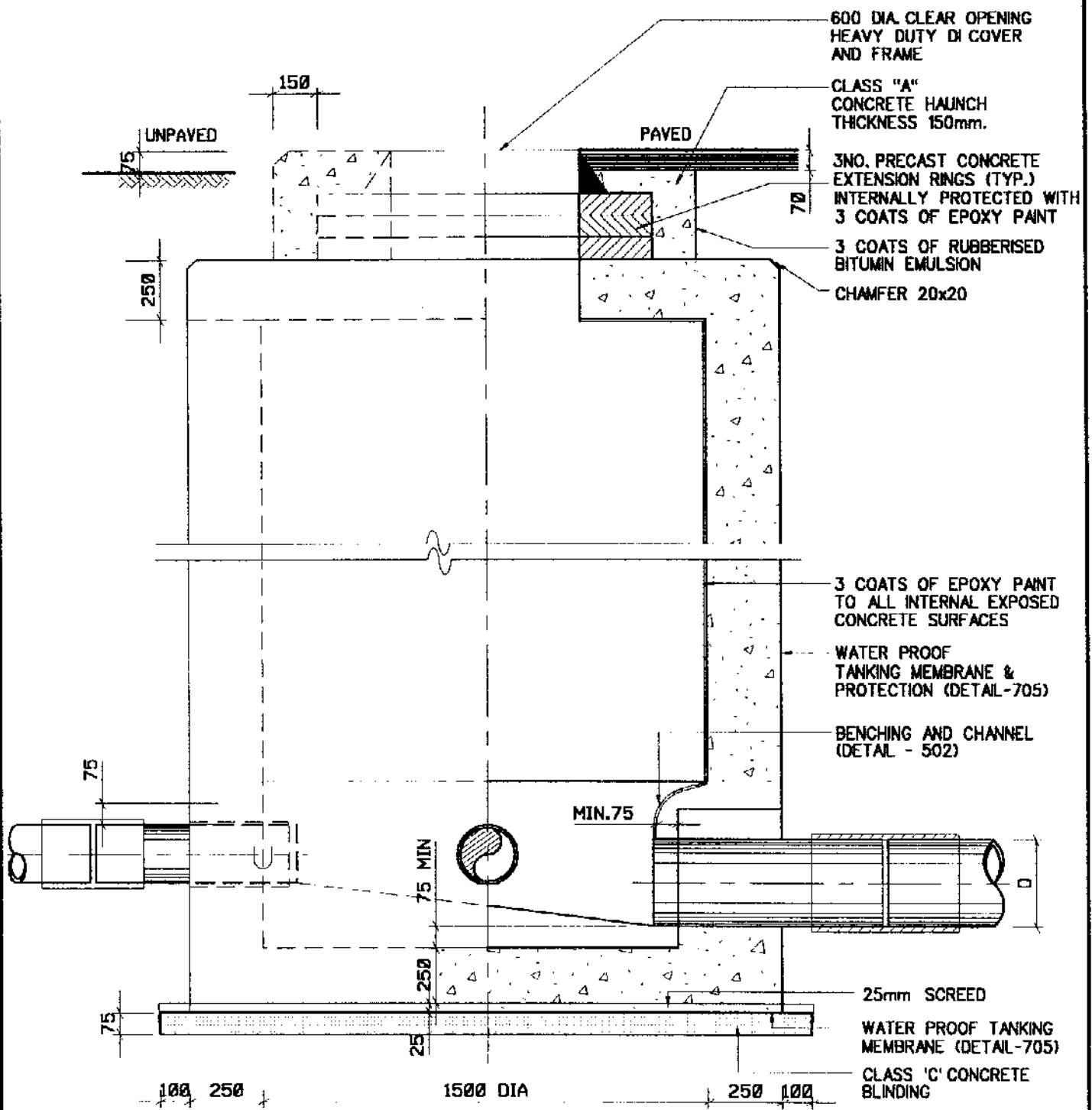
1. STEEL REINFORCEMENT TO BE GRADE 460 (BS4449)
2. MINIMUM COVER TO REINFORCEMENT TO BE 50mm.
3. STEEL REINFORCEMENT TO BE EPOXY COATED.

DATE	REVISION	INITIALS	 DUBAI MUNICIPALITY DRAINAGE & IRRIGATION DEPT.		
			STORM WATER DRAINAGE MANHOLE TYPE 'G' STRUCTURAL REINFORCEMENT		
			Service	Scale	Detail No.
			SWD	NTS	505



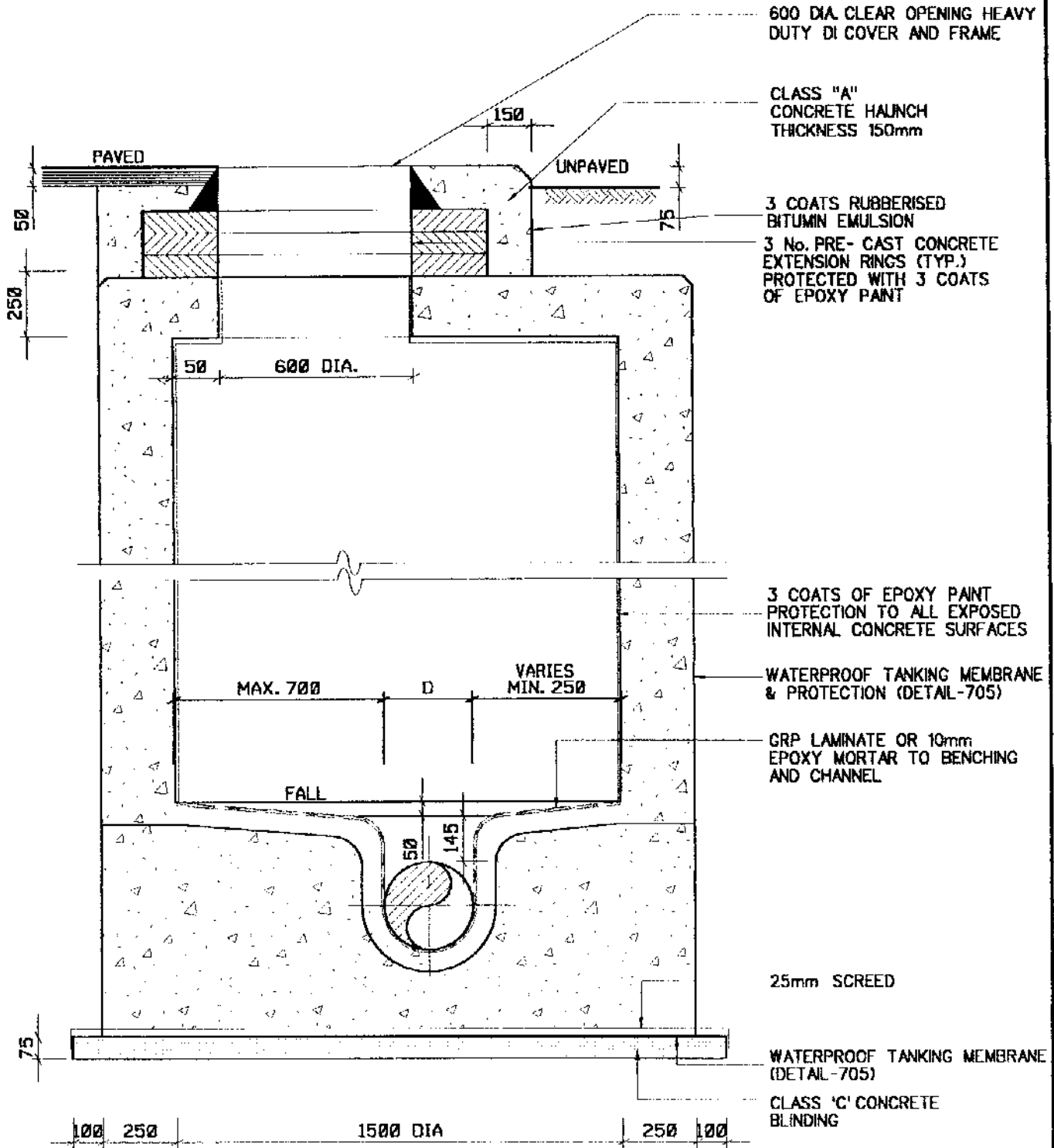
- NOTES :
1. SEWERS 200 TO 600 DIA.
 2. DEPTH FROM TOP OF MANHOLE COVER TO OUTLET PIPE SOFFIT EXCEEDING 2600 BUT NOT EXCEEDING 3500

DATE	REVISION	INITIALS	 بلدية دبي DUBAI MUNICIPALITY DRAINAGE & IRRIGATION DEPT.		
			STORM WATER DRAINAGE MANHOLE TYPE "H" PLAN		
			Service	Scale	Detail No.
			SWD	1:20	506




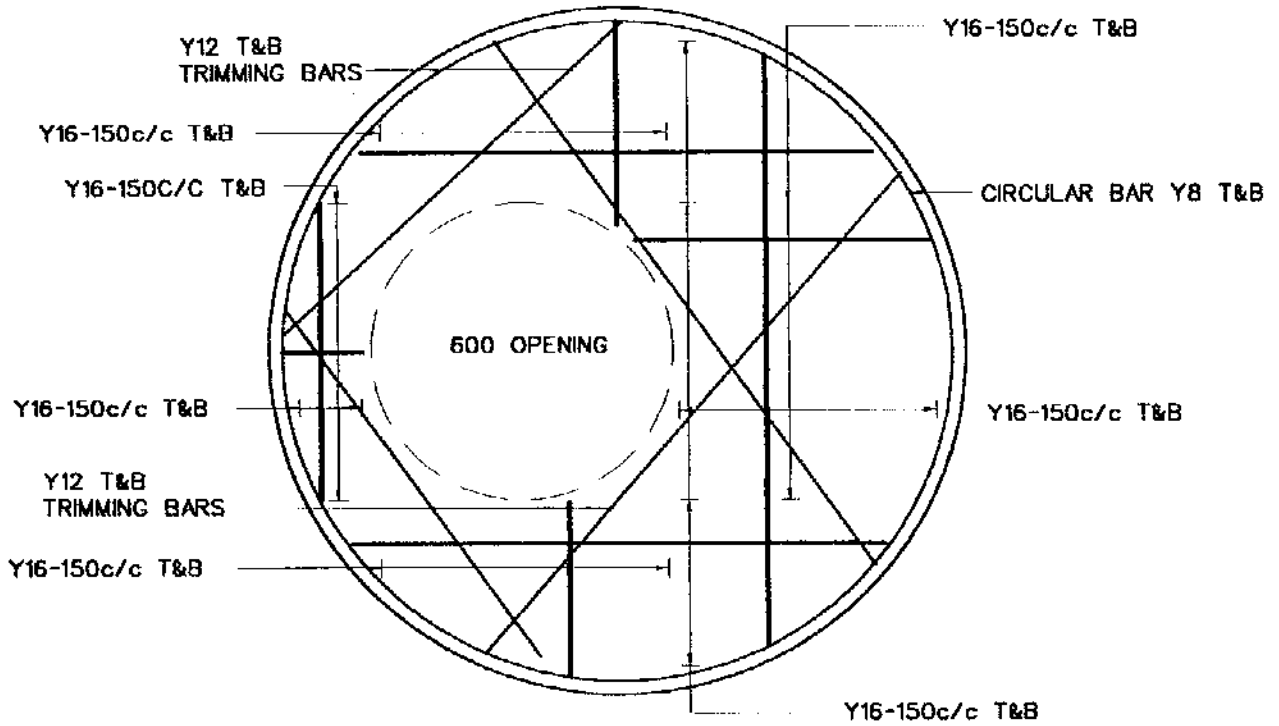
SECTION B-B

DATE	REVISION	INITIALS	 DUBAI MUNICIPALITY DRAINAGE & IRRIGATION DEPT.		
			STORM WATER DRAINAGE MANHOLE TYPE 'H' SECTION B-B		
			Service	Scale	Detail No.
			SWD	1:20	507

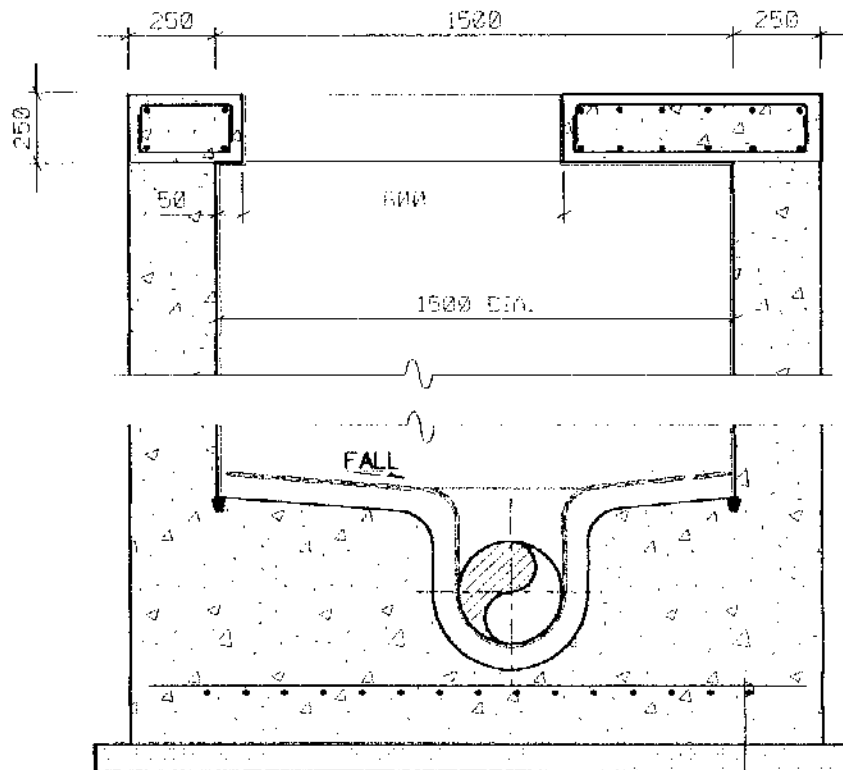


SECTION C-C

DATE	REVISION	INITIALS	 DUBAI MUNICIPALITY DRAINAGE & IRRIGATION DEPT.		
			STORM WATER DRAINAGE MANHOLE TYPE 'H' SECTION C-C		
			Service SWD	Scale 1:20	Detail No. 508



