

**NOTES**

1. PRECAST MANHOLES SHALL HAVE 150mm GRADE C16/20 CONCRETE SURROUND UNLESS MANUFACTURER CAN SHOW, TO THE ENGINEER'S SATISFACTION, THAT PERMANENTLY WATERPROOF JOINTS CAN BE ACHIEVED BY SOME OTHER METHOD
2. FOR 750mm Ø PIPES OR GREATER, USE A SAFETY CHAIN AND PROVIDE 25mm Ø GALVANISED SOLID BAR HANDRAILS AT EDGES OF BENCHING
3. STEP RUNGS TO BE PROVIDED IN MANHOLES MORE THAN 1m DEEP
4. MANHOLE COVERS & FRAMES SHALL BE IN ACCORDANCE WITH EN 124. WATERWORKS (SLUICE VALVES, HYDRANTS ETC.) SHALL BE IN ACCORDANCE WITH IS261
5. IN MANHOLES WHOSE PIPE DIAMETER IS GREATER THAN 375, ONE BENCHING SHOULD BE AT LEAST 400 WIDE
6. BENCHING TO BE OF CLASS C16/20 CONCRETE FINISHED WITH 2:1 SAND/CEMENT MORTAR
7. ALL MANHOLE COVERS & GULLIES TO BE LOCKABLE
8. PRECAST CONCRETE RINGS TO BE ENCASED IN 150mm MIN. MASS CONCRETE.
9. ALL DRAINAGE WORK TO BE IN ACCORDANCE WITH IRISH WATER CODE OF PRACTICE FOR WASTE WATER INFRASTRUCTURE AND STANDARD DETAILS AND GREATER DUBLIN REGIONAL CODE OF PRACTICE.

NO PART OF THIS DRAWING MAY BE REPRODUCED OR TRANSMITTED IN ANY FORM STORED IN ANY RETRIEVAL SYSTEM OF ANY NATURE WITHOUT THE PERMISSION OF MALONE O'REGAN CONSULTING ENGINEERS AS COPYRIGHTED EXCEPT AS AGREED FOR USE ON THE PROJECT FOR WHICH THE DRAWING WAS ORIGINALLY CREATED.

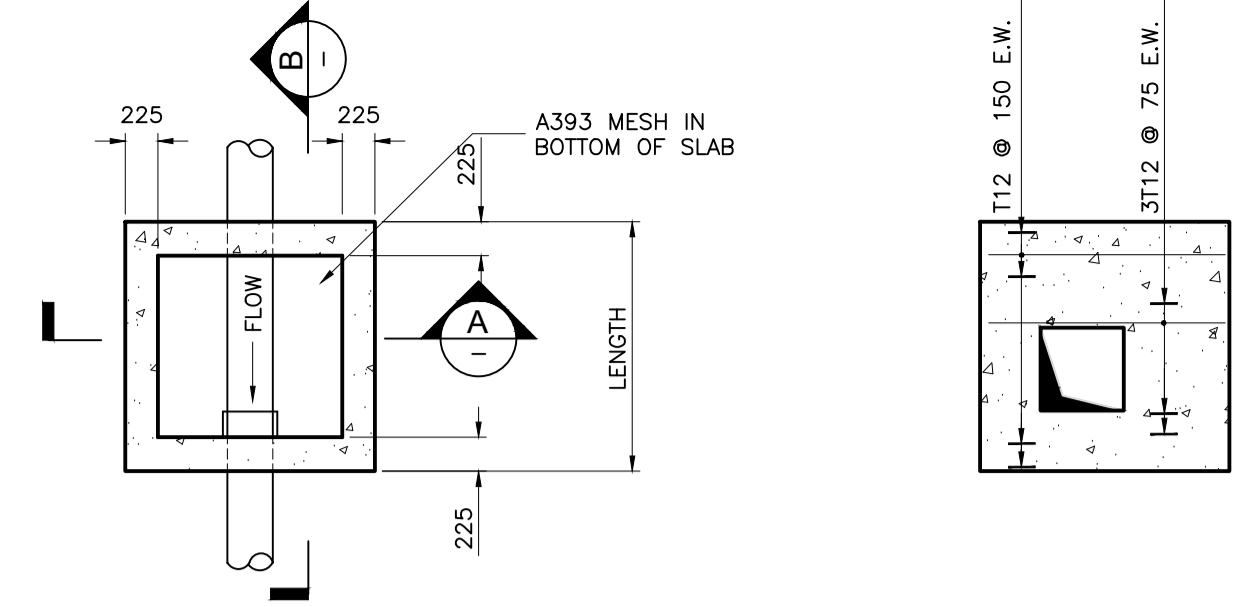
THIS DRAWING TO BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT DRAWINGS SPECIFICATIONS AND THE PRELIMINARY HEALTH & SAFETY PLAN.

