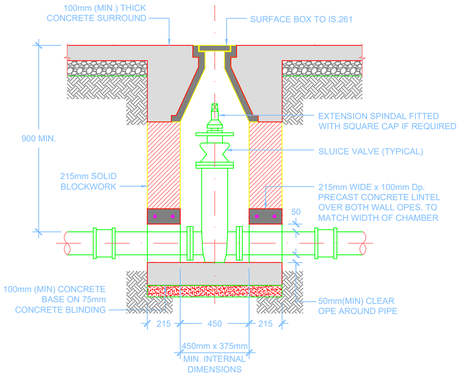
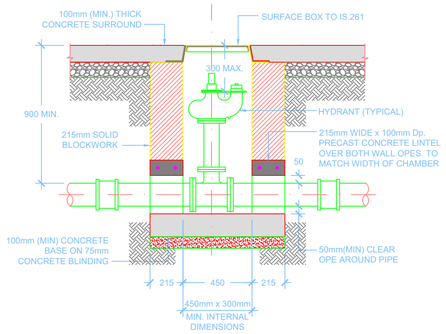
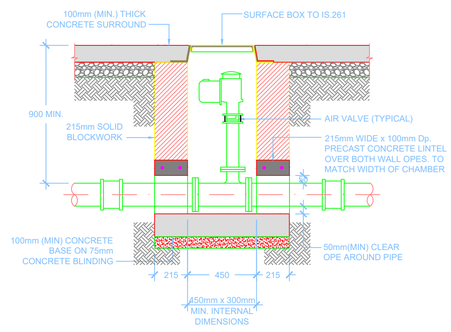


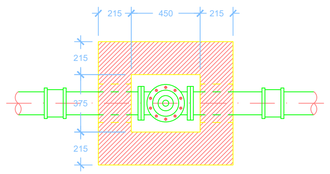
SLUICE VALVE SECTION



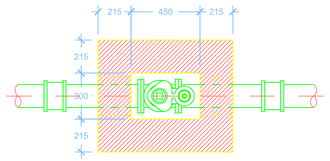
HYDRANT SECTION



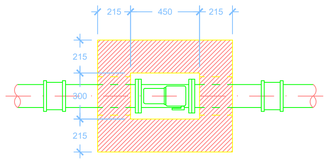
AIR VALVE SECTION



SLUICE VALVE PLAN



HYDRANT PLAN



AIR VALVE PLAN

SLUICE VALVE CHAMBER DETAILS

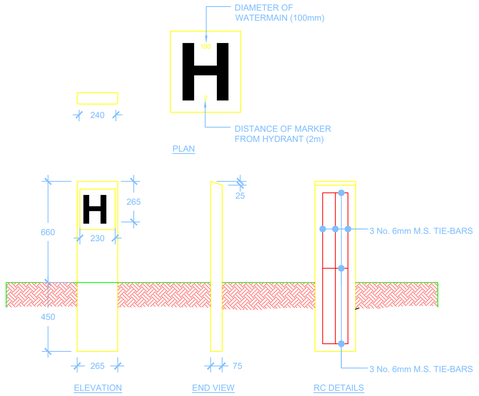
SCALE 1:20

HYDRANT CHAMBER DETAILS

SCALE 1:20

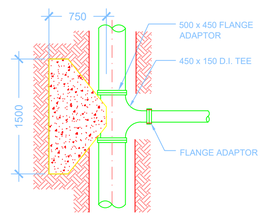
AIR VALVE CHAMBER DETAILS

SCALE 1:20

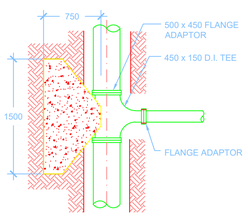


HYDRANT INDICATOR PLATES

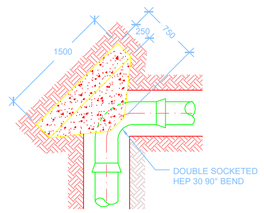
SCALE 1:20



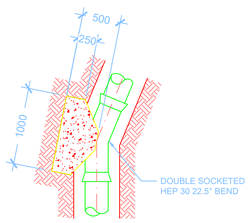
PLAN (TEE)



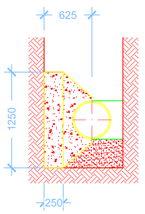
PLAN (TEE)



PLAN (90° BEND)



PLAN (22.5° BEND)