REDUCER SLAB PLAN




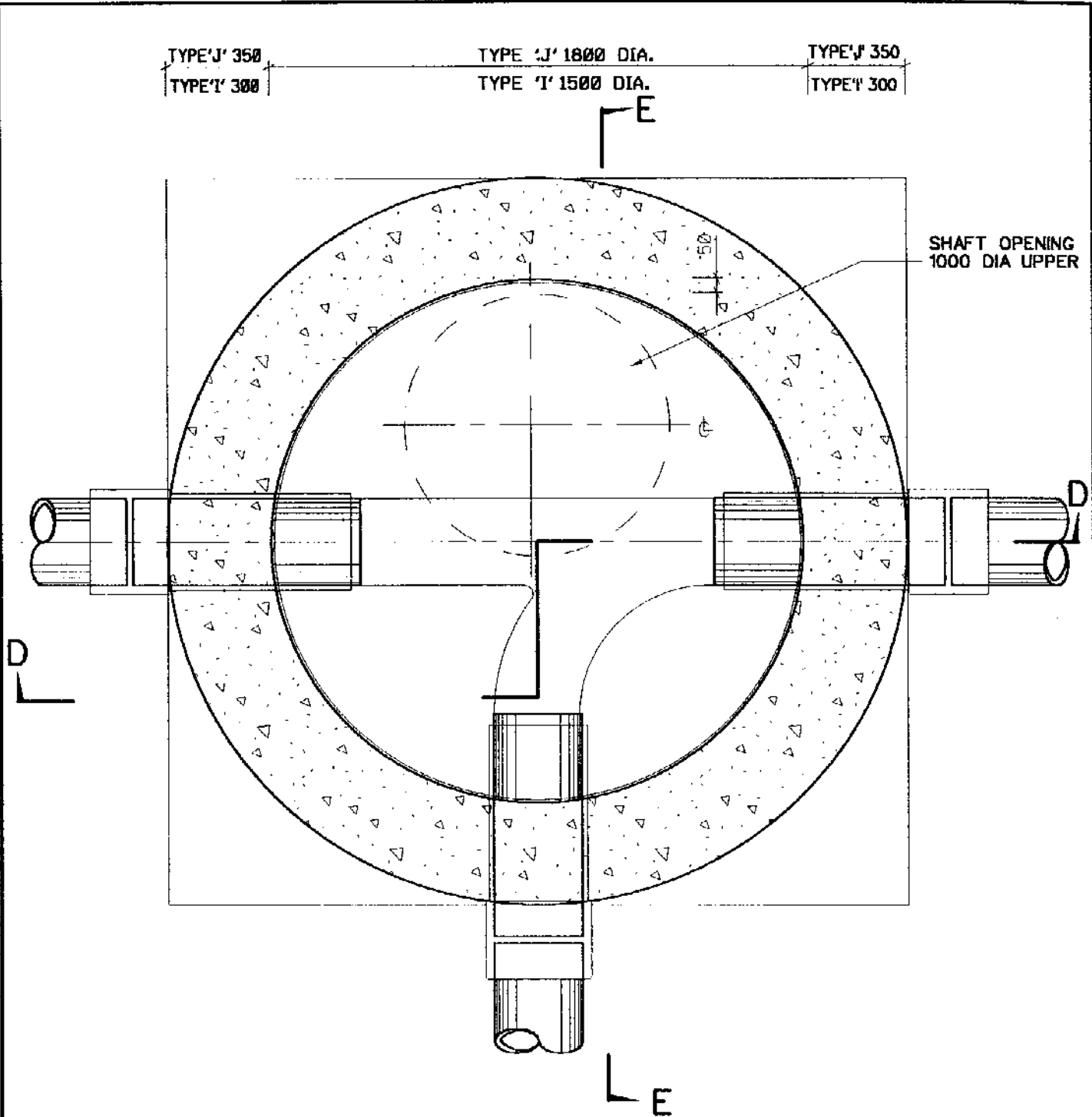
SECTION

Y8 AT 200 C/C
IN BOTH DIRECTION

NOTES :

1. STEEL REINFORCEMENT TO BE GRADE 460 (BS4449)
2. MINIMUM COVER TO REINFORCEMENT TO BE 50mm.
3. STEEL REINFORCEMENT TO BE EPOXY COATED.

DATE	REVISION	INITIALS	 DUBAI MUNICIPALITY DRAINAGE & IRRIGATION DEPT.		
			STORM WATER DRAINAGE MANHOLE TYPE 'H' STRUCTURAL REINFORCEMENT		
			Service SWD	Scale NTS	Detail No. 509



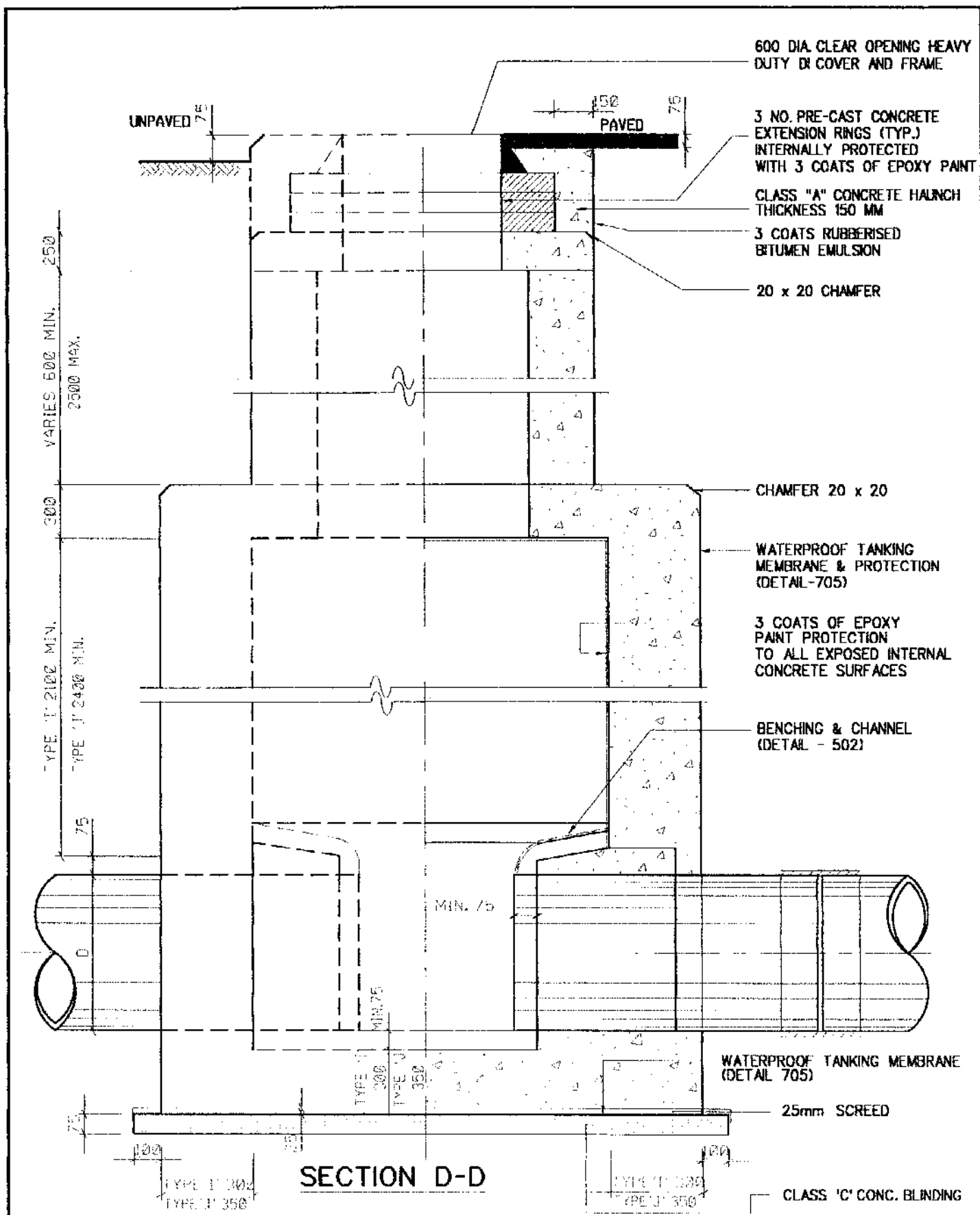
SHAFT OPENING
1000 DIA UPPER

PLAN


NOTES :

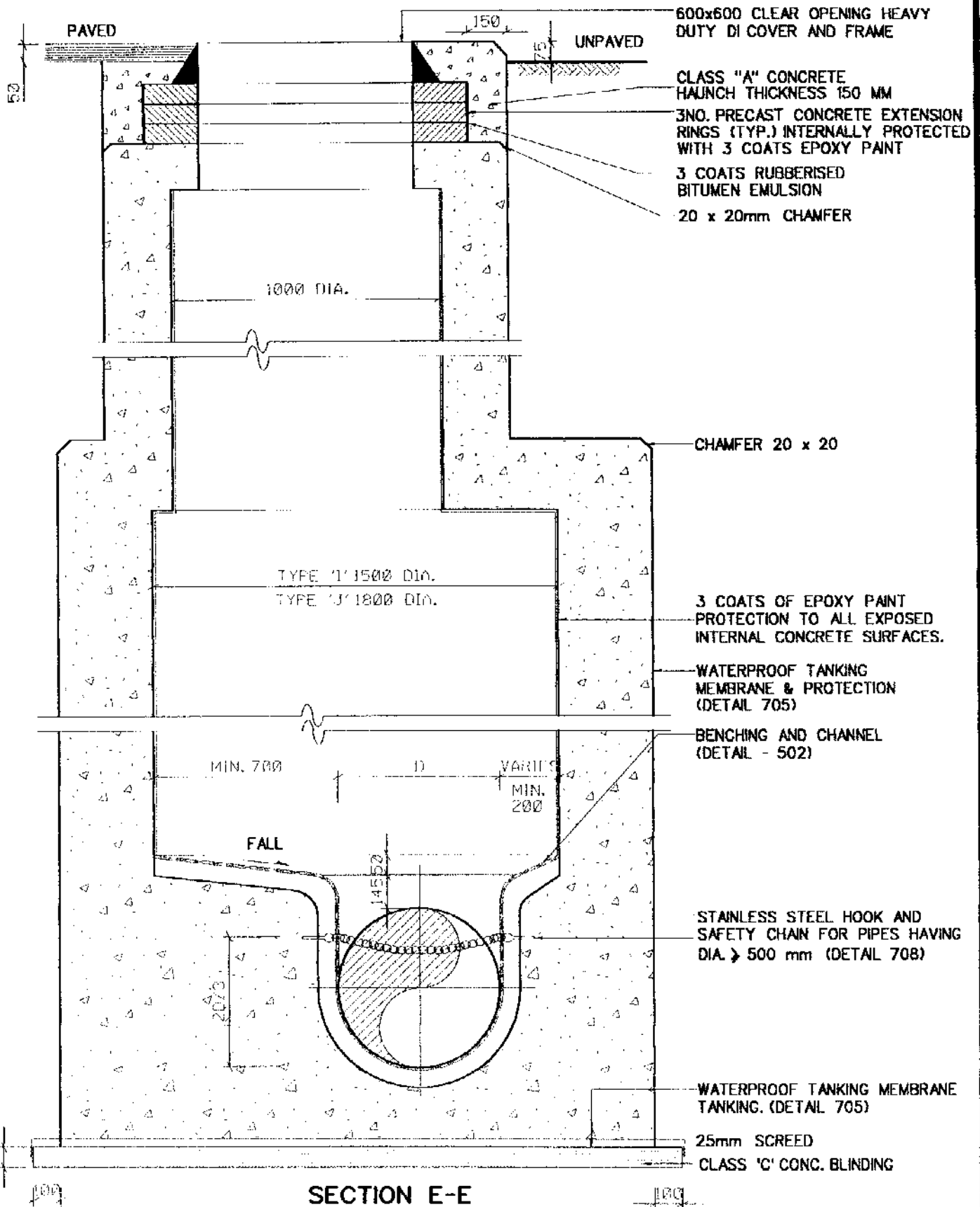
1. TYPE 'I' MH PIPE DIA RANGE 200 TO 600 INCLUSIVE
TYPE 'J' MH PIPE DIA RANGE 700 TO 900 INCLUSIVE
2. DEPTH FROM TOP OF COVER TO SOFFIT OF
OUTLET PIPE : TYPE 'I' EXCEEDING 3500 BUT NOT EXCEEDING 5400
TYPE 'J' EXCEEDING 3800 BUT NOT EXCEEDING 7700