ALL DIMENSIONS ARE IN mm UNLESS NOTED OTHERWISE. DO NOT SCALE DIMENSIONS.

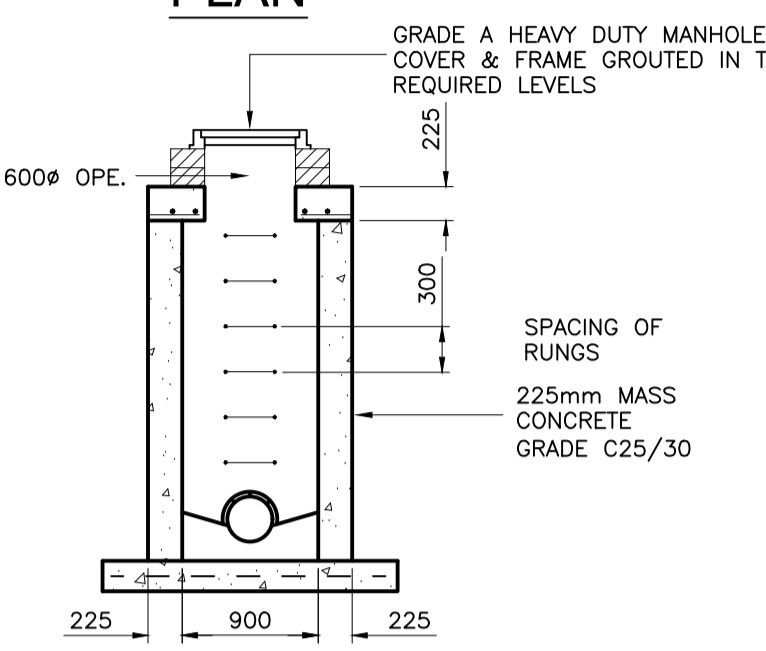
THE CONTRACTOR SHALL CHECK ALL DIMENSIONS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. ALL DISCREPANCIES SHALL BE REPORTED TO THIS OFFICE IN WRITING.

LOCAL AUTHORITY / COUNTY COUNCIL GUIDELINES FOR THE DESIGN AND CONSTRUCTION OF HOUSING MANUAL TO TAKE PRECEDENCE WHERE ANY CONFLICT OCCURS. GREATER DUBLIN REGIONAL CODE OF PRACTICE TO TAKE PRECEDENCE WHERE ANY CONFLICT OCCURS.

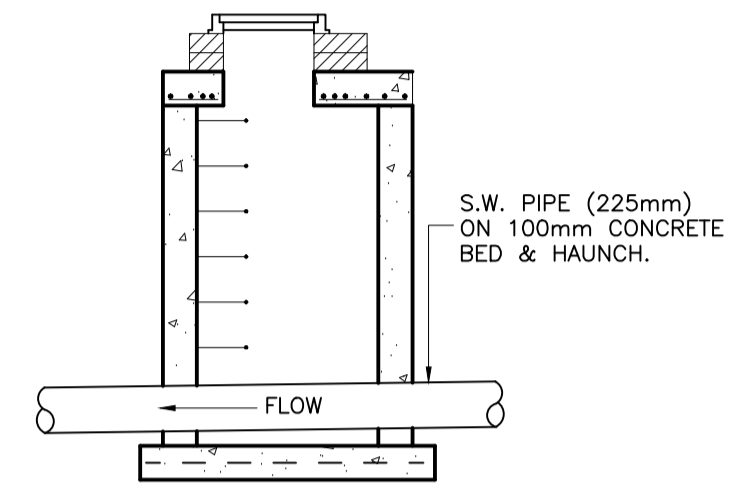
ALL EXCAVATIONS/FORMATIONS TO BE SUBJECT TO PLATE TESTS AT LOCATIONS TO BE AGREED ON SITE