TYPICAL SECTION

THRUST BLOCK DETAILS

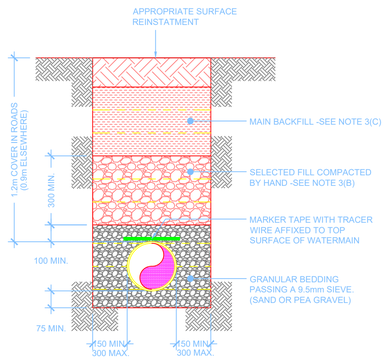
NOTE:

1. CONCRETE ANCHOR BLOCKS SHALL BE PROVIDED ON WATERMAINS AT DEAD ENDS, TEES, BENDS OF GREATER CURVATURE THAN 22½° AND AT BOTH SIDES OF SLUICE VALVE CHAMBERS AND HYDRANTS. ANCHOR BLOCKS SHALL ENCASE THE PIPE IN CONCRETE TO A MINIMUM THICKNESS OF 150mm ALL ROUND AND SHALL BE A MINIMUM LENGTH OF 600mm.
2. THRUST BLOCK CONCRETE SHALL BE PLACED BEHIND THE SOCKET OF THE FITTING AND NOT ALLOWED AGAINST THE PIPE OR JOINT. PROVIDE 1200g VISQUEEN WRAP AROUND PIPE & JOINT IF NECESSARY TO SEPERATE THEM FROM THE THRUST BLOCK.
3. CONCRETE COMPRESSIVE STRENGTH SHALL BE 20N AT 28 DAYS
4. BLOCKS TO BE CAST AGAINST UNDISTURBED EARTH

PIPE DIAMATER (mm)	ANCHOR BLOCK DIMENDIONS IN METRES FOR GROUND BEARING PRESSURE 100kN/m²					
	A	B	C	D	E	F
150	1.2	0.6	0.9	0.6	0.5	1.0
200	1.6	0.6	1.2	1.2	0.6	1.4

THRUST BLOCK DETAILS

SCALE 1:40



WATERMAIN TRENCH DETAIL

SCALE 1:20

NOTE: FOR WATERMAINS UNDER ROADS & IN CAR PARKS USE CL 804 COMPACTED BACKFILL ONLY

REVISION SCHEDULE

REV. NO.	REV. DESCRIPTION	REV. DATE	DRAWN	CHECKED
PL1	ISSUED FOR PLANNING	14/03/2024	JPC	KO'M

NOTES:

1. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL ENGINEERS & ARCHITECT'S DRAWINGS.FIGURED DIMENSIONS ONLY (NOT SCALING) TO BE USED. WHERE A CONFLICT OF INFORMATION EXISTS OR IF IN ANY DOUBT - ASK.

2. CONSULTANTS TO BE INFORMED IMMEDIATELY OF ANY DISCREPANCIES BEFORE WORK PROCEEDS.

3. PIPE BEDDING

A. GRANULAR BEDDING FOR PIPES TO BE EITHER:
(i) FREE DRAINING COARSE SAND OR
(ii) 10mm NOMINAL SINGLE SIZED GRAVEL OR
(iii) 5mm TO 10mm GRADED GRAVEL
GRAVELS IN (ii) OR (iii) CAN BE EITHER ROUNDER OR ANGULAR BUT WITH GOOD SELF COMPACTING PROPERTIES.

B. GRANULAR SURROUND & COVER FOR PIPES TO BE AS FOLLOWS:

TABLE 5/3 GRANULAR MATERIALS TO BS882

NOMINAL PIPE PIPE DIA. (mm)	AGGREGATE TYPE	NOMINAL MAXIMUM AGGREGATE SIZE (mm)
NOT EXCEEDING 140	SINGLE SIZED	10
	GRADED	-
EXCEEDING 140 BUT NOT EXCEEDING 400	SINGLE SIZED	10, 14 OR 20
	GRADED	20 TO 5 OR 14 TO 5
EXCEEDING 400	SINGLE SIZED	10, 14, 20 OR 40
	GRADED	14 TO 5, 20 TO 5 OR 40 TO 5

C. BACKFILL

(i) BACKFILL UNDER FOOTPATH / CYCLEPATH / GRASS VERGE TO BE SELECTED BACKFILL TO NRA SPECIFICATION FOR ROAD WORKS CLAUSE 601, TABLE 6/1 CLASS 2C MATERIAL. COMPACTED IN 300mm LAYERS.
(ii) BACKFILL UNDER CARRIAGEWAYS TO BE SELECTED GRANULAR MATERIAL TO NRA SPECIFICATION FOR ROADWORKS CLAUSE 601, TABLE 6/1 CLASS 6F1 OR 6F2 MATERIAL. COMPACTED IN 300mm LAYERS.