DATE	REVISION	INITIALS	دولة الامارات العربية المتحدة DUBAI MUNICIPALITY DRAINAGE & IRRIGATION DEPT.		
			STORM WATER DRAINAGE MANHOLE TYPE 'I' & 'J' PLAN		
			Service	Scale	Detail No.
			SWD	1:20	510

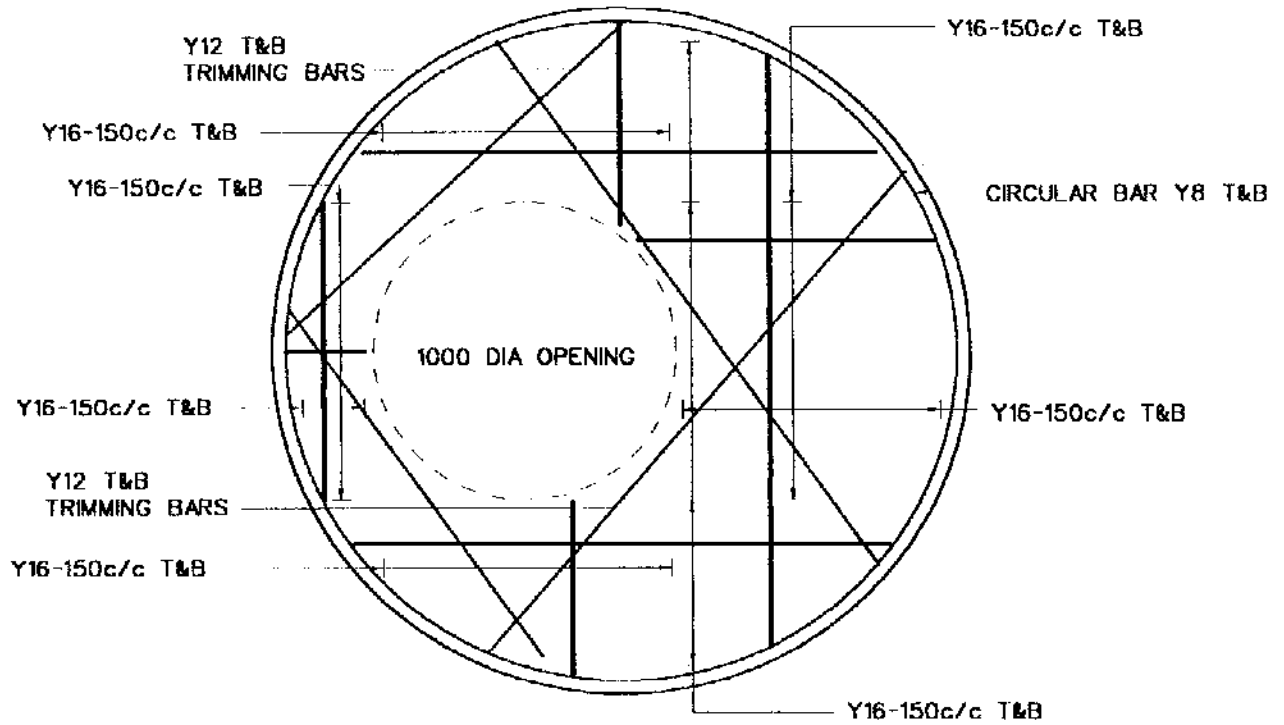


SECTION D-D

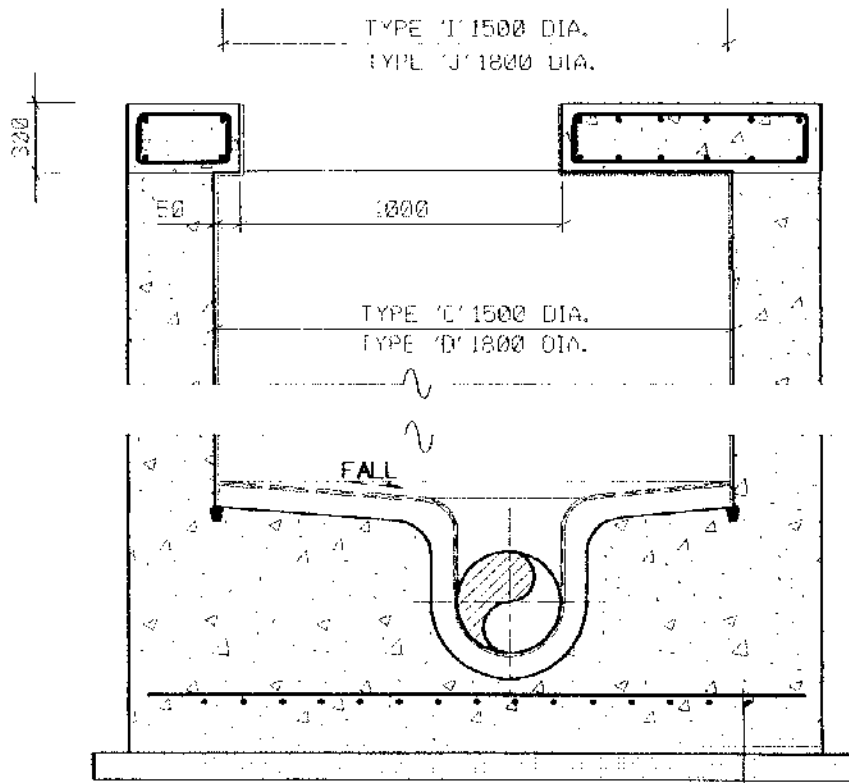
DATE	REVISION	INITIALS	 دولة دبي DUBAI MUNICIPALITY DRAINAGE & IRRIGATION DEPT.	
			STORM WATER DRAINAGE MANHOLE TYPE 'I' & 'J' SECTION D-D	
			Service SWD	Scale 1:20
				Detail No. 511



DATE	REVISION	INITIALS	بلدية دبي DUBAI MUNICIPALITY DRAINAGE & IRRIGATION DEPT.		
			STORM WATER DRAINAGE MANHOLE TYPES 'I' & 'J' SECTION E-E		
			Service	Scale	Detail No.
			SWD	1:20	512



REDUCER SLAB PLAN

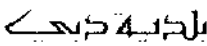


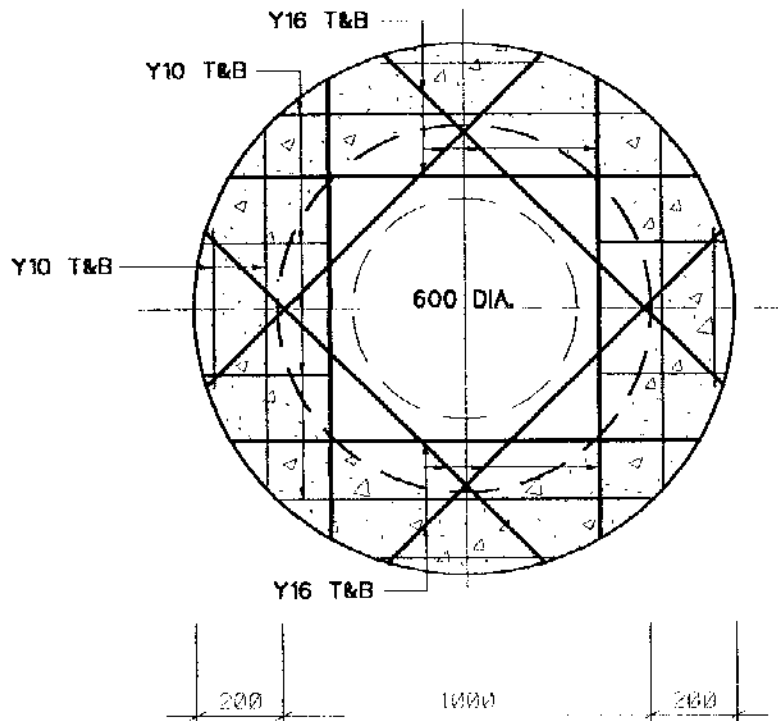
SECTION

Y8 AT 200 C/C
IN BOTH DIRECTION

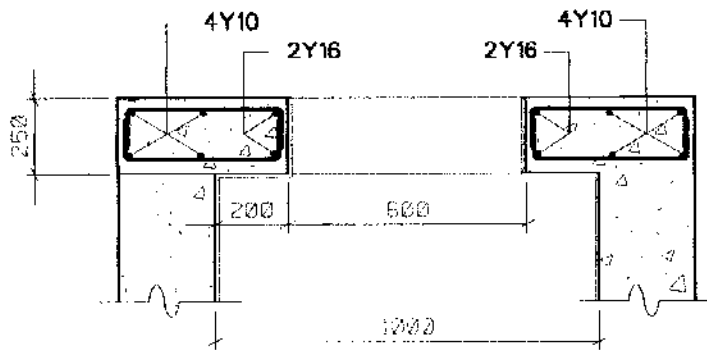
NOTES :

1. STEEL REINFORCEMENT TO BE GRADE 460 (BS4449)
2. MINIMUM COVER TO REINFORCEMENT TO BE 50mm.
3. STEEL REINFORCEMENT TO BE EPOXY COATED.

DATE	REVISION	INITIALS	 DUBAI MUNICIPALITY DRAINAGE & IRRIGATION DEPT.		
			STORM WATER DRAINAGE MANHOLE TYPE 'I' & 'J' STRUCTURAL REINFORCEMENT SHEET 1 OF 2		
			Service	Scale	Detail No.
			SWD	NTS	513




TOP SLAB PLAN

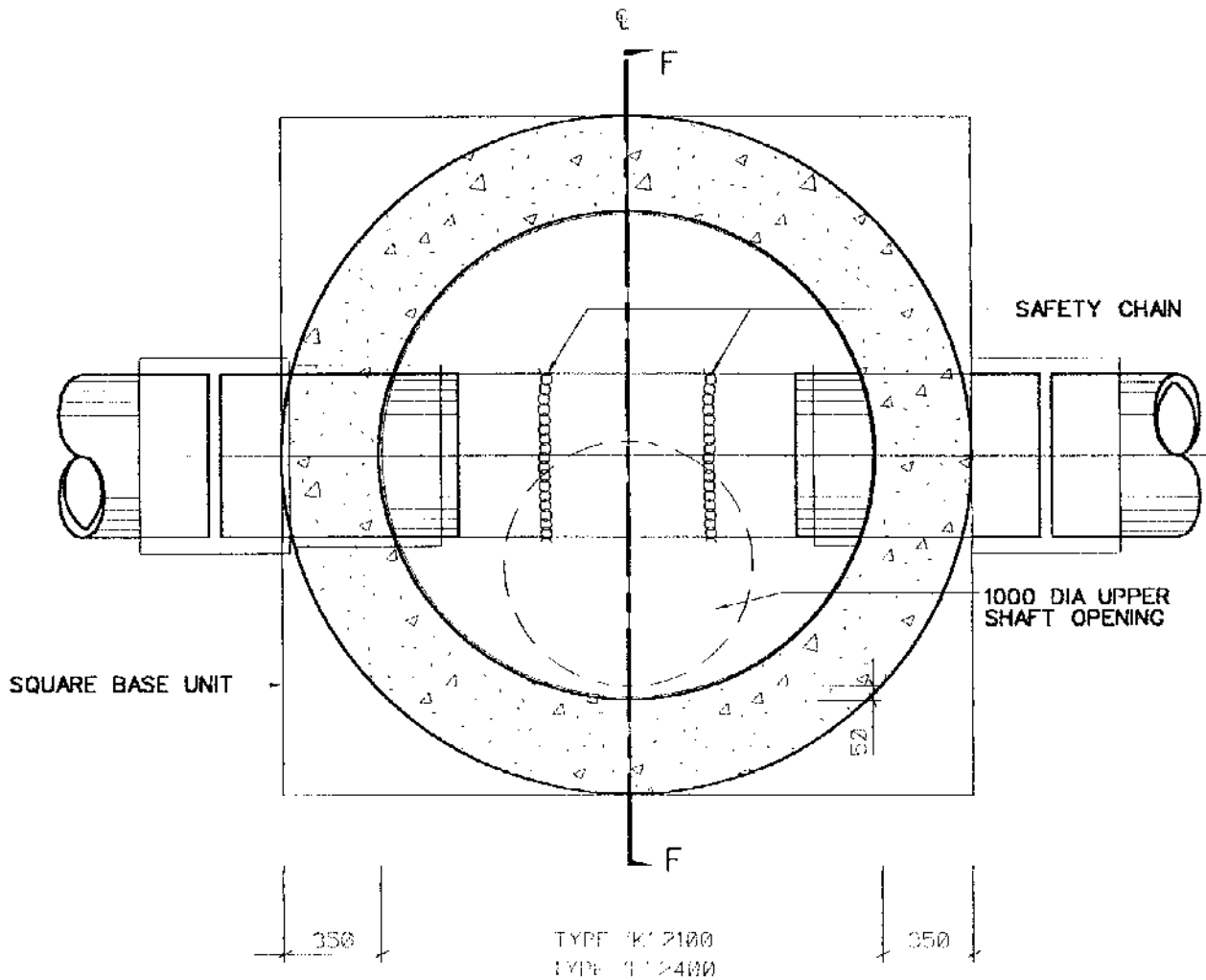


SECTION

NOTES :

1. STEEL REINFORCEMENT TO BE GRADE 460 (BS4449)
2. MINIMUM COVER TO REINFORCEMENT TO BE 50mm.
3. STEEL REINFORCEMENT TO BE EPOXY COATED.


