

Do not scale from this drawing. All dimensions to be confirmed on site before commencing work.

NOTES

1. DETAILED DESCRIPTIONS OF THE STANDARD FUSION JOINING TECHNIQUES FOR POLYETHYLENE PIPE SYSTEMS, BUTT FUSION AND ELECTROFUSION ARE GIVEN IN THE MAIN INSTALLATION HAND BOOK. ALTHOUGH BRIEF DESCRIPTIONS ARE GIVEN IN A FOLLOWING SECTION.
2. WHEREVER POSSIBLE IT IS PRACTICAL TO CARRY OUT JOINING ABOVE THE TRENCH AND LOWER THE PIPE INTO THE TRENCH USING ROPE OR WEB SLINGS FOR SUPPORT. IN ADVERSE WEATHER CONDITIONS, JOINING SHALL BE CARRIED OUT UNDER COVER OF A PROTECTIVE TENT.
3. WHERE JOINING NEEDS TO BE CARRIED OUT IN TRENCH FOR TIE-IN PURPOSES OR IN ANKWARD SITUATIONS, THEN ADDITIONAL CARE MUST BE TAKEN TO PREVENT CONTAMINATION OF JOINT SURFACES AND TOOLING. BUTT FUSION FITTINGS SHALL BE USED THROUGHOUT.
4. POLYETHYLENE MATERIALS USED IN THE MAIN POLYETHYLENE WATER SYSTEMS HAVE A HIGH COEFFICIENT OF LINEAR EXPANSION COMPARED TO OTHER PIPE MATERIALS. HOWEVER, THERE IS NO NECESSITY TO MAKE PROVISION FOR THIS IN A BURIED PIPELINE AS EXPANSION EFFECTS ARE EASILY ACCOMMODATED BY INCREASED AXIAL ELASTIC STRAIN IN THE PIPE AND ALSO DUE TO THE MINIMAL SEASONAL CHANGES IN BELOW GROUND TEMPERATURE IN THE UK.
5. IT IS IMPORTANT, HOWEVER TO MAKE ALLOWANCES FOR CONTRACTION EFFECTS WHICH CAN OCCUR ON INSTALLATION. THIS IS PARTICULARLY IMPORTANT IF PIPES HAVE BEEN STORED AND/OR INSTALLED WHEN EXPOSED TO HOT SUNSHINE. PIPE SHOULD BE ALLOWED TO STABILIZE AT TRENCH BOTTOM TEMPERATURE AND IF NECESSARY BACK FILLING SHOULD BE CARRIED OUT TO PROTECT THE PIPE FROM SUNLIGHT PRIOR TO MAKING ANY FINAL TIE-IN CONNECTIONS.
6. THE FLEXIBILITY OF THE POLYETHYLENE'S USED IN THE MAIN SYSTEMS MAY BE UTILIZED TO ACCOMMODATE GRADUAL CHANGES OF DIRECTION BY BENDING THE PIPE ITSELF RATHER THAN USING FITTINGS.
7. THE TABLE BELOW ILLUSTRATES THE BENDING RADII OF THE MAIN POLYETHYLENE WATER SYSTEMS BOTH A JOINT POSITION AND COMPARES THEM TO THE RADII OF FACTORY FORMED BENDS.

TABLE 4.1 - BENDING RADII (AT 20°C)	
PLAIN PIPE	- 150
JOINT POSITION	- 250
FACTORY FORMED BENDS	- 50

WHERE D IS THE OUTSIDE DIAMETER OF THE PIPE.

