SDCS-02-02

Rev.2

CONSTRUCTION STANDARD FOR UNDERGROUND DISTRIBUTION NETWORK

PART 2: INSTALLATION OF KWH METER BOXES ON FRONT OF CONSUMER WALLS AND SIDE INSETS

Recommended by:

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Department Manager

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PART 2: INSTALLATION OF KWH METER BOXES ON FRONT OF CONSUMER WALLS AND SIDE INSETS

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Revision History

#	Date	Revision No.	Major Revision Description
1	Sep. 2021	2	Change meter No. to be up to 8 in the front wall of the consumer.
2			Change meter No. to be 9 to 28 installed in the building inset.
3			Adding 200/250A meter box instead of 200A meter box
4			Update the drawing according to the changes

Table of Contents

List of Drawings:

1 Introduction

This construction standard specifies the installation method of KWH meter boxes on consumer front wall or building insets.

lt is intended to assist the field engineers and technicians to achieve uniform construction practices and ensure a satisfactory and economical level of service without operating restrictions so that the operational errors are minimized for safety and reliability of the system.

2 Revisions and additions

This standard is subject to revision as new materials and methods of construction are developed. The latest revision of this standard shall be applicable. Revised sheets shall be issued from time to time and should be inserted as soon as these are received. Superseded or obsolete sheets shall be removed immediately upon receipt of revised sheets. The date of the latest issue of each sheet is printed at the top corner under the standard number.

3 Service conditions and system parameters

For installation and operation of meter boxes, the service conditions and system requirements shall be as given in the latest revision of SEC General Requirements for all Equipment / Material Specification No.01-SDMS-01.

4 Method of Meter Boxes Installation

4.1 The meters shall be installed in the meter boxes as specified in specification number 42-SDMS-01 latest revision.

4.2 Mainly the quadruple meter box (four meter boxes) shall be used for any group installation. Other combinations can be used depending on number of meters.

4.3 Single, double, CT and remote meter boxes shall be used in conjunction with quadruple meter box (four meter boxes) to complete the installation as per plan.

4.4 Meter boxes location should be easily accessible without any obstruction with a suitable space to facilitate operation and maintenance.

4.5 Meter boxes shall not be located on the top of sewerage system or water tanks, however in case it is not possible to avoid such services, the standard height of the walls and buried cable trenches depth must be maintained.

4.6 A space of 10 mm shall be provided between two adjacent meter boxes installed side by side as shown in the attached figures (3 to 20).

4.7 Consumers Cable trenches shall be according to SDCS-02, Part 17 "Cable Trenches" latest revision.

4.8 A clearance of 200 mm from any adjacent obstruction in both sides and above the meter boxes shall be maintained in the assigned installation area.

4.9 All meter boxes shall be installed at a height of 800 mm from ground level to the bottom of the meter box.

4.10 Wall assigned for meter installation shall not be less than 2000 mm in height. Width shall be suitable for meters number as per plan.

4.11 The area assigned for installation of meter boxes shall be finished smooth, clean and painted as per SEC specification 01-SDMS-01 regardless of the finishing of the surrounding area.

4.12 All cables connected to the boxes shall be protected by using 1000 mm long PVC pipes of 3 inches (76.2 mm) inside diameter 3.6 mm minimum thickness in compliance with relevant ASTM D1785.

4.13 The PVC pipe shall be installed up to the bottom of the meter box and imbedded 200 mm below ground level.

4.14 All PVC pipes shall be clamped to the wall by at least one clamp in the middle as shown in the attached drawings.

4.15 As per Customer Services Standard Procedure part 4.2.1, up to 8 meters can be installed on the front wall of the consumer.

4.16 For installation of 9 to 28 meters, it shall be installed in the building inset.

4.17 For installation of more than 28 meters, SEC construction standard SDCS-02 Part 7 titled "Installation of KWH Meter Boxes inside Meter Rooms" latest revision shall be followed.

4.18 All meter boxes grounding shall be in accordance with SEC construction standard for grounding SDCS-03 Part 1 titled "Underground Network Grounding".

5 Installation of Meter Boxes on the Front Wall

5.1 Meters shall be installed in meter boxes as per prototype figures 1 to 5, depending on the number of meters in the plan.

6 Installation of Meter Boxes in the Insets

6.1 Meters in the inset shall be installed in meter boxes as per prototype figures 9 to 28, depending on the number of meters in the plan.