D. WARNING MESH

ALL PIPEWORK SHALL HAVE A 400mm WIDE WATER WARNING MESH - PLYAGE HR 40D BLUE POLYETHYLENE WARNING MESH OR SIMILAR - WITH TRACER WIRE LAID DIRECTLY OVER CENTRELINE OF THE PIPELINE AND TIED TO VALVES AT A DEPT OF 350mm BELOW THE FINISHED GROUND SURFACE.

4. PIPE TESTING

A. PRESSURE TEST

ALL WATERMAINS SHOULD BE HYDRAULICALLY TESTED AFTER LAYING, FOR A PERIOD OF 24 HOURS, AT A TEST PRESSURE OF 1.5 TIMES THE SPECIFIED CLASS PRESSURE (13.5 BAR.) THE PIPELINE SHOULD BE ADEQUATELY ANCHORED OR RESTRAINED, DURING THE TEST.
A TEST PUMP, WITH STOPCOCK, WATER TANK AND PRESSURE GAUGE, IS CONNECTED TO THE WATERMAIN AND OPERATED UNTIL THE GAUGE SHOWS THE REQUIRED TEST PRESSURE. (IF IT IS CONSIDERED NECESSARY, THE CALIBRATION OF THE PRESSURE GAUGE SHOULD BE VALIDATED JUST PRIOR TO THE TEST.) THE AMOUNT OF WATER IN THE TANK IS NOTED AT THE BEGINNING OF THE TEST PERIOD. AN HOUR LATER, GAUGE PRESSURE IS INSPECTED AND IF IT HAS FALLEN, TEST PRESSURE IS RESTORED BY MEANS OF A PUMP. THIS PROCESS IS REPEATED AT HOURLY INTERVALS, DURING THE TEST PERIOD. THE TOTAL QUANTITY OF WATER PUMPED TO MAINTAIN THE PRESSURE DURING THE TEST IS TERMED THE "APPARENT LEAKAGE".
THE APPARENT LEAKAGE SHOULD NOT NORMALLY EXCEED 0.11 LITRES, PER MILLIMETER OF NOMINAL PIPE DIAMETER, PER KILOMETER OF LENGTH, PER 24 HOURS. A REPRESENTATIVE OF DROGHEDA BOROUGH COUNCIL TO BE PRESENT DURING TESTING.

B. CHLORINATION TEST

ALL MAINS SHALL BE SWABBED AND DISINFECTED BEFORE BEING PUT IN TO SUPPLY. THE PIPELINES SHALL BE DISINFECTED WITH WATER HAVING A MINIMUM CONCENTRATION OF 20mg/l OF FREE AVAILABLE CHLORINE.

THE CHLORINATED WATER SHALL BE LEFT IN THE MAIN FOR A PERIOD OF AT LEAST 24 HOURS. CHLORINE RESIDUAL TESTS SHALL BE TAKEN AT THE END OF THE MAIN FURTHEST FROM THE POINT OF INJECTION. THE STERILISATION PROCESS SHALL BE REPEATED IF THE CHLORINE RESIDUAL IS LESS THAN 10mg/l. THE CHLORINATED WATER SHALL BE DISCHARGED INTO FOUL SEWER AFTER TESTING IS COMPLETED.

C. BACTERIOLOGICAL TEST

THE MAIN SHALL BE REFILLED AND A SAMPLE OF THE WATER SHALL BE TAKEN FOR BACTERIOLOGICAL ANALYSIS. GREAT CARE SHALL BE TAKEN WHEN OBTAINING SAMPLES FOR TESTING AND ONLY STERILE CONTAINERS SHALL BE USED. THIS SAMPLING SHALL BE CARRIED OUT IN THE PRESENCE OF A REPRESENTATIVE OF DROGHEDA BOROUGH COUNCIL. SAMPLES SHALL BE TESTED WITHIN 6 HOURS OF COLLECTION.

5. HYDRANTS

HYDRANTS SHALL BE MANUFACTURED IN ACCORDANCE WITH BS 750: 1984 TYPE 2 AND SHALL INCORPORATE A SCREW-DOWN VALVE, UNDERGROUND "GUIDE IN HEAD" TYPE WITH BAYONET LUG OUTLETS AND FALSE SPINDLE CAP, ALL TO DROGHEDA BOROUGH COUNCILS APPROVAL. THE HYDRANT VALVE SHALL BE ANTI-CLOCKWISE OPENING.