DATE	REVISION	INITIALS	 DUBAI MUNICIPALITY DRAINAGE & IRRIGATION DEPT.		
			STORM WATER MANHOLE TYPES 'I' & 'J' STRUCTURAL REINFORCEMENT SHEET 2 OF 2		
			Service SWD	Scale NTS	Detail No. 514

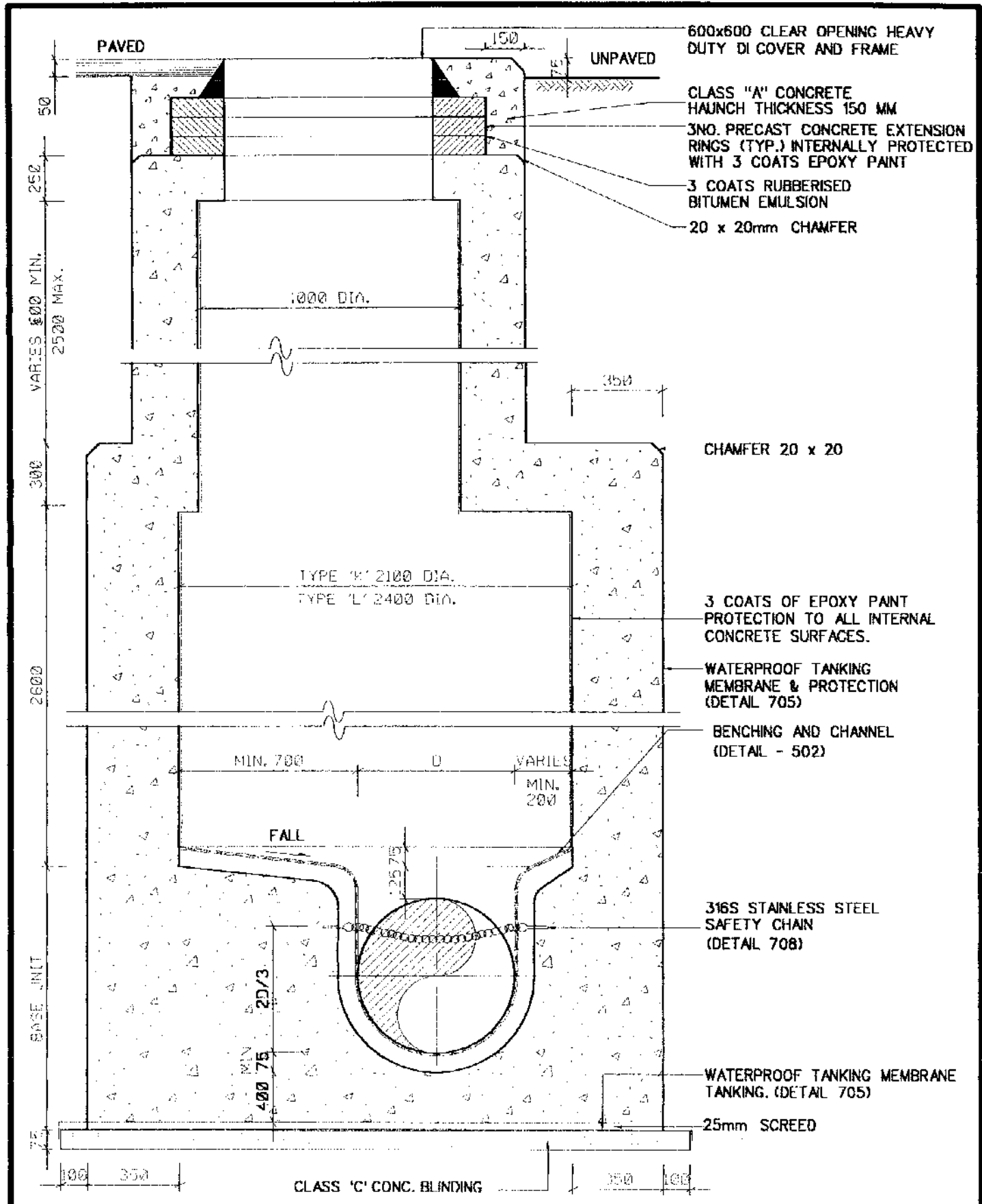


PLAN

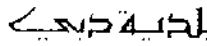

NOTES :

- 1. TYPE 'K' MH PIPE DIA. 1000 AND 1100
TYPE 'L' MH PIPE DIA. DIA > 1200
- 2. DEPTH FROM TOP OF COVER TO SOFFIT OF OUTLET PIPE:
TYPE 'K' MAX. 9000
TYPE 'L' MAX. 9000

DATE	REVISION	INITIALS	 دولة الامارات العربية المتحدة DUBAI MUNICIPALITY DRAINAGE & IRRIGATION DEPT.		
			STORM WATER DRAINAGE MANHOLE TYPES 'K' & 'L' PLAN		
			Service	Scale	Detail No.
			SWD	NTS	515



DATE	REVISION	INITIALS

DUBAI MUNICIPALITY
DRAINAGE & IRRIGATION DEPT.

STORM WATER DRAINAGE MANHOLE
TYPES 'K' & 'L'
SECTION F-F

Service SWD	Scale 1 : 20	Detail No. 516
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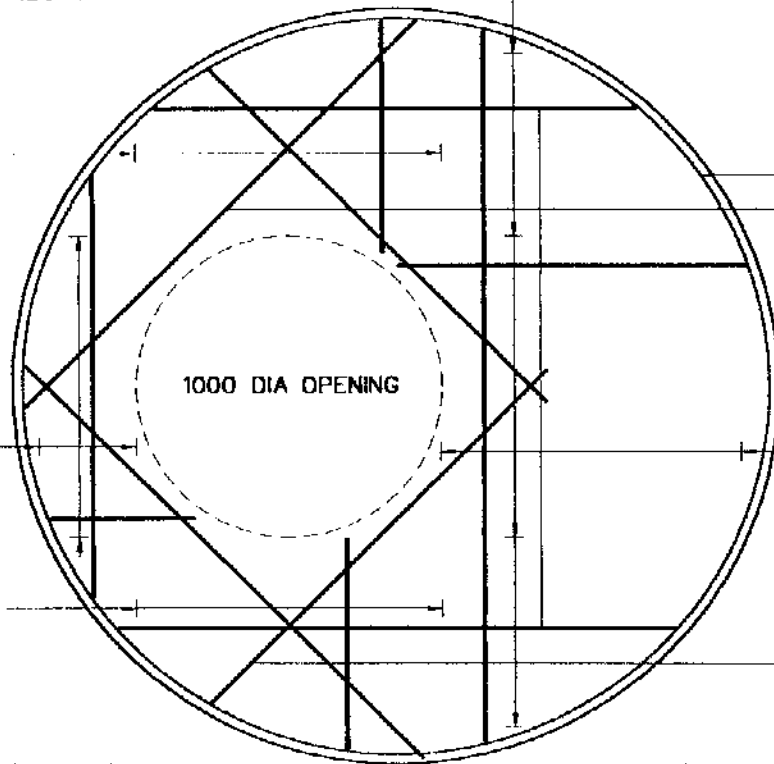
Y16 \varnothing 180 C/C T&B

Y16 \varnothing 180 C/C T&B

Y16 \varnothing 180 C/C T&B

Y16 \varnothing 180 C/C T&B

Y16 T&B



CIRCULAR BAR Y8

Y16 T&B TRIMMING BAR

Y16 T&B

T16 T&B TRIMMING BAR

350

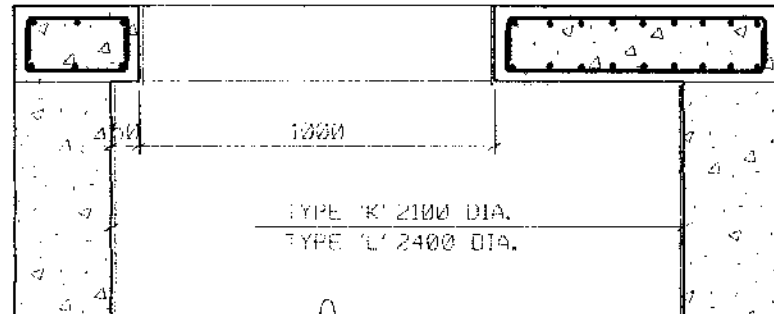
TYPE 'K' 2100 DIA.

350

TYPE 'L' 2400 DIA.

REDUCER SLAB PLAN

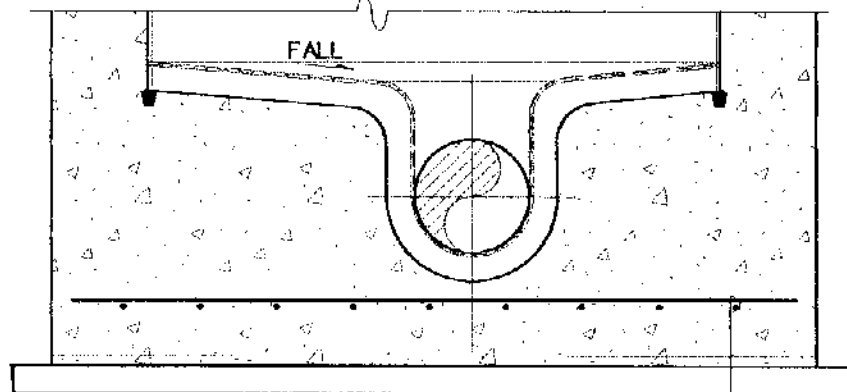
200



TYPE 'K' 2100 DIA.

TYPE 'L' 2400 DIA.

FALL



SECTION

T8 AT 200 C/C IN BOTH DIRECTION

NOTES :

1. STEEL REINFORCEMENT TO BE GRADE 460 (BS4449)
2. MINIMUM COVER TO REINFORCEMENT TO BE 50mm.
3. STEEL REINFORCEMENT TO BE EPOXY COATED.

DATE

REVISION

INITIALS

دبي بلدية



DUBAI MUNICIPALITY
DRAINAGE & IRRIGATION DEPT.

STORM WATER MANHOLE TYPES 'K' & 'L'
STRUCTURAL REINFORCEMENT
SHEET 1 OF 2

Service

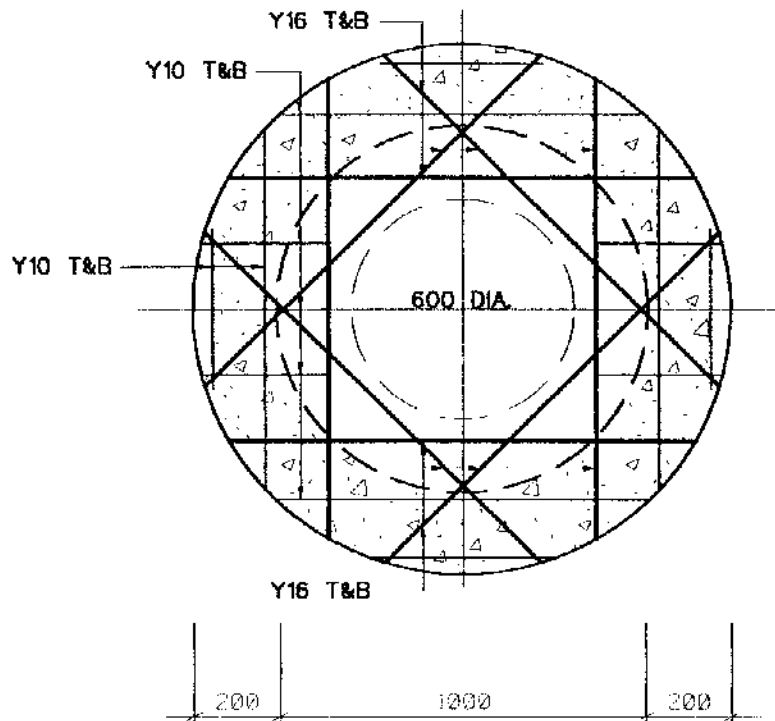
Scale

Detail No.