PLAN OF ROOF SLAB



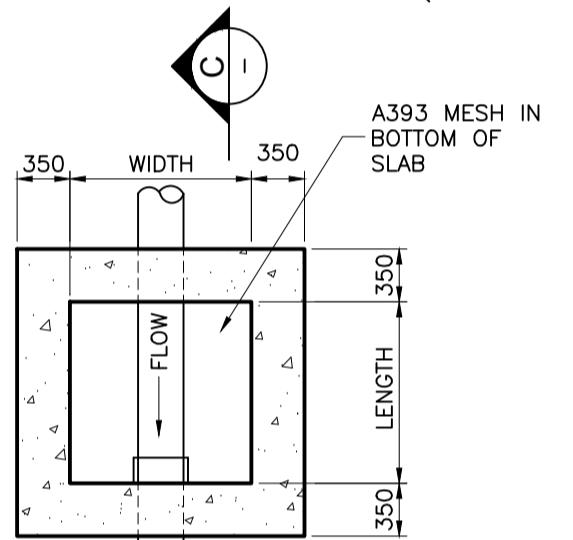
SECTION A SCALE 1:50



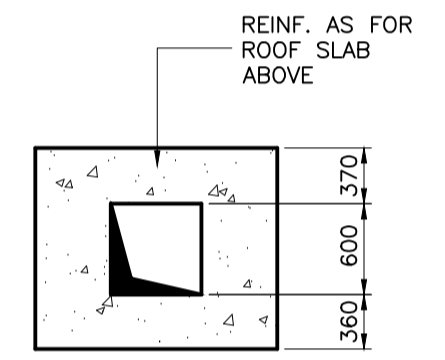
SECTION B SCALE 1:50

**DETAILS OF STANDARD MANHOLE UP TO 3000 DEEP**

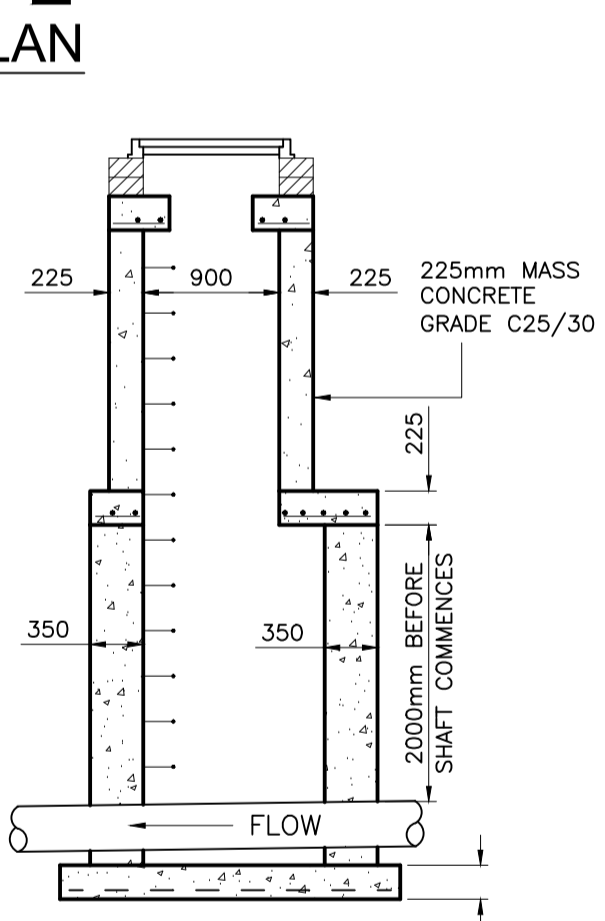
(FOR DIMENSIONS ETC. SEE TABLE 1)