8. BURIED POLYETHYLENE PIPES CANNOT BE DETECTED USING STANDARD METHODS USED FOR METALLIC PIPE. A METAL TRACER TAPE AT 325mm ABOVE THE CROWN OR THE PIPE SHALL BE INSTALLED.
9. THE CONTRACTOR SHALL FOLLOW THE ADVICE GIVEN IN HSE47 'AVOIDING DANGER FROM UNDERGROUND SERVICES'. TRAIL PITS SHOULD BE HAND DUG TO ASCERTAIN THE LOCATION OF ALL BELOW GROUND SERVICES PRIOR TO THE USE OF ANY MACHINERY.
10. ALL NEW UNDERGROUND SERVICES SHALL BE INSTALLED IN ACCORDANCE WITH THE NUG 'NATIONAL JOINT UTILITIES GROUP' RECOMMENDATIONS.
11. ALL NEW UNDERGROUND SERVICES SHALL BE INSTALLED IN ACCORDANCE WITH EACH INDIVIDUAL UTILITY COMPANIES RECOMMENDATIONS & DRAW PITS SHALL BE INSTALLED WHERE NECESSARY.

KEY

- LV 400V LOW VOLTAGE POWER (BNO/ DNO). 125mm² I.D. DUCT TO BE ALLOWED FOR. FINAL SIZE TO BE CONFIRMED BY (BNO/ DNO)
- ELEC LV POWER DUCT (BLACK/ RED) 100mm² I.D. DUCT
- HV 11kV HIGH VOLTAGE POWER (BNO/ DNO). 150mm² I.D. DUCT TO BE ALLOWED FOR. FINAL SIZE TO BE CONFIRMED BY (BNO/ DNO)
- BT BT CABLE(S) DUCT COMMS. 2 X 90mm² I.D. DUCT TO BE ALLOWED FOR. FINAL SIZE TO BE CONFIRMED BY BT
- ELV ELV DUCT
- GAS INCOMING GAS SUPPLY
- W MAINS COLD WATER SUPPLY
- 600x600mm ACCESS CHAMBER/DRAW PIT
- CCTV COLUMN MOUNTED FIXED CCTV CAMERA WITH INTEGRAL POE SWITCH
- 60P ELECTRIC CAR CHARGING POINT
- 60P COLUMN MOUNTED FITTING. GCH-QUA-XX-XX-DR-L-6300 FOR DETAILS
- C OTHER TELECOM DUCT (VIRGIN) 1 X 90mm² I.D. DUCT TO BE ALLOWED

REV	DESCRIPTION	DATE	ENG
004	CONSTRUCTION ISSUE - REVISED FOLLOWING WS COMMENTS	15.11.21	GO
003	CONSTRUCTION ISSUE - REVISED FOLLOWING WS COMMENTS	18.08.21	GO
002	CONSTRUCTION ISSUE - REVISED FOLLOWING WS COMMENTS	02.08.21	GO
001	CONSTRUCTION ISSUE	19.07.21	GO