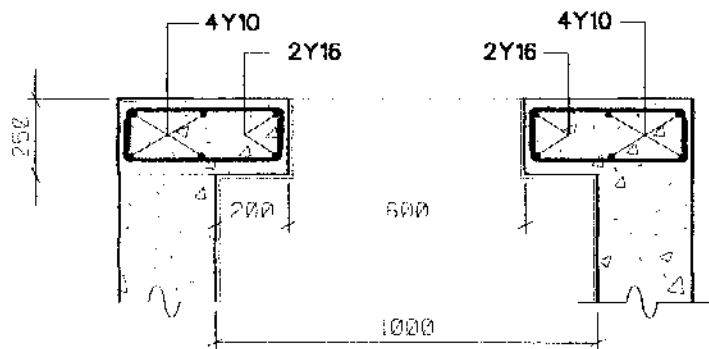
SWD

NTS

517




TOP SLAB PLAN



SECTION

NOTES :

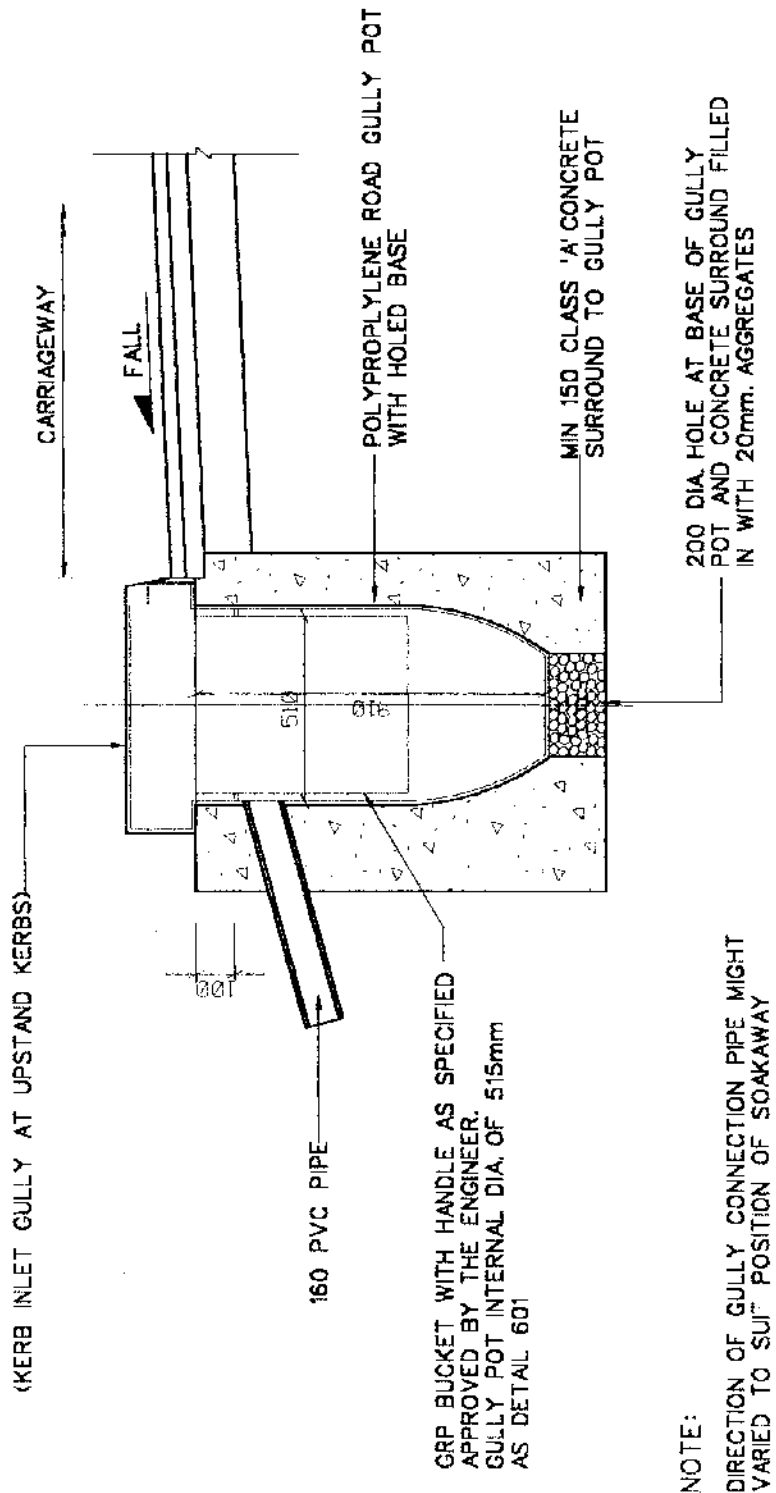
1. STEEL REINFORCEMENT TO BE GRADE 460 (BS4449)
2. MINIMUM COVER TO REINFORCEMENT TO BE 50mm.
3. STEEL REINFORCEMENT TO BE EPOXY COATED.

DATE	REVISION	INITIALS	 دبي بلدية DUBAI MUNICIPALITY DRAINAGE & IRRIGATION DEPT.		
			STORM WATER MANHOLE TYPES 'K' & 'L' STRUCTURAL REINFORCEMENT SHEET 2 OF 2		
			Service	Scale	Detail No.
			SWD	NTS	518

***DUBAI MUNICIPALITY – DRAINAGE &
IRRIGATION DEPARTMENT***

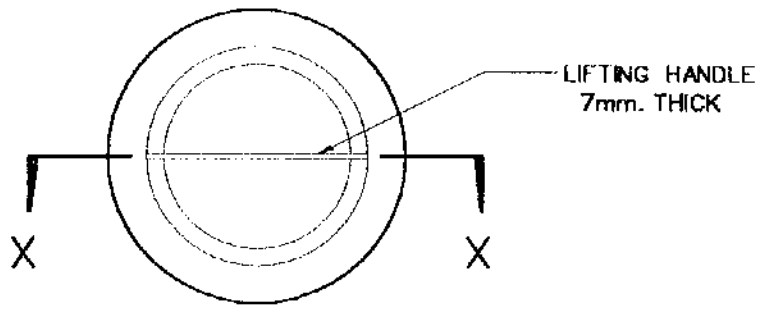
***STANDARD DETAILS FOR SEWERAGE &
DRAINAGE CONSTRUCTION***

600 GULLY CONNECTION DETAILS

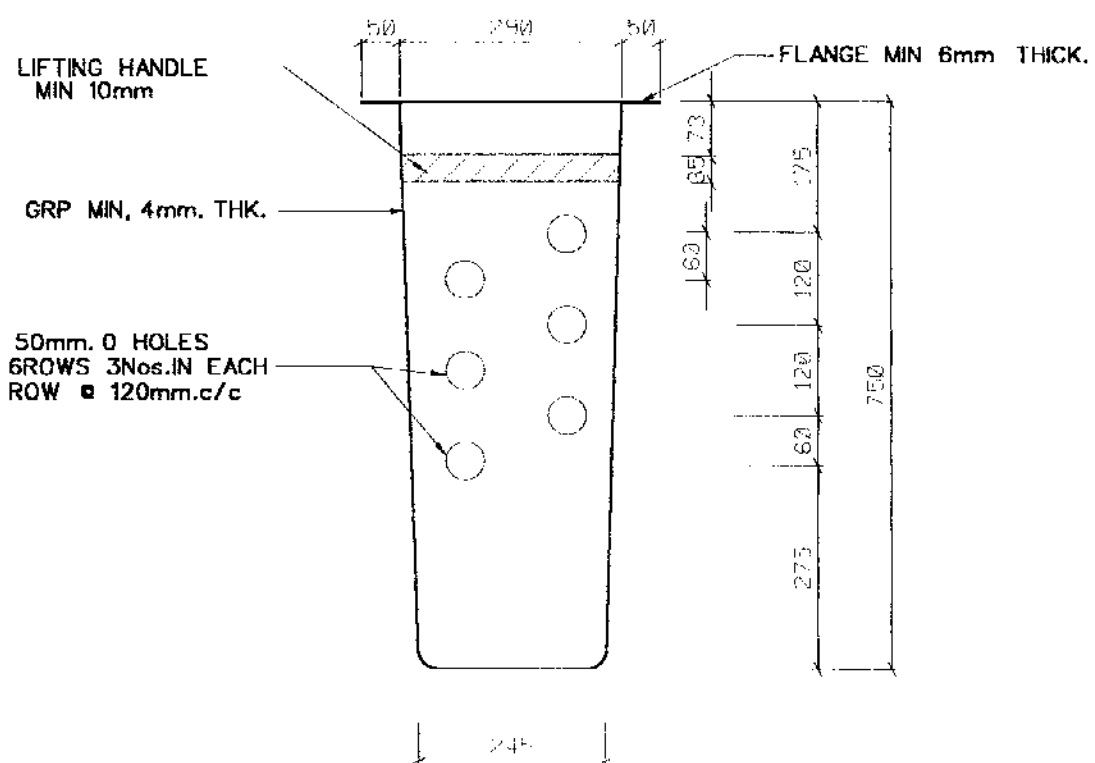


DATE	REVISION	INITIALS


SWA			
DUBAI MUNICIPALITY DRAINAGE & IRRIGATION DEPT.			
GULLY AT UPSTAND KERB			
Service	Scale	Detail No.	
SWD	1:20	600	

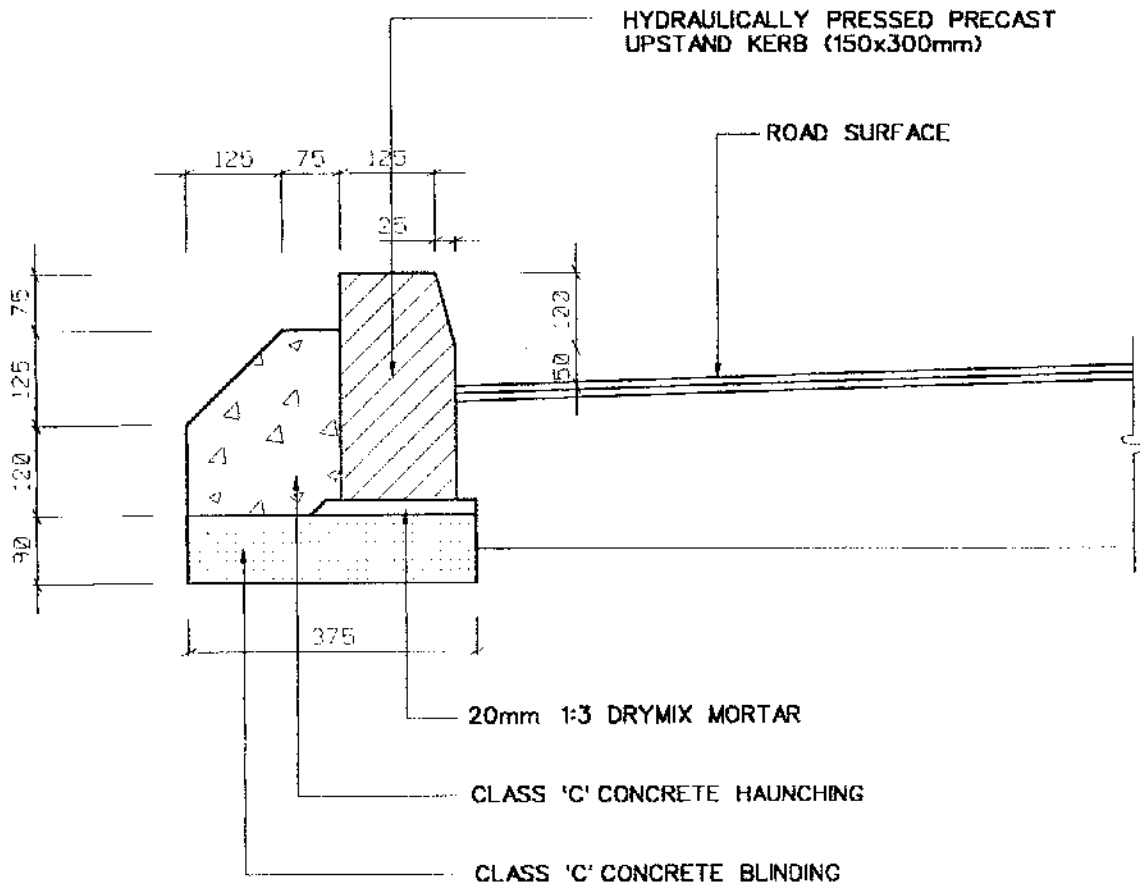



PLAN

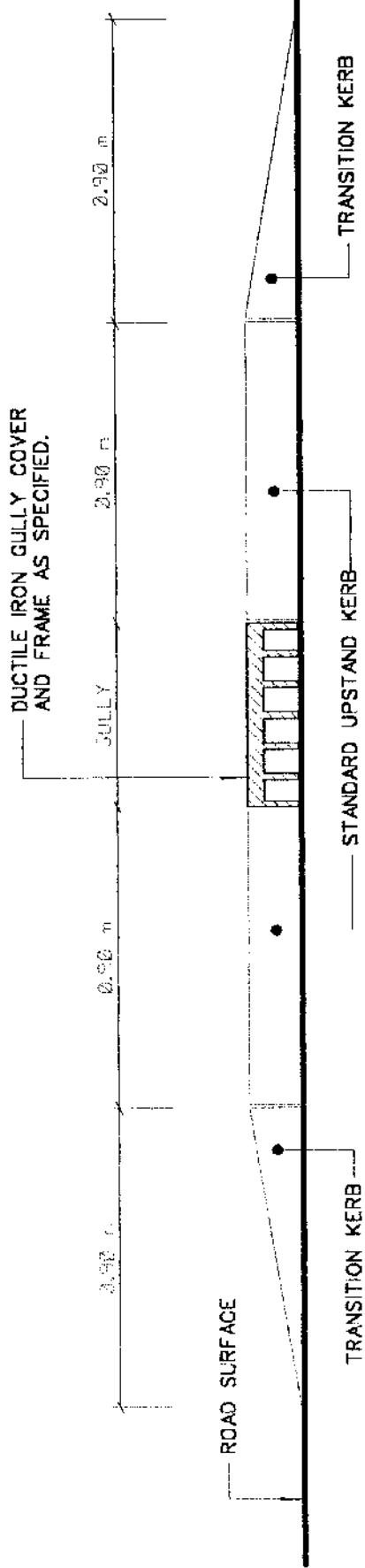


SECTION X-X


DATE	REVISION	INITIALS	 دبلالة كورة DUBAI MUNICIPALITY DRAINAGE & IRRIGATION DEPT.	
			REMOVABLE BASKET	
			Service SWD	Scale 1 : 10
				Detail No. 601