6.2 Number and size of incoming cables and/or Looping cables shall be determined and approved by SEC planning engineers.

6.3 Recommended lugs to be used with meter boxes as the table below:

NO.	SEC #	Description	Lugs SEC #	Lugs types	Usage
1	908421001	BOX, M, 1 CUST UP TO 150A, 380V, OTDR	908122010	70mm2	Incoming cable 4x70mm2 Al
2	908421002	BOX, M, 2 CUST UP TO 150A EACH, 380V, OTDR	908122009	185mm2	Incoming cable 4x185mm2 Al
			908122003	50mm2	Outgoing cable 4x50mm2 Cu
3	908421003	BOX, M, 4 CUST UP TO 150A EACH, 380V, OTDR	908122008	300mm2	Incoming cable 4x300mm2 Al
			908122003	50mm2	Outgoing cable 4x50mm2 Cu
4	908421005	BOX, M, 1 CUST, CT, 380V, 200/250A, OTDR	908122008	300mm2	Incoming cable 4x300mm2 Al
			908122009	185mm2	Incoming cable 4x185mm2 Al
			908122035	120mm2	Outgoing cable 4x120mm2 Cu
5	908421006	BOX, M, 1 CUST, CT, 380V, 300/400A, OTDR	908122008	300mm2	Incoming cable 4x300mm2 Al
			908122009	185mm2	Incoming cable 4x185mm2 Al
			908122039	185mm2	Outgoing cable 4x185mm2 Cu
6	908421007	BOX,M,1CUST,CT,380V,500/600 A,785X205X965MM	908122008	300mm2	Incoming cable 4x300mm2 Al
			908122037	240mm2	Outgoing cable 4x240mm2 Cu