PLAN



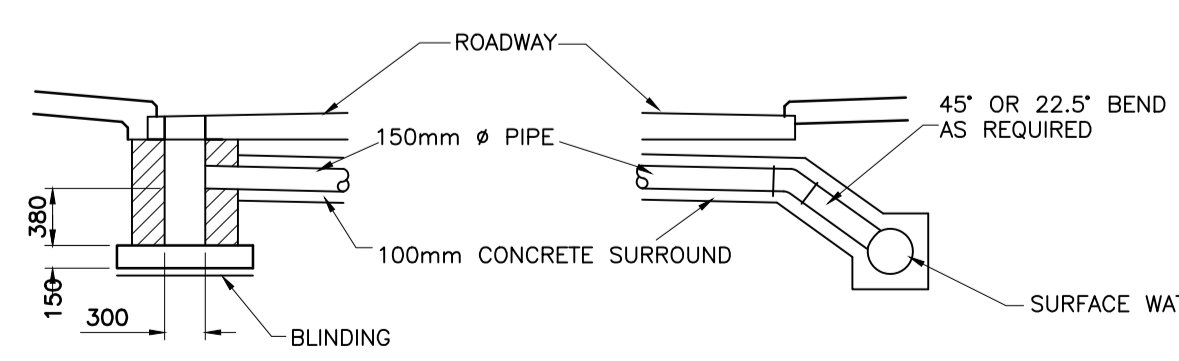
PLAN OF ROOF SLAB



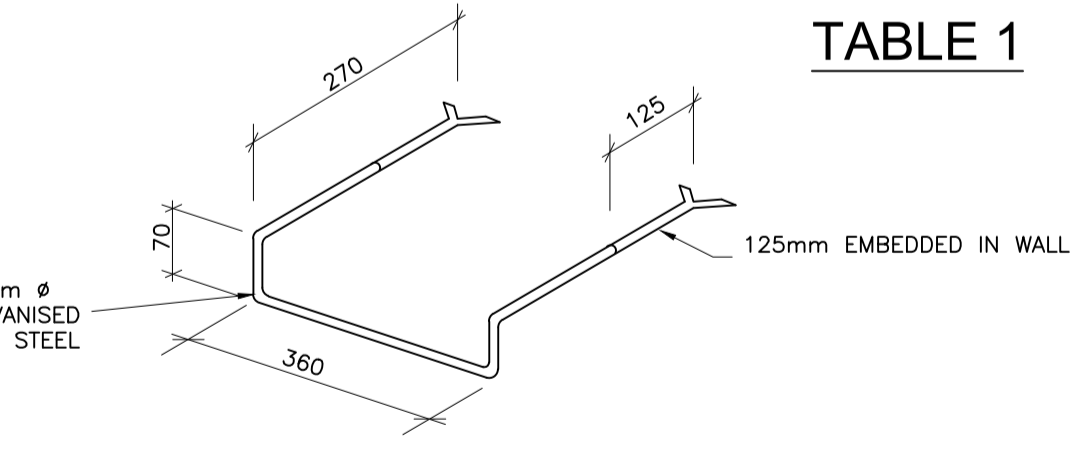
SECTION C SCALE 1:50

**DETAILS OF STANDARD MANHOLE 3000-6000 DEEP**

(FOR DIMENSIONS ETC. SEE TABLE 1)