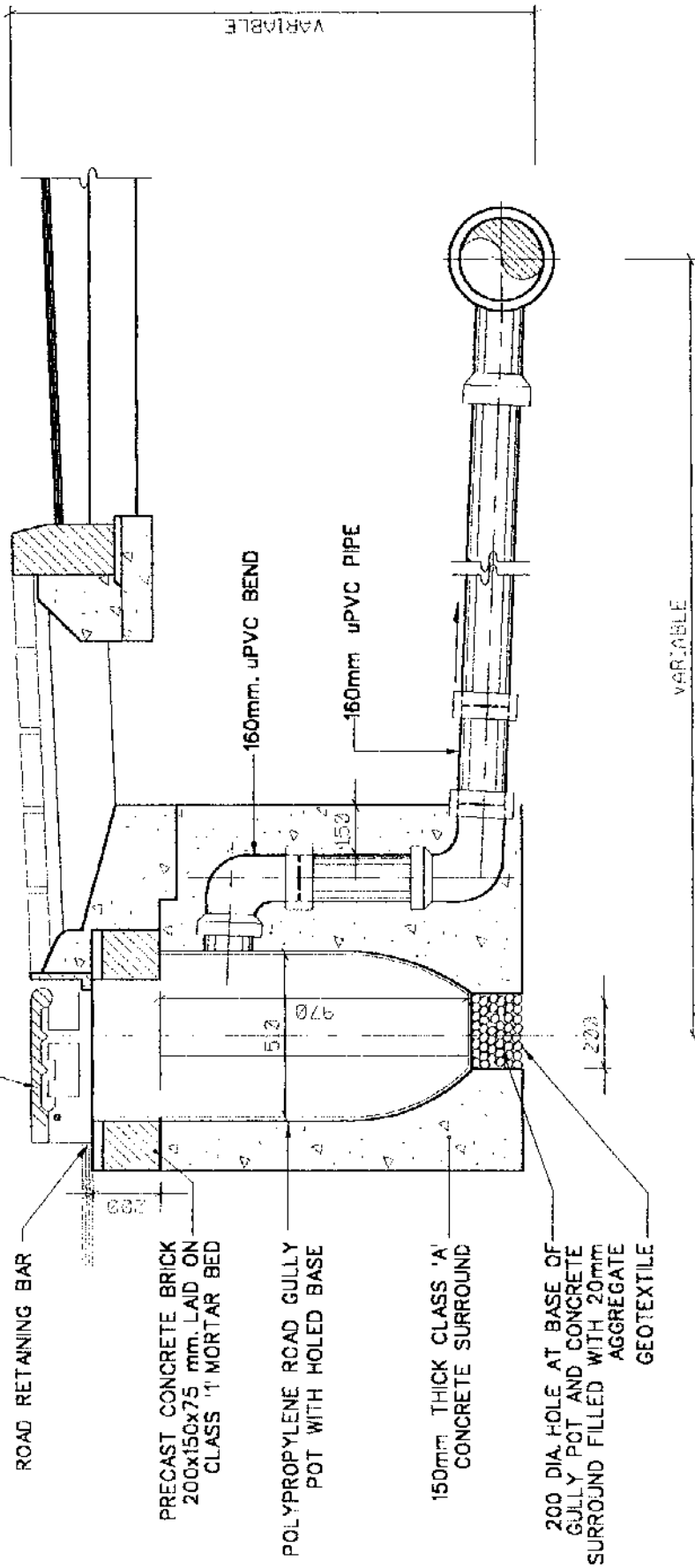
DATE	REVISION	INITIALS	 DUBAI MUNICIPALITY DRAINAGE & IRRIGATION DEPT.		
			UPSTAND KERB		
			Service SWD	Scale 1:10	Detail No. 602




NOTE : TO BE INSTALLED WHERE INSTRUCTED BY THE ENGINEER OR AS INDICATED ON THE DRAWINGS WHERE UPSTAND KERBS ARE NOT EXISTING.

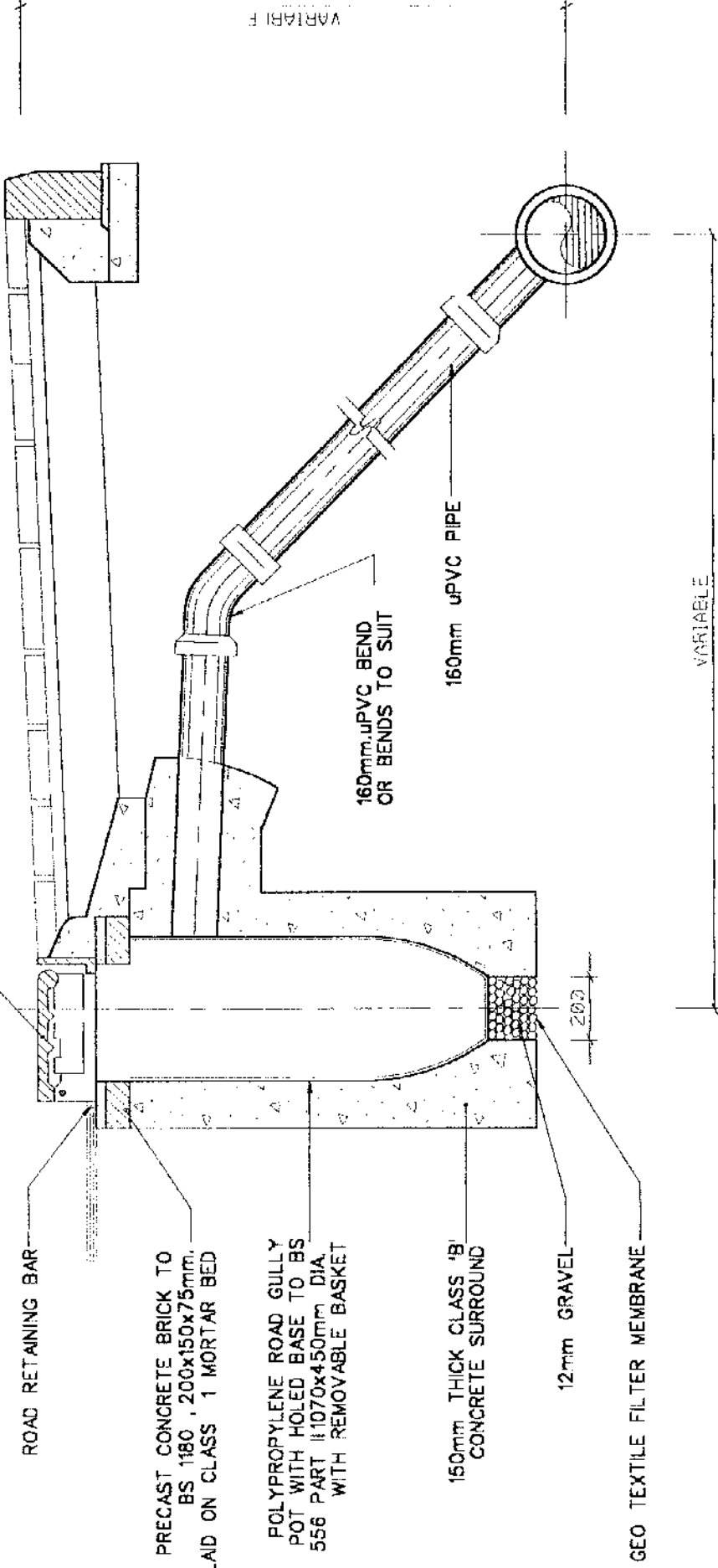
DATE	INITIALS	 دبلية DUBAI MUNICIPALITY DRAINAGE & IRRIGATION DEPT.	
		KERB SECTION WITH SIDE ENTRY GULLY	
		Service	Detail No
		SWD	603
		Scale	1 : 20

DUCTILE IRON GULLY COVER AND FRAME TO BSEN 124 : 1994
 BATTER GRATING MIN. OPENING 532 x 405mm. AND BASE 552 x 455mm,
 DEPTH 204mm. GULLY COVER TO BE REVERSIBLE WITH ONE
 SIDED FACE GRILL ON REAR OPENING & REMOVABLE GRATING
 IN BASE OF FRAME BEDDED ON 25mm THICK CLASS '1'
 MORTAR WITH CLASS 'A' CONCRETE HAUNCH.



DATE	REVISION	INITIALS	 DUBAÏ MUNICIPALITY DRAINAGE & IRRIGATION DEPT.
			GULLY CONNECTED TO CARRIER PIPE WHERE TRAFFIC LOADING IS ANTICIPATED
			Service SWD Scale 1:20 Detail No. 604
			<small>D:\009631\B\5\0-2617\DWG\SWC\01-604.DWG 01/2006</small>

DUCTILE IRON GULLY COVER TO BS 497 : 1976
 HALF BATTER GRATING OPENING 532x405mm.
 BASE 552x455mm, DEPTH 204mm. GULLY
 COVER TO BE REVERSIBLE WITH ONE SIDED
 FACE GRILL ON REAR OPENING & REMOVABLE
 GRATING IN BASE OF FRAME BEDDED ON 25mm
 THICK CLASS '1' MORTAR WITH HAUNCH



INITIALS

REVISION

DATE

Service SWD **Scale** 1:20 **Detail No.** 605

DUBAI MUNICIPALITY
DRAINAGE & IRRIGATION DEPT.

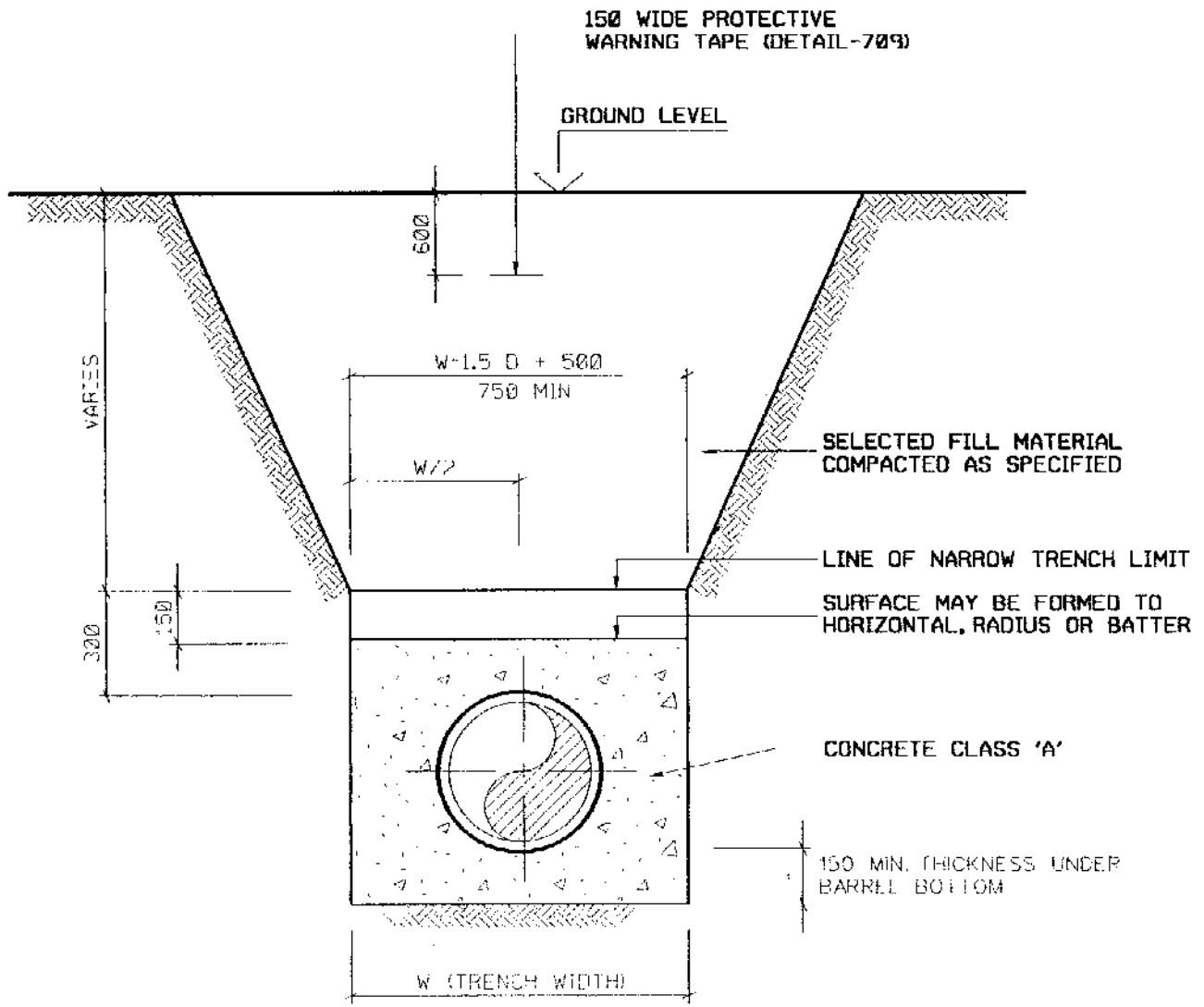
GULLY CONNECTED TO CARRIER/DRAIN WHERE NO TRAFFIC LOADING IS ANTICIPATED

02/00863/B/S TO 3E1/23W/SW/01-665.DGN 01/2000

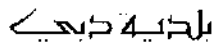
***DUBAI MUNICIPALITY – DRAINAGE &
IRRIGATION DEPARTMENT***