Table 1. Lugs Used With Meter Boxes

7 Drawings

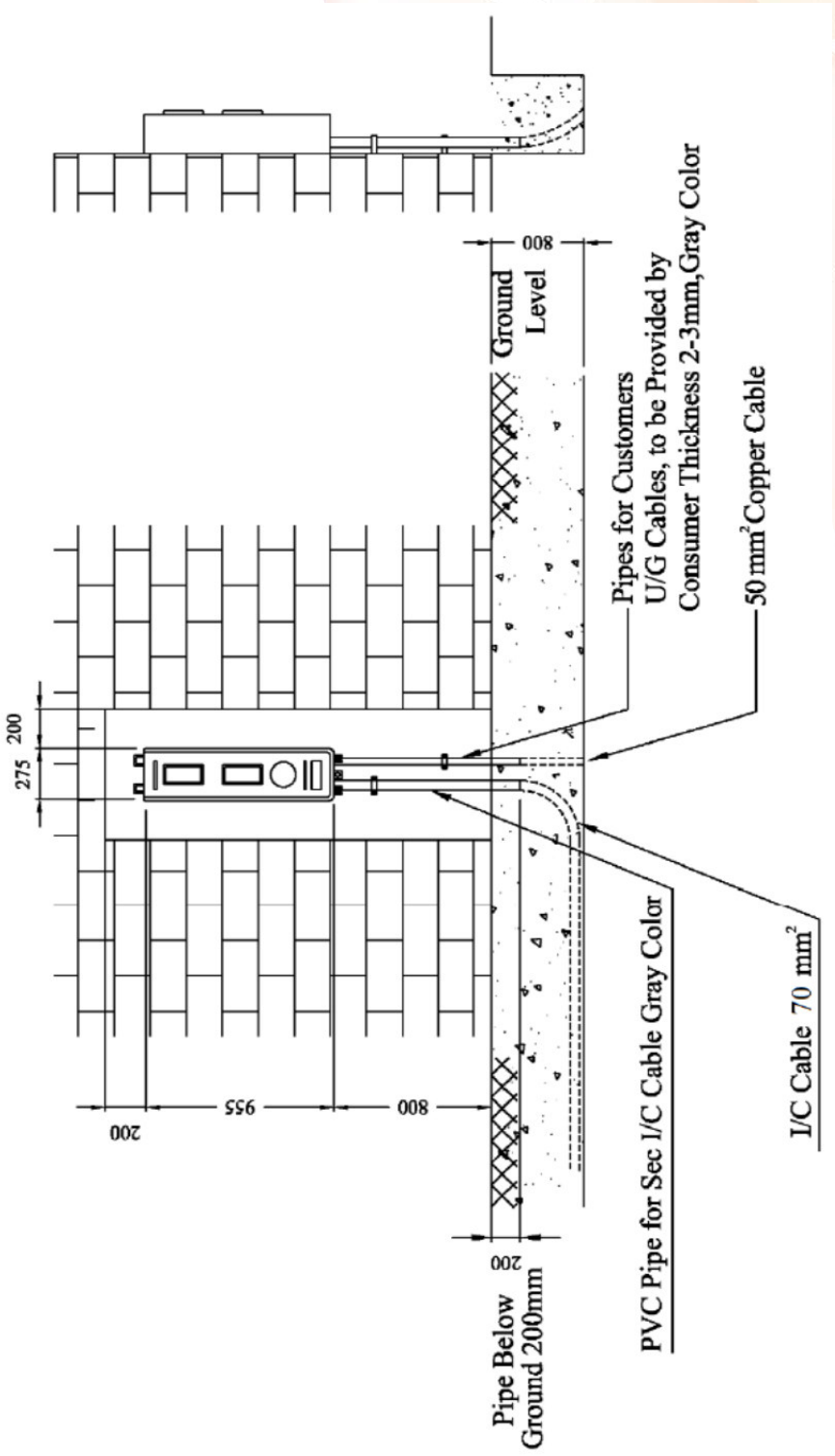

Figure 1: Installation of 1 Direct KWH Meter on the Front Wall