GULLY CONNECTION TO S.W. SEWER ACROSS ROADWAY

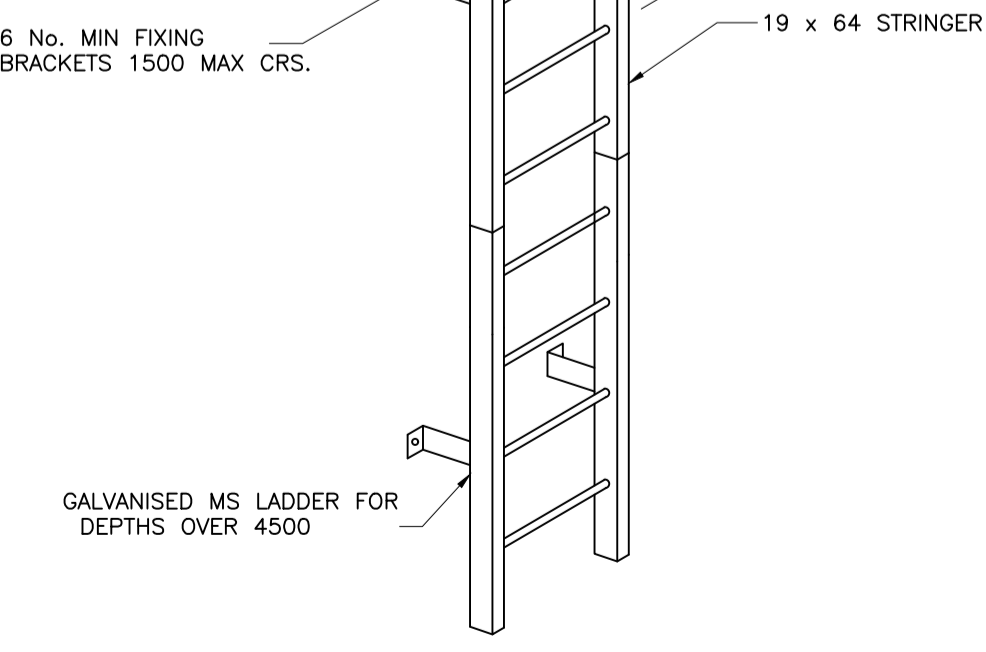


DETAIL OF STEP RUNG

**TABLE 1**

DEPTH	DIAMETER OF PIPE	ANGLE	MINIMUM DIMENSIONS		P.C. CONCRETE CIRCULAR SHAFT INTERNAL MH Ø
			LENGTH	WIDTH	
LESS THAN 1200	100	0-90°	1200	750	1050
	150	0-90°	1200	750	1050
	225	0-90°	1200	750	1050
			30°-90°	1200	750
	300	0-30°	1200	750	1050
			30°-90°	1200	900
	375	0-90°	1200	900	1050
	450	0	1200	1050	1050
			0-90°	1200	1200
	525	0	1200	1200	1050
			0-90°	1200	1200
	600	0	1200	1200	1200
0-45°			1200	1350	1350
750	0-45°	1200	1350	1350	
		45°-90°	1350	1350	1350
900	0-45°	1350	1500	1500	
		45°-90°	1500	1500	1800
1200-3500	100	0-90°	1200	900	1200
	150	0-90°	1200	900	1200
	225	0-90°	1200	900	1200
	300	0-90°	1200	900	1200
	375	0-90°	1200	900	1200
	450	0	1200	1050	1200
			0-45°	1350	1350
	525	0	1200	1200	1200
			0-45°	1200	1350
	600	0-45°	1350	1350	1350
			45°-90°	1350	1350
	750	0-45°	1200	1350	1350
45°-90°			1350	1350	1350
900	0-45°	1350	1500	1800	
		45°-90°	1500	1500	1800
3500-6000	100	0-90°	1200	900	1200
	150	0-90°	1200	900	1200
	225	0-90°	1200	900	1200
	300	0-90°	1200	900	1200
	375	0-90°	1200	900	1200
	450	0-45°	1200	1350	1350
			45°-90°	1350	1350
	525	0-45°	1200	1350	1350
			45°-90°	1350	1350
	600	0-45°	1200	1350	1350
			45°-90°	1350	1350
	750	0-45°	1200	1350	1500
45°-90°			1350	1350	1500
900	0-45°	1350	1500	1800	
		45°-90°	1500	1500	1800