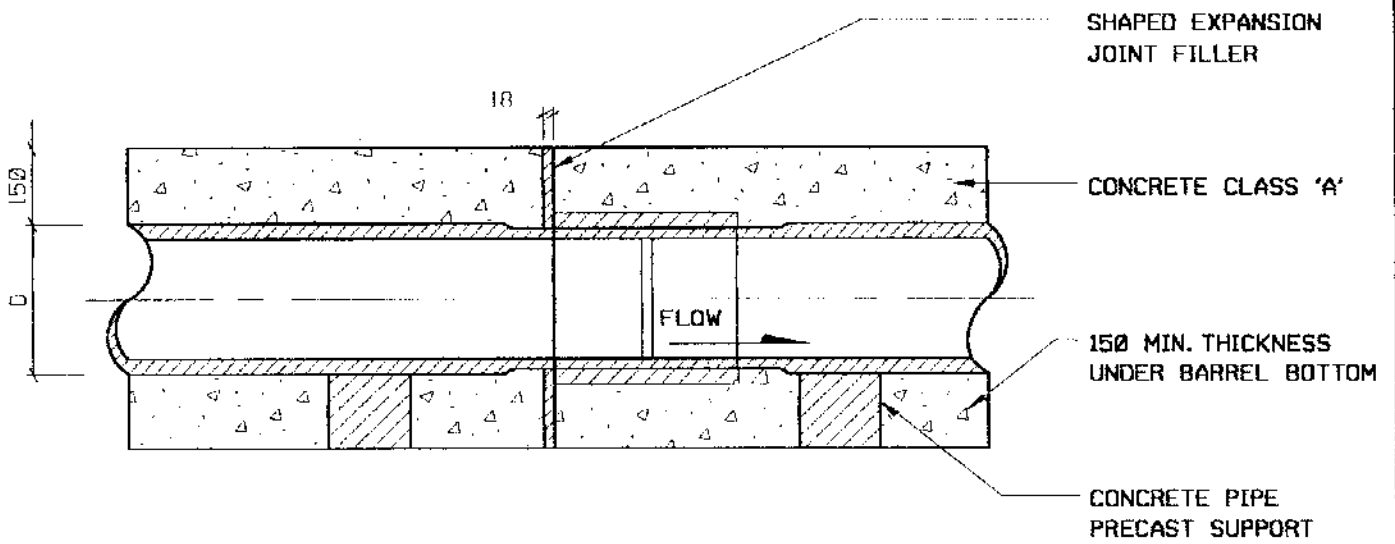
***STANDARD DETAILS FOR SEWERAGE &
DRAINAGE CONSTRUCTION***


700 GENERAL DETAILS

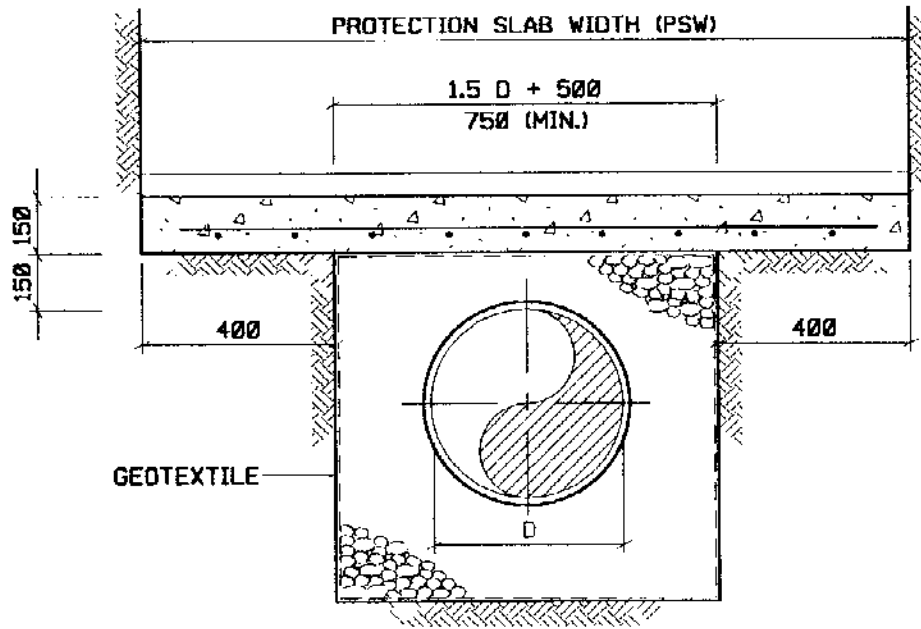


NOTES:-
 CONCRETE SURROUND TO BE INCLUDED
 WHERE SPECIFIED OR INSTRUCTED BY
 THE ENGINEER.

DATE	REVISION	INITIALS	 DUBAI MUNICIPALITY DRAINAGE & IRRIGATION DEPT.		
			CONCRETE BED AND SURROUND TO PIPES		
			Service	Scale	Detail No
			GEN	NTS	701

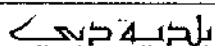


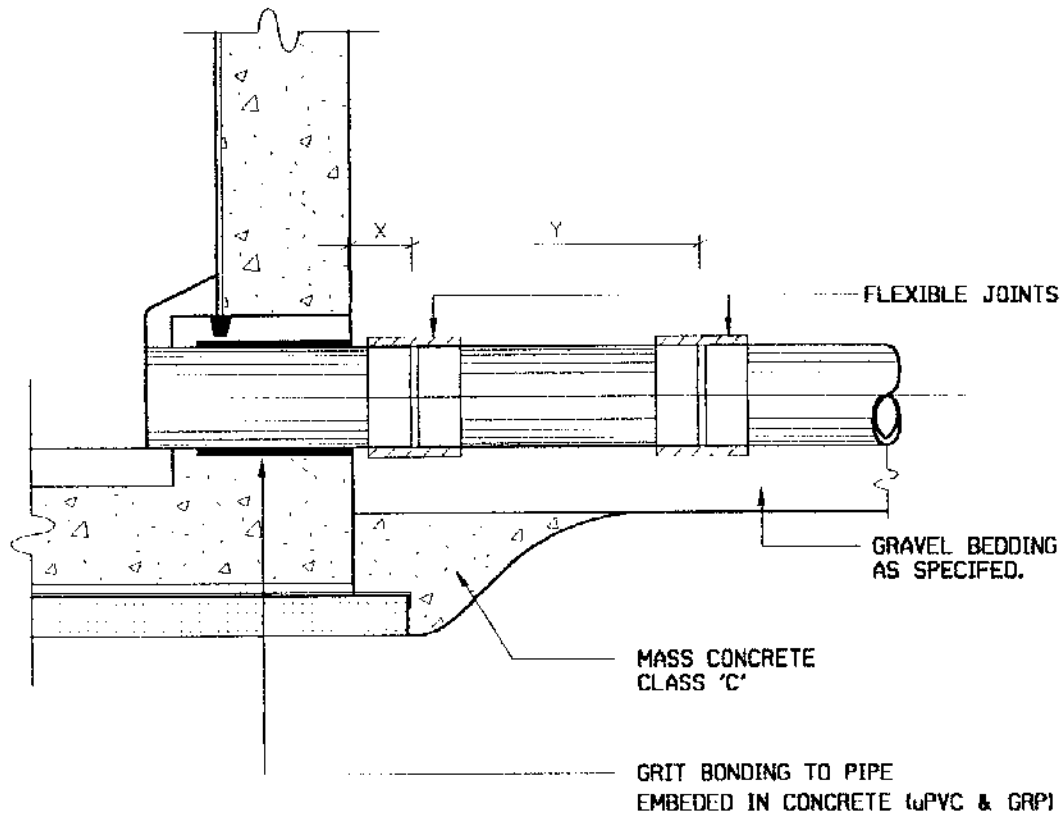
DATE	REVISION	INITIALS	 DUBAI MUNICIPALITY DRAINAGE & IRRIGATION DEPT.		
			CONCRETE SURROUND TO PIPES WITH COUPLINGS		
			Service	Scale	Detail No.
			GEN	1:15	702



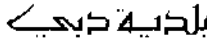
NOTES:

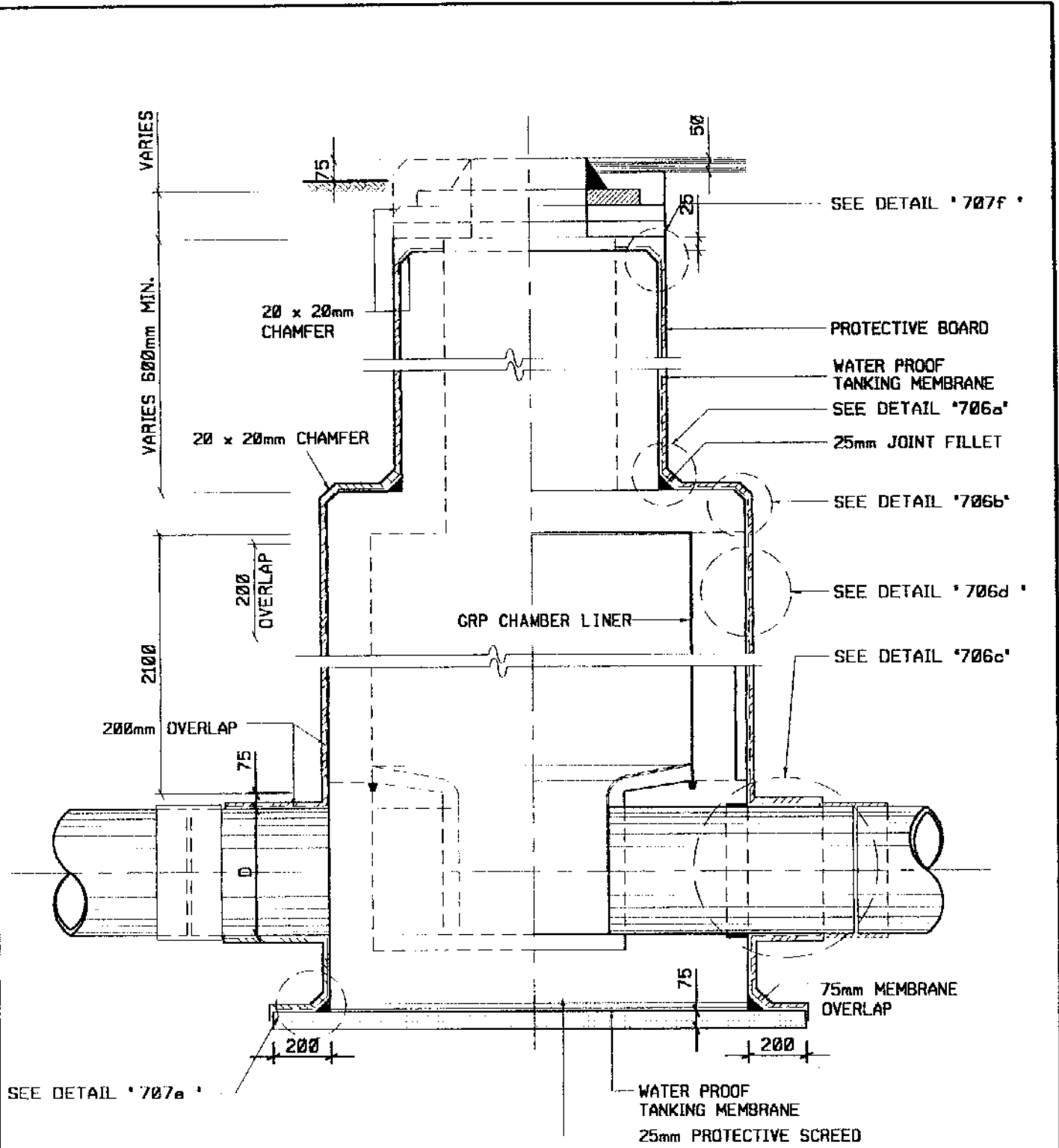
1. PROTECTION SLAB INCLUDED AS SPECIFIED OR INSTRUCTED BY THE ENGINEER.
2. CONCRETE CLASS "A"
3. REINFORCEMENT
USE 010 @ 200 C/C IN BOTH DIRECTIONS
GRADE 460 - BS4449
EPOXY COATED
4. FLEXIBLE JOINTS
POSITION ABOVE EACH PIPE JOINT INCLUDING 20mm EXPANSION JOINT FILLER.