6. SLUICE VALVES

SLUICE VALVES SHALL BE MANUFACTURED IN ACCORDANCE WITH BS 5163:1986. THEY SHALL BE DOUBLE FLANGED; DUCTILE IRON RESILIENT SEAL GATE VALVES, ALL TO DROGHEDA BOROUGH COUNCILS APPROVAL. SLUICE VALVES SHALL BE ANTI-CLOCKWISE CLOSING.

7. AIR VALVES

AIR VALVES TO BE MANUFACTURED IN ACCORDANCE WITH BS5159 AND TO BE TO DROGHEDA BOROUGH COUNCILS APPROVAL.

8. SURFACE COVERS

HYDRANT, SLUICE VALVE & AIR VALVE CHAMBERS SHOULD BE PROVIDED WITH CAST IRON SURFACE BOXES IN COMPLIANCE WITH THE REQUIREMENTS OF IS. 261. SURFACE BOXES FOR ROADWAYS AND AREAS ACCESSIBLE TO WHEEL TRAFFIC SHOULD BE SUBJECT TO THE APPROVAL OF DROGHEDA BOROUGH COUNCIL.

9. HYDRANT AND VALVE INDICATOR PLATES

THE LOCATION OF HYDRANTS, AIR VALVES AND SLUICE VALVES SHOULD BE SHOWN BY INDICATOR PLATES POSITIONED TO THE APPROVAL OF THE LOCAL AUTHORITY.
HYDRANT PLATES SHOULD COMPLY WITH THE REQUIREMENTS OF BS3251. THEY SHOULD SHOW THE DIAMETER OF THE WATERMAIN IN MILLIMETERS ON THE UPPER PART OF THE PLATE AND THE DISTANCE OF THE MARKER FROM THE HYDRANT ON THE LOWER PART OF THE PLATE. ALL CHARACTERS SHOULD BE BLACK AND THE REMAINDER OF THE FRONT FACE SHOULD CONFORM TO COLOUR REFERENCE No. 309 (CANARY YELLOW) OF BS 381C.
SLUICE VALVE; SCOUR VALVE AND AIR VALVE PLATES SHOULD BE CAST IRON MEASURING 200 x 200mm, THEY SHOULD HAVE THE LETTERS SV, ScV OR AV AS APPROPRIATE, CAST IN RELIEF. THE PLATES SHOULD HAVE A BACKGROUND IN BLACK BITUMASTIC PAINT WITH THE LETTERS IN WHITE ENNAMEL.
INDICATOR PLATES MAY BE FIXED TO SOLID BOUNDARY WALLS. WHERE MARKER POSTS ARE USED THEY SHOULD BE CONSTRUCTED AS SHOWN ON THE DRAWING.

Drawing Stage: PLANNING	Project Details:		Notes	Drawn by: JPC	Checked by: KO'M	Approved by: JFC	Date: 03/2024	CORA CONSULTING ENGINEERS	Behan House, 10 Lower Mount St., Dublin 2. D02 HT71 Tel: +353 (0)1 661 1100 e-mail: info@cora.ie Web: www.cora.ie		
	Site Address:	12th LOCK, LUCAN, CO. DUBLIN.	1. ALL ENGINEERS DRAWINGS TO BE READ IN CONJUNCTION WITH RELEVANT DRAWINGS AND SPECIFICATIONS. 6. ALL LEVELS ARE STRUCTURAL UNLESS NOTED OTHERWISE.	Project Name: BEATTY'S COTTAGE FIT-OUT			Scale: A.S. @ A1	Project Number: 2405			
	Client:	SOUTH DUBLIN COUNTY COUNCIL	2. ALL SETTING OUT TO ARCHITECTS DRAWINGS. 7.								
	Architect:	SFA42 ARCHITECTS	3. DO NOT SCALE FROM ENGINEERS DRAWINGS.	Drawing Title: STANDARD DRAINAGE DETAILS SHEET 4			Project: 2405	Originator: CORA	Zone: ZZ	Level: ZZ	Type: DR
	M&E Designer:		4. ANY DISCREPANCIES BETWEEN DRAWINGS, SKETCHES, VERBAL INSTRUCTIONS AND SITE CONDITIONS TO BE REFERRED TO THE DESIGN TEAM BEFORE WORK COMMENCES.							Discipline: C	Drawing No: 0014
	Contractor:									Stage:	Revision: PL1