FUTURESERV
DESIGN ENGINEER SUSTAIN

Client: **MORGAN SINDALL**

Job: **GORTON COMMUNITY HUB**

Drawing: **ELECTRICAL SERVICES
PROPOSED COMBINED EXTERNAL
SERVICES SITE DISTRIBUTION LAYOUT**

Draw No: **GCH-QUA-XX-XX-DR-N-7000**

Sheet: **C04**

Date: **OCT 19'** Scale: **1:100** Plot: **@A0**

Drawn: **GO** Engineer: **GO** Project: **AM**

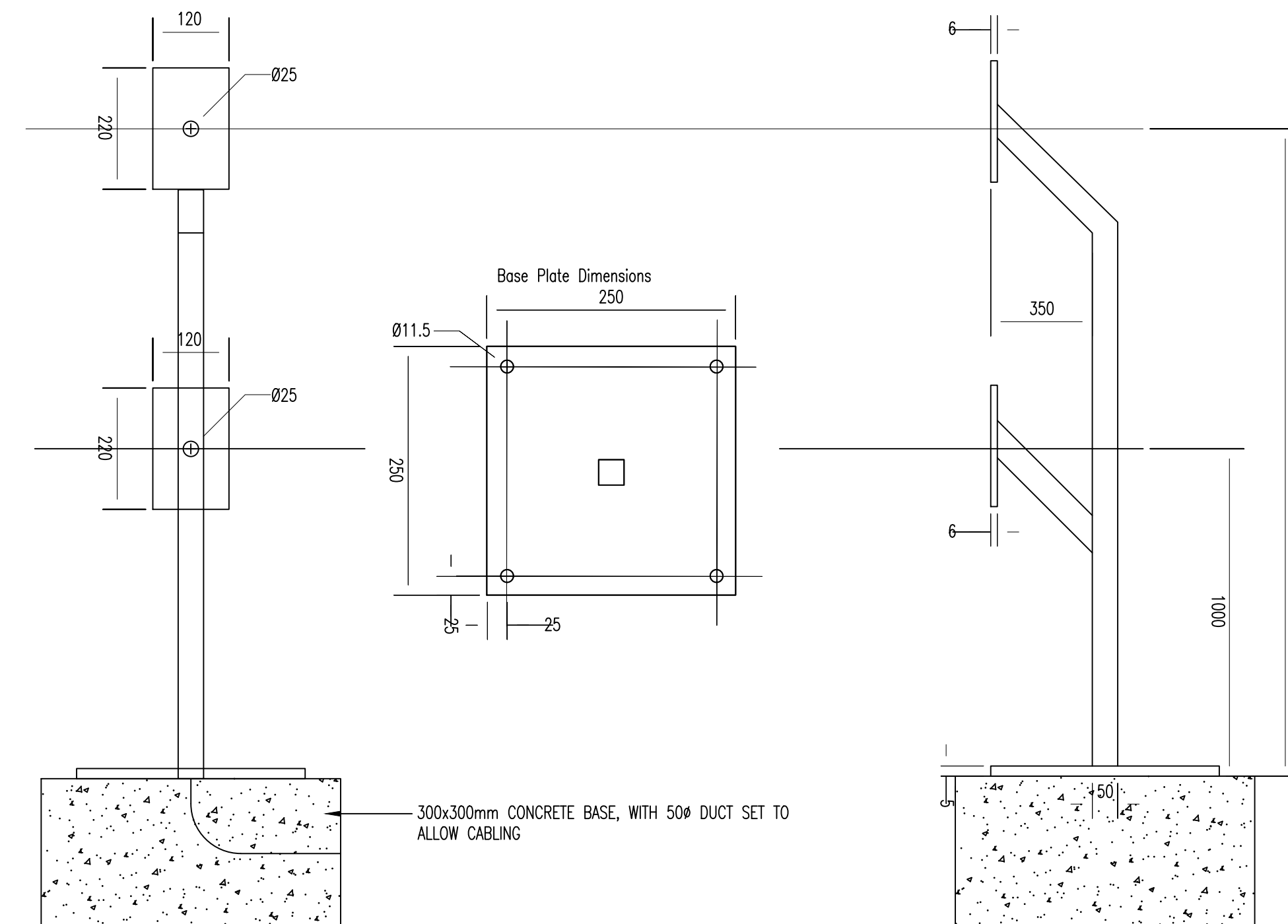
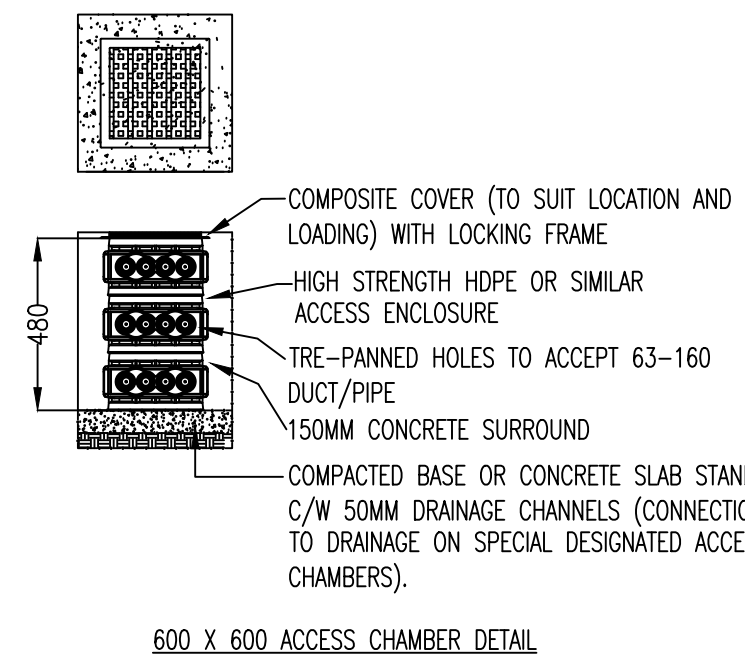
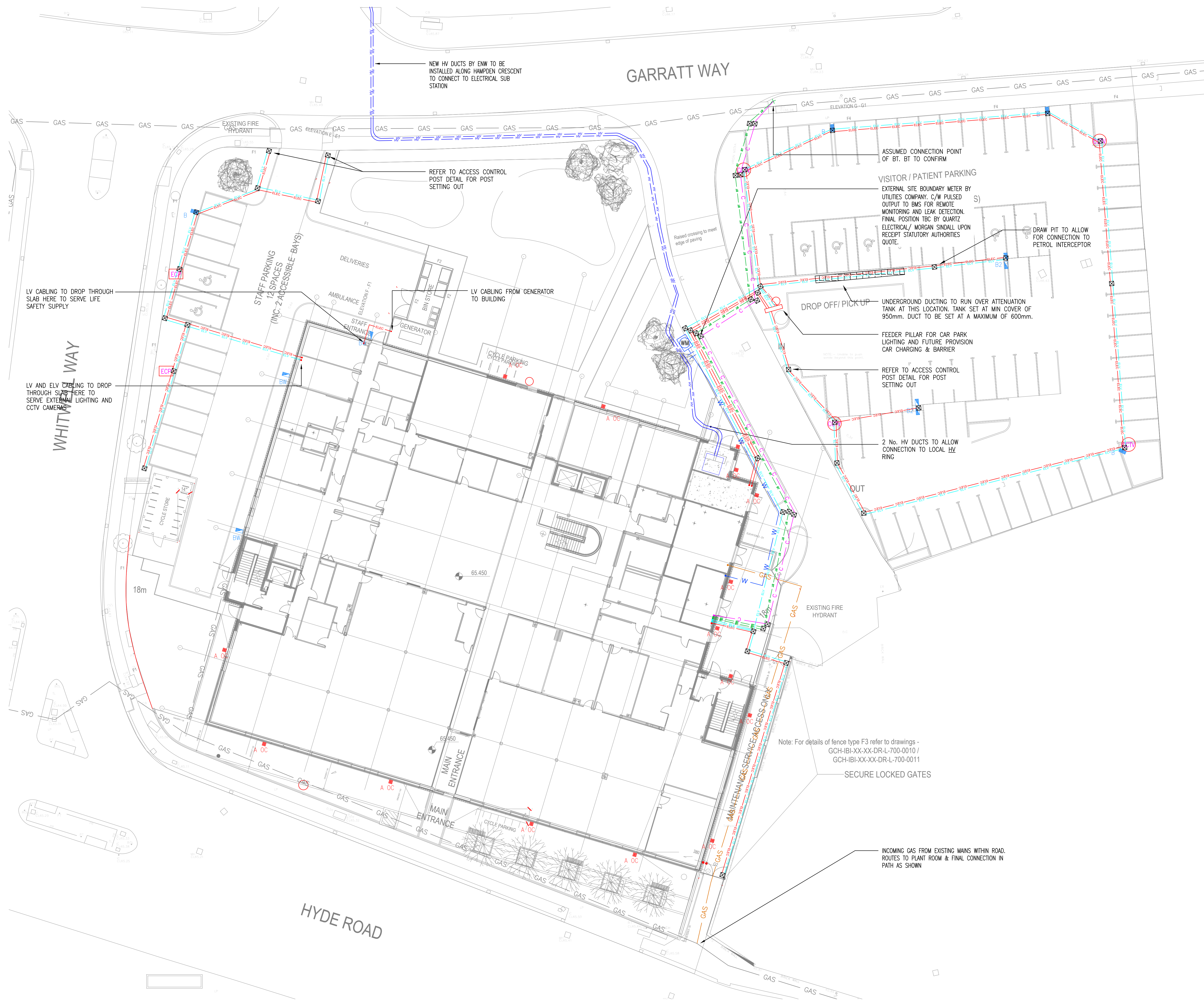
Feasibility: **Design** Tender: **Construction** Contract: **As Built**