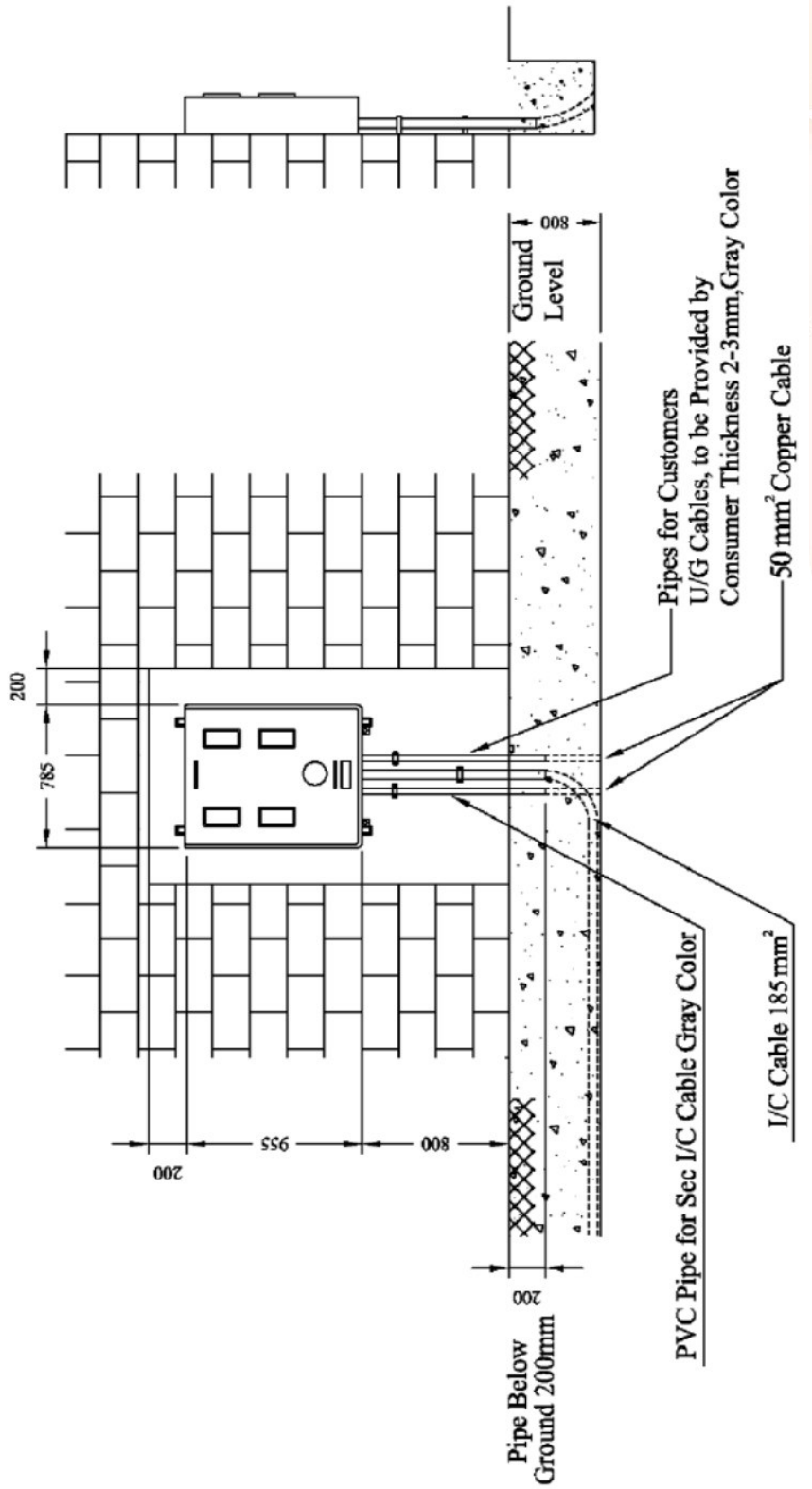

Figure 2: Installation of 2 Direct KWH Meters on the Front Wall

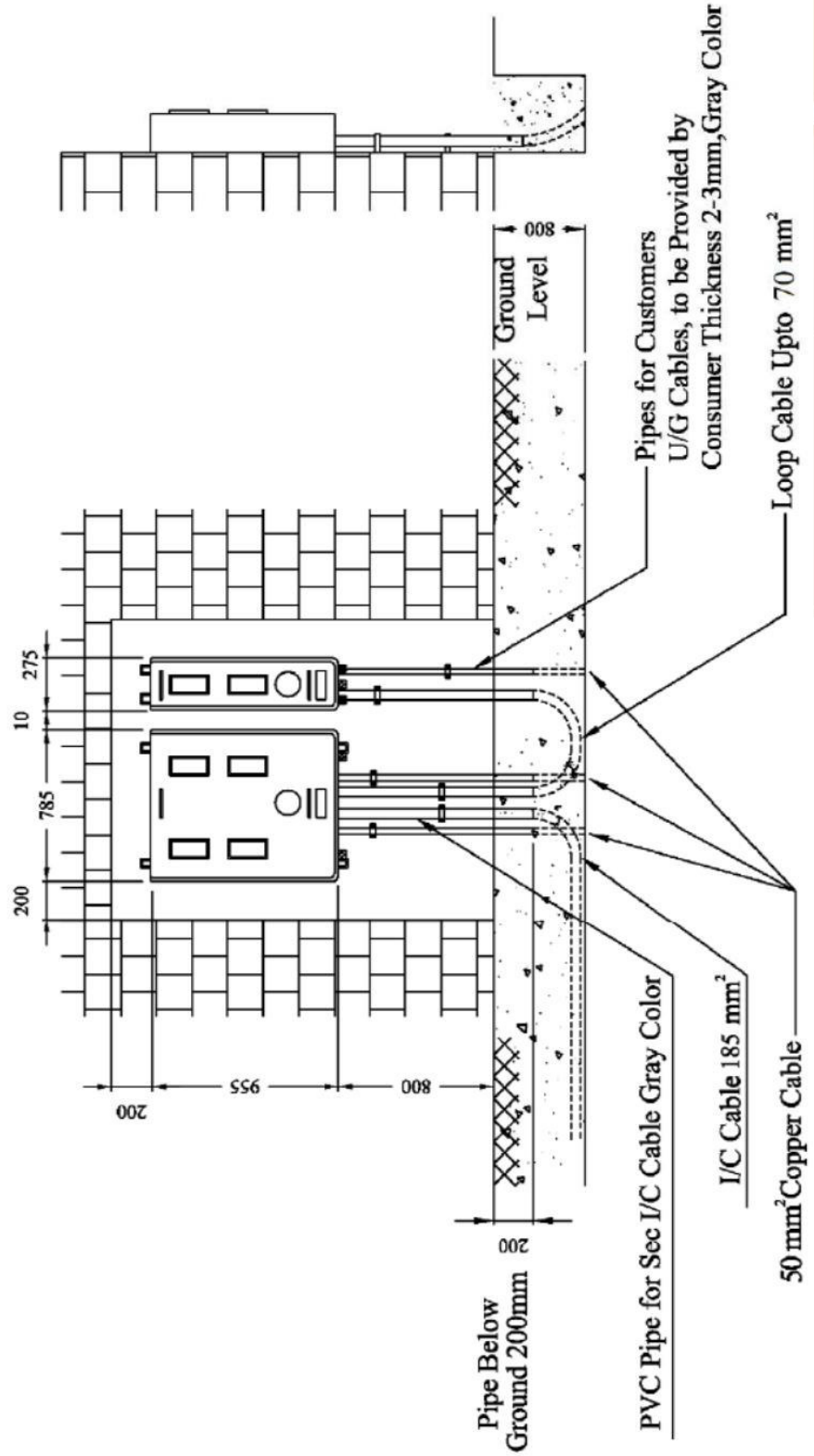