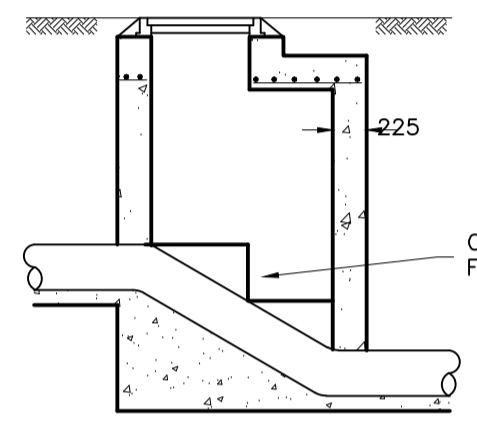
TABLE 1



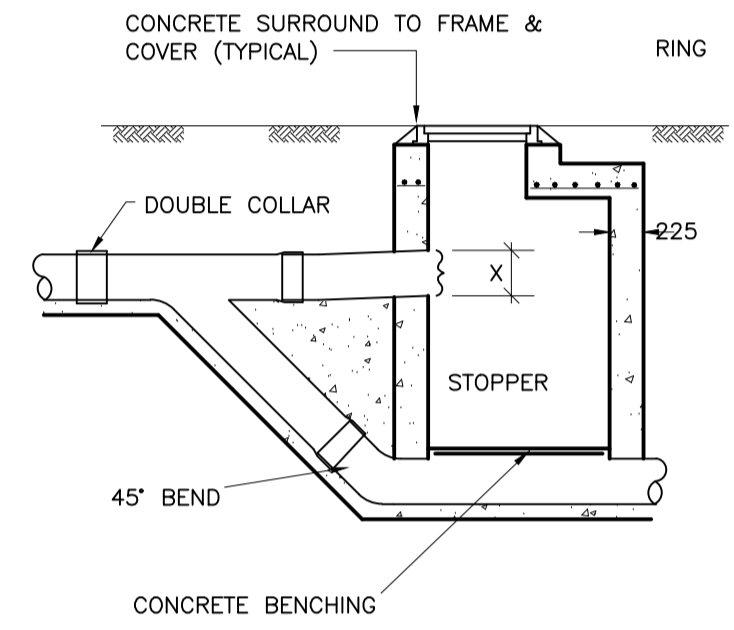
DETAIL OF ACCESS LADDER

MANHOLE TYPE	DIA. OF INLET	DROP	DIA. OF DROP	X
TYPE A	225	0-500	225	-
		500-1000	225	225
		> 1000	225	225
TYPE B	300	0-600	300	-
		600-1000	300	300
		> 1000	225	300
TYPE C	375	0-750	450	-
		750-1200	300	450
		> 1200	300	300
TYPE D	450	0-750	450	-
		750-1200	300	450
		> 1200	300	450
TYPE A	525	0-750	525	-
		750-1200	375	525
		> 1200	300	375
TYPE B	600	0-750	600	-
		750-1500	375	375
		> 1500	375	375
TYPE A	750	0-750	600	-
		750-1500	450	450
TYPE B	750	0-750	600	-
		750-1500	450	450