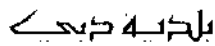
DATE	REVISION	INITIALS	 DUBAI MUNICIPALITY DRAINAGE & IRRIGATION DEPT.		
			PROTECTION SLAB TO PIPES		
			Service GEN	Scale 1:20	Detail No. 703

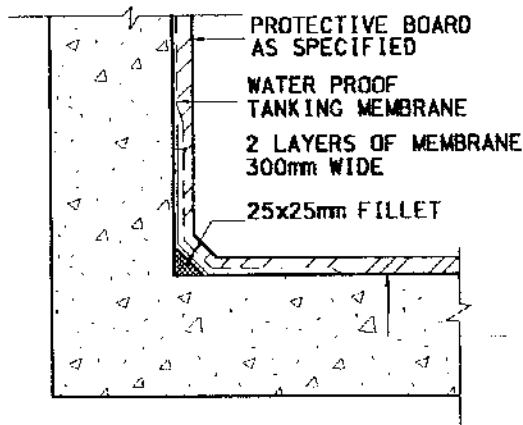


DIMENSIONS OF X AND Y			
PIPE DIA.	X	Y MIN.	Y MAX.
UP TO 300	150	450	2.50
>300 TO 1000	300	1.5D	2.5D
>1000	450	1.5D	2.5D

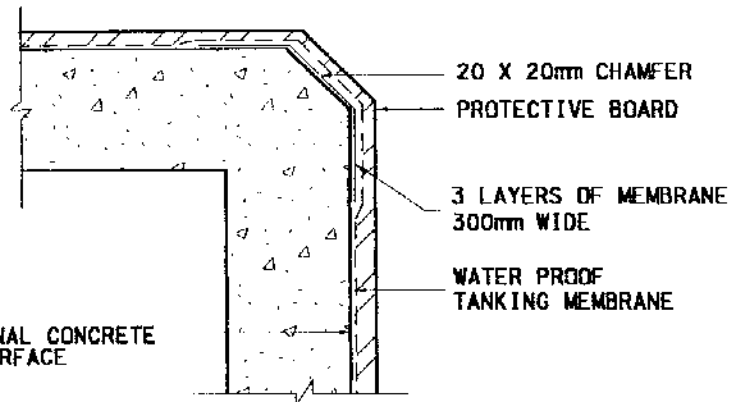
DATE	REVISION	INITIALS	 DUBAI MUNICIPALITY DRAINAGE & IRRIGATION DEPT.		
			PIPE CONNECTION AT STRUCTURES		
			Service	Scale	Detail No
			GEN	NTS	704



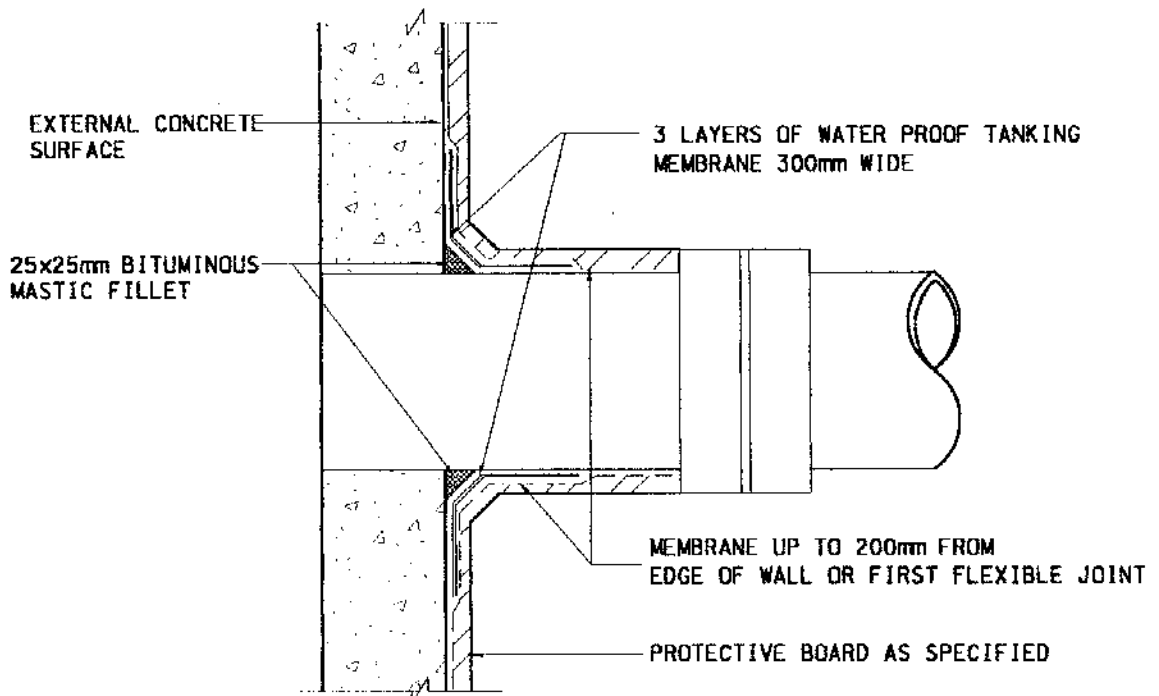
DATE	REVISION	INITIALS	 DUBAI MUNICIPALITY DRAINAGE & IRRIGATION DEPT.		
			EXTERNAL WATERPROOF TANKING TO MANHOLES		
			Service	Scale	Detail No.
			GEN	NTS	705




DETAIL-706a FOR CORNERS

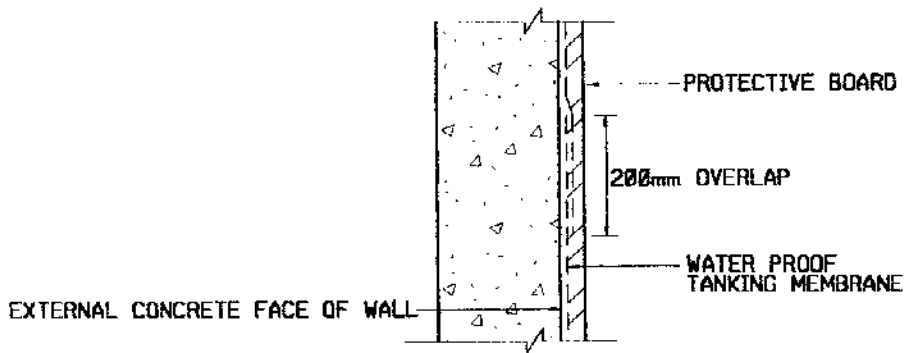


DETAIL-706b FOR EDGES

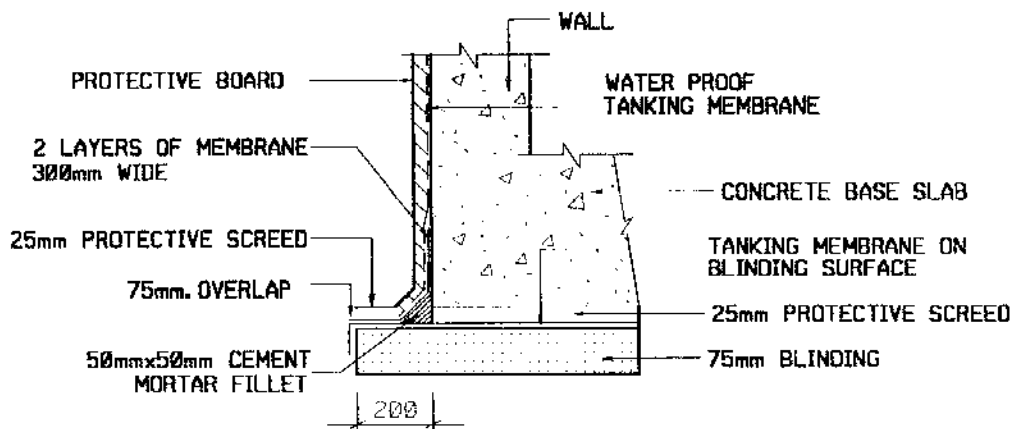


DETAIL-706c FOR PIPE ENTRY/OUTLET OF MH.

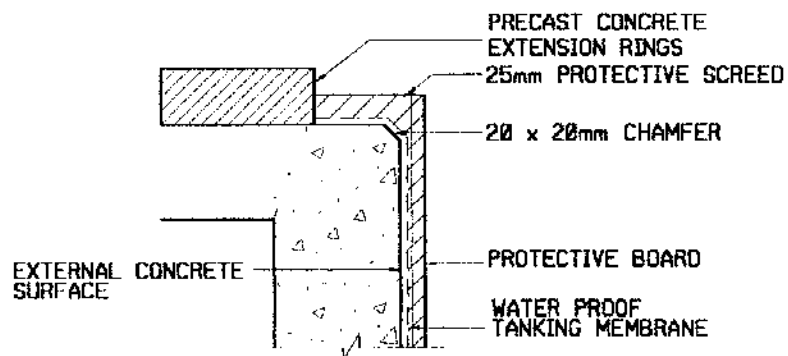
DATE	REVISION	INITIALS	 دبلئی مبلئیة DUBAI MUNICIPALITY DRAINAGE & IRRIGATION DEPT.		
			WATERPROOF TANKING DETAILS TO MANHOLES (SHEET 1 OF 2)		
			Service GEN	Scale NTS	Detail No. 706




DETAIL-707d
MEMBRANE LAP JOINTS



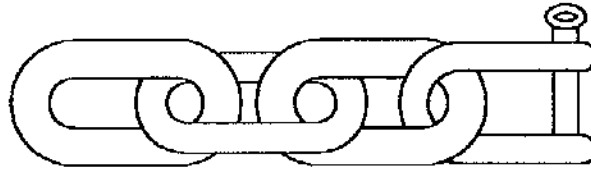
DETAIL-707e
FOR WALL TO BASE JUNCTION



DETAIL-707f
FOR FIXING MEMBRANE ON SHAFT

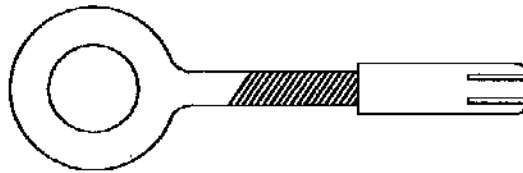
DATE	REVISION	INITIALS	 DUBAI MUNICIPALITY DRAINAGE & IRRIGATION DEPT.		
			WATERPROOF TANKING DETAILS TO MANHOLES (SHEET 2 OF 2)		
			Service	Scale	Detail No.
			GEN	NTS	707

316S STAINLESS STEEL CHAIN OF BAR
 DIAMETER 10 mm. AND A LINK OF
 50 x 20 mm. INTERNAL DIMENSIONS
 WITH 'D' SHACKLE TO ALLOW CHAIN REMOVAL



SAFETY CHAIN


316S 10mm FIXING BOLT



STAINLESS STEEL FIXING BOLT

NOTES :

1. INSTALLED IN MANHOLES WHERE OUTLET
 PIPE DIA. > 500
2. FIXED AT 2D/3 ABOVE PIPE INVERT.

DATE	REVISION	INITIALS	 دبلية بلدية DUBAI MUNICIPALITY DRAINAGE & IRRIGATION DEPT.		
			SAFETY CHAIN		
			Service GEN	Scale NTS	Detail No. 708


PROTECTIVE WARNING TAPE SHALL BE LAID ABOVE PIPELINES AND HAVE THE FOLLOWING PROPERTIES/REQUIREMENT :-

1. RESIST PROLONGED CHEMICAL ATTACK BY CORROSIVE ACIDS AND ALKALIES INCLUDING WARNING TEXT.
2. BE 150mm WIDE.
3. HAVE A DETECTABLE METALIC BACKING OR TRACER STRIP.
4. BE DETECTABLE WHEN BURIED USING A REMOTE TRANSMITTER AND DETECTOR.
5. HAVE BLACK WARNING TEXT IN ARABIC AND ENGLISH REPEATED AT A MAXIMUM INTERVAL OF TWO METRES.
6. TEXT SHALL INCLUDE DUBAI MUNICIPALITY LOGO
7. COLOUR CODED WITH TEXT AS SHOWN BELOW.

SEWERS	:	YELLOW
	CAUTION	: SEWER BELOW
SEWAGE PRESSURE MAINS	:	YELLOW
	CAUTION	: SEWERAGE PRESSURE MAIN BELOW
DRAINS	:	YELLOW
	CAUTION	: DRAINS BELOW
DRAINAGE PRESSURE MAINS	:	YELLOW
	CAUTION	: DRAINAGE PRESSURE MAIN BELOW
IRRIGATION PRESSURE MAINS	:	ORANGE
	CAUTION	: IRRIGATION PRESSURE MAIN BELOW

THE TAPE SHALL GENERALLY BE PLACED OVER THE CENTER OF THE PIPELINE AT 600mm BELOW GROUND LEVEL.

THE TAPE SHALL BE CONTINUOUS OVER PIPELINES AND JOINTED IN ACCORANCE WITH MANUFACTURER'S RECOMMENDATIONS WHERE NECESSARY.

DATE	REVISION	INITIALS	 دبلای مبلایطی DUBAI MUNICIPALITY DRAINAGE & IRRIGATION DEPT.	
			PROTECTIVE WARNING TAPE	
			Service GEN	Scale NTS
			Detail No. 709	