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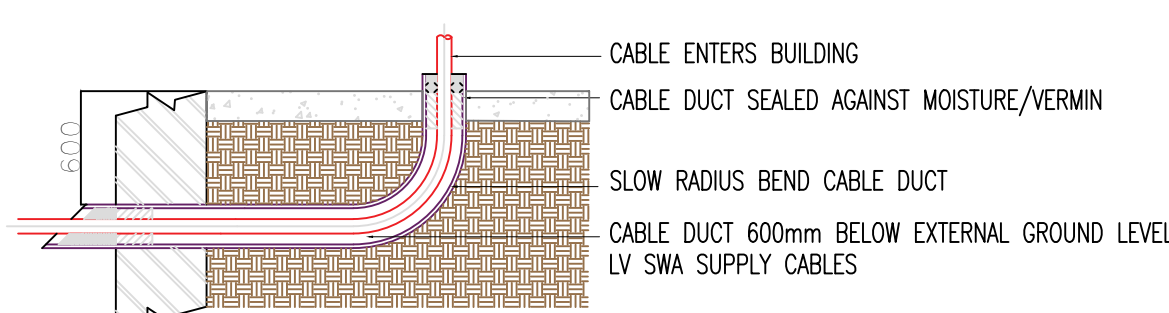
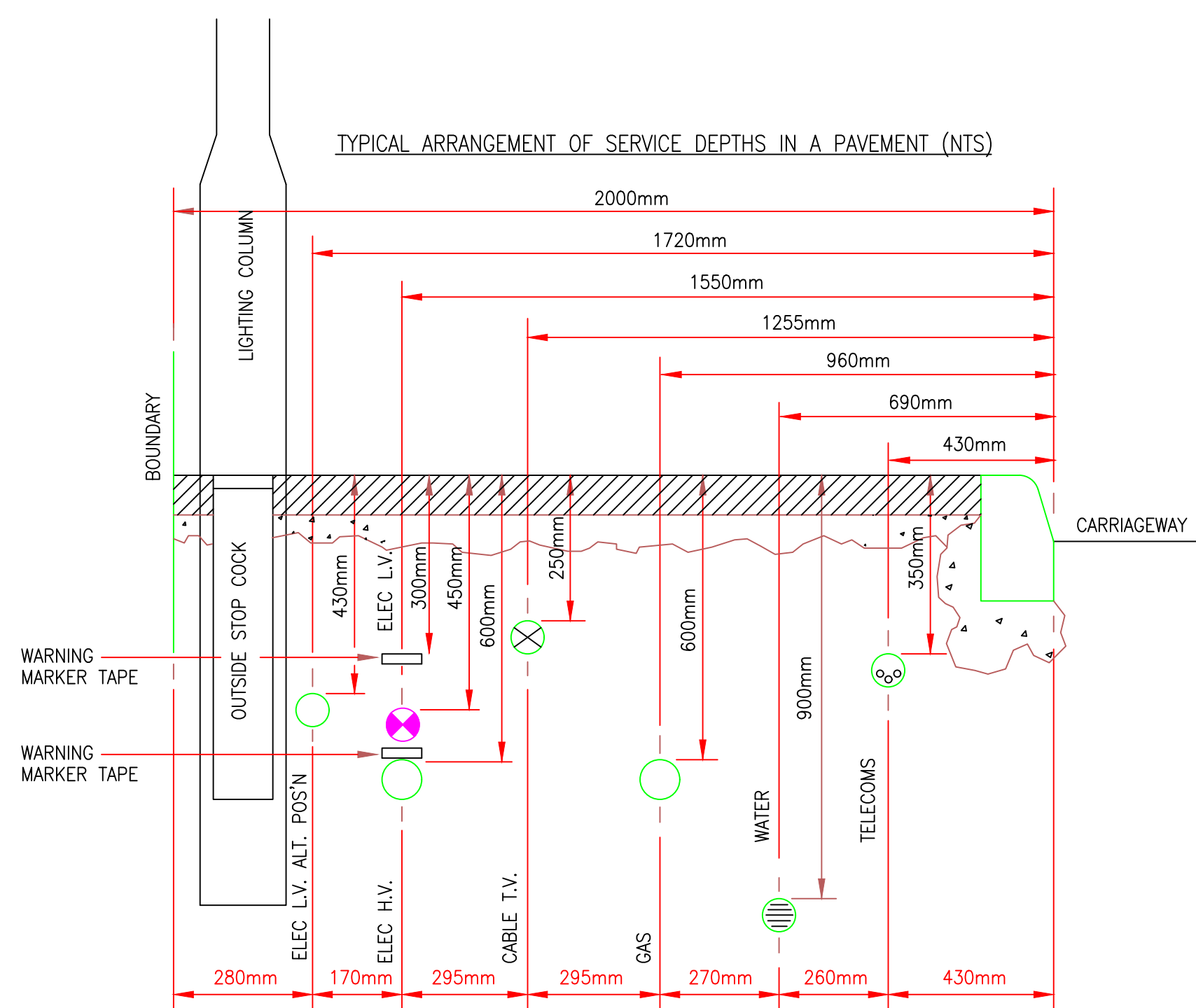
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