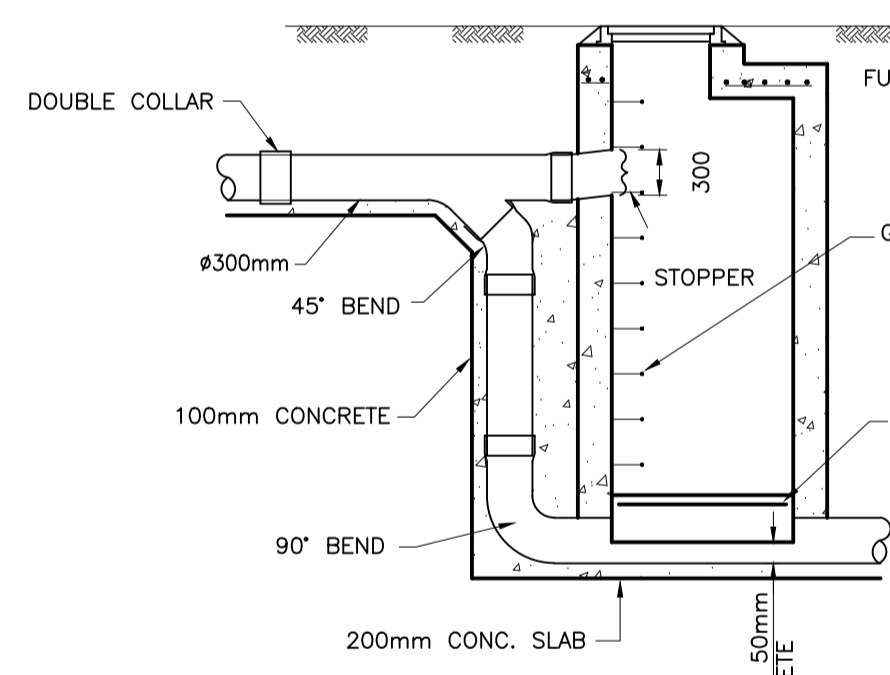
TABLE 2



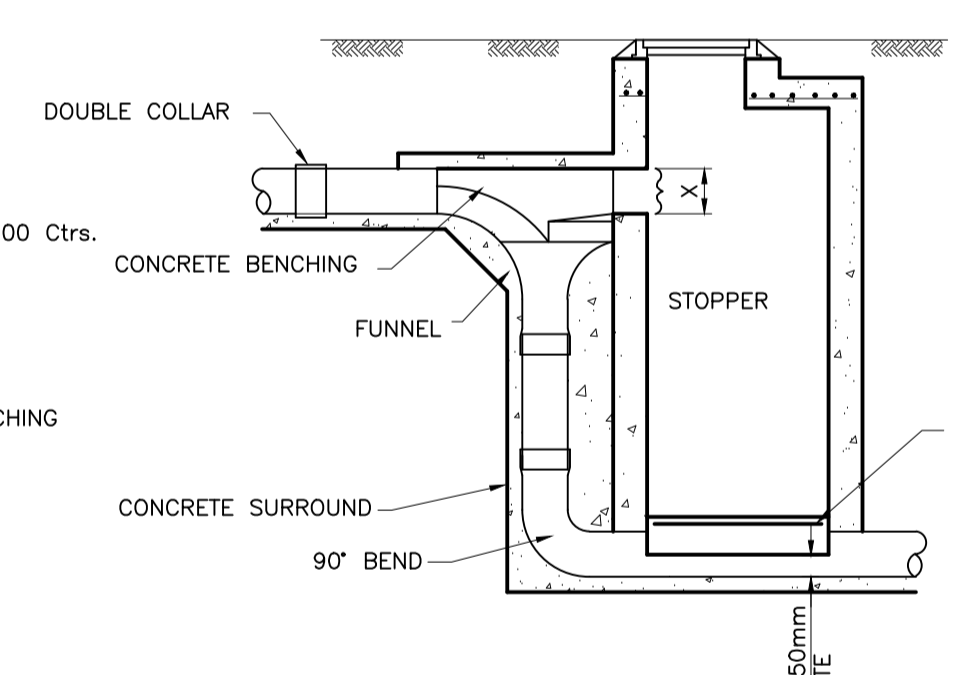
MANHOLE TYPE 'A' RAMP MANHOLE



MANHOLE TYPE 'B' INTERMEDIATE DROP MANHOLE

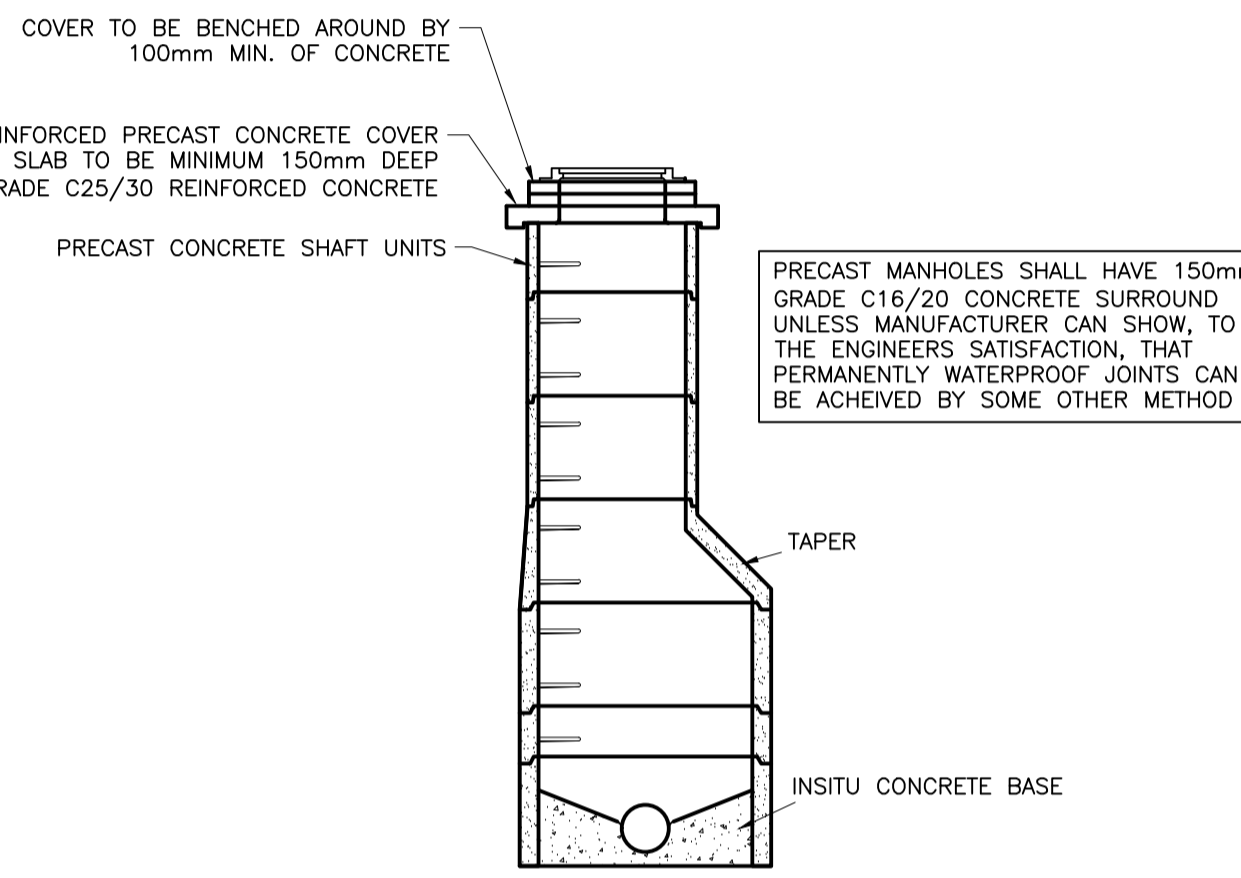


MANHOLE TYPE 'C' BACK DROP MANHOLE

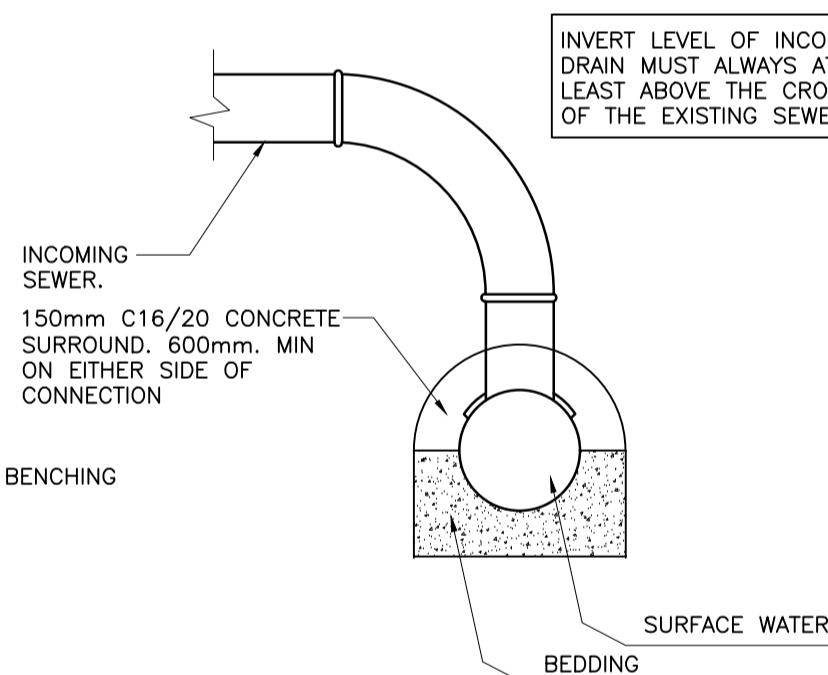


MANHOLE TYPE 'D' BACK DROP MANHOLE

NOTE: FOR DIMENSIONS ETC. TO MANHOLES TYPE 'A', 'B', 'C', & 'D' SEE TABLE 2



PRECAST CONCRETE MANHOLE



TYPICAL SADDLE CONNECTION SCALE 1:20

0	ISSUED FOR INFORMATION	15.03.24	KD
REV	DESCRIPTION	DATE	BY
STATUS			
<b>P3 - PLANNING</b>			
<b>ADR</b>		Unit 2B Richview Office Park, Clonskeagh, DUBLIN 14 D14 XT57	
MALONE O'REGAN CONSULTING ENGINEERS		T: +353 1 260 2655 E: dublin@morco.ie W: www.maloneyregan.ie	
Offices also in:			
GALWAY	T: +353 91 531 069	E: galway@morco.ie	
WATERFORD	T: +353 51 876 855	E: waterford@morco.ie	
CLIENT			
KILDARE COUNTY COUNCIL			
JOB NAME			
SHB 4&5 - CGK - COOLAGHKNOCK GLEBE, KILDARE TOWN			
DRG. NAME			
SITE DEVELOPMENT DETAILS			
SHEET 1			
DRAINAGE DETAILS			
JOB REF	SHEET	SCALE	DATE
23006	A1	SHOWN	MARCH'2024
DRG. NO.	BY	ENG	APP
	KD	PB	ND
SHB5-CGK-DR-MOR-CS-P3-137			