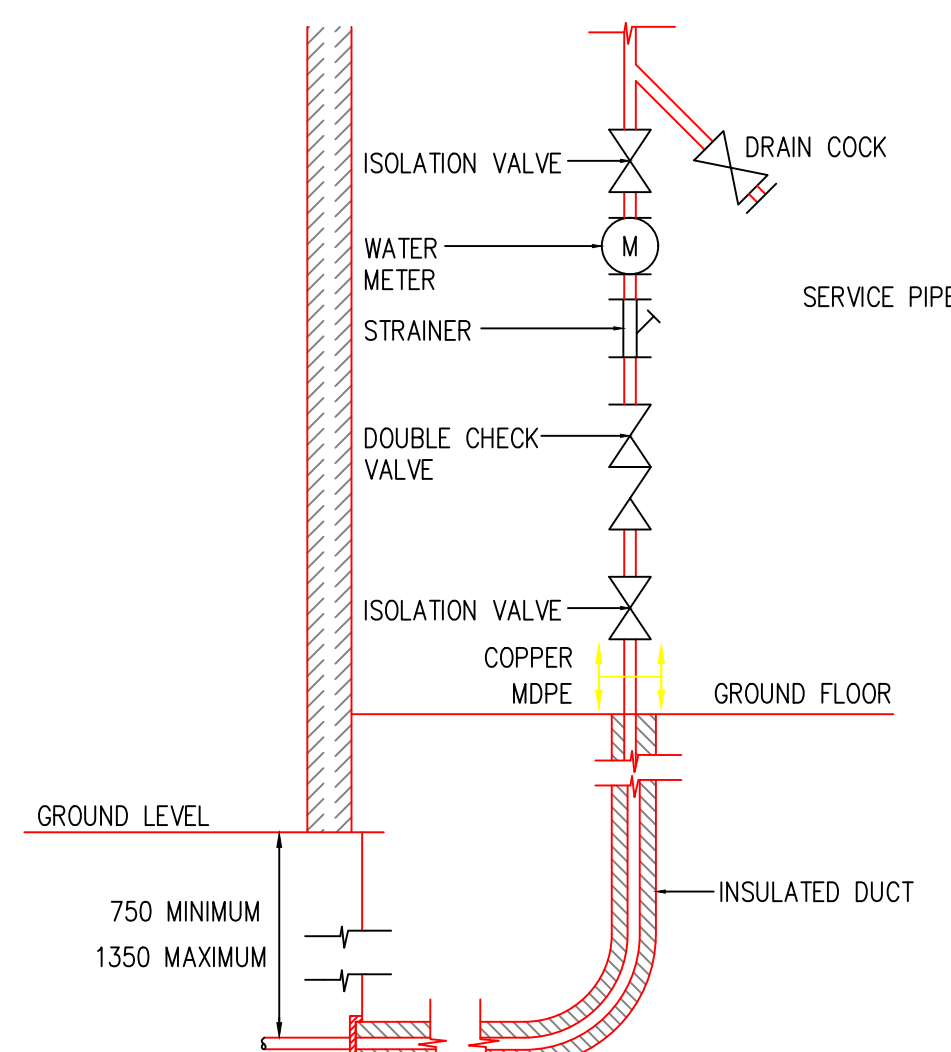
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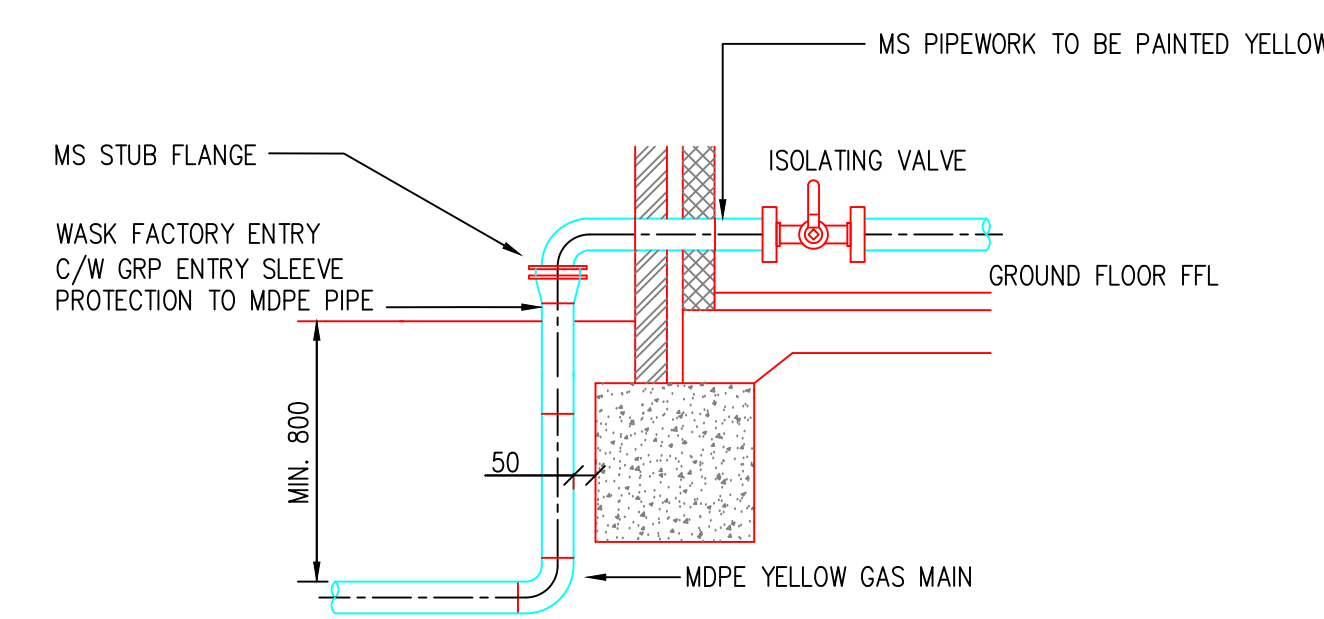
ACCESS CONTROL DUAL HEIGHT POST MOUNTING DETAIL @ 1:5



TYPICAL BELOW GROUND CABLE ENTRY (NTS)



INCOMING PLANTROOM ENTRY
WATER TYPICAL DETAIL



INCOMING PLANTROOM ENTRY
GAS TYPICAL DETAIL