Figure 3: Installation of 3 Direct KWH Meters on the Front Wall

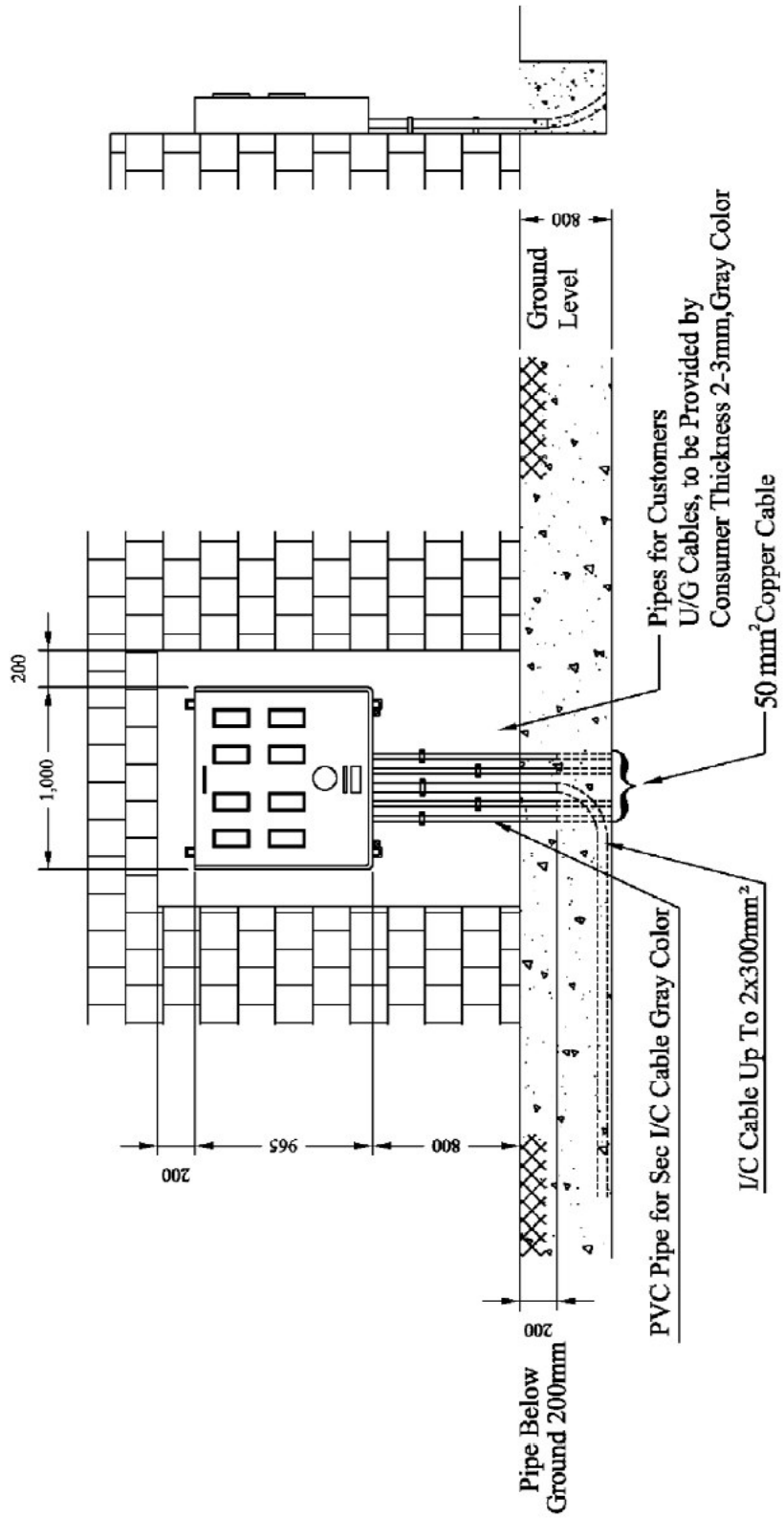

Figure 4: Installation of 4 Direct KWH Quadruple Meters on the Front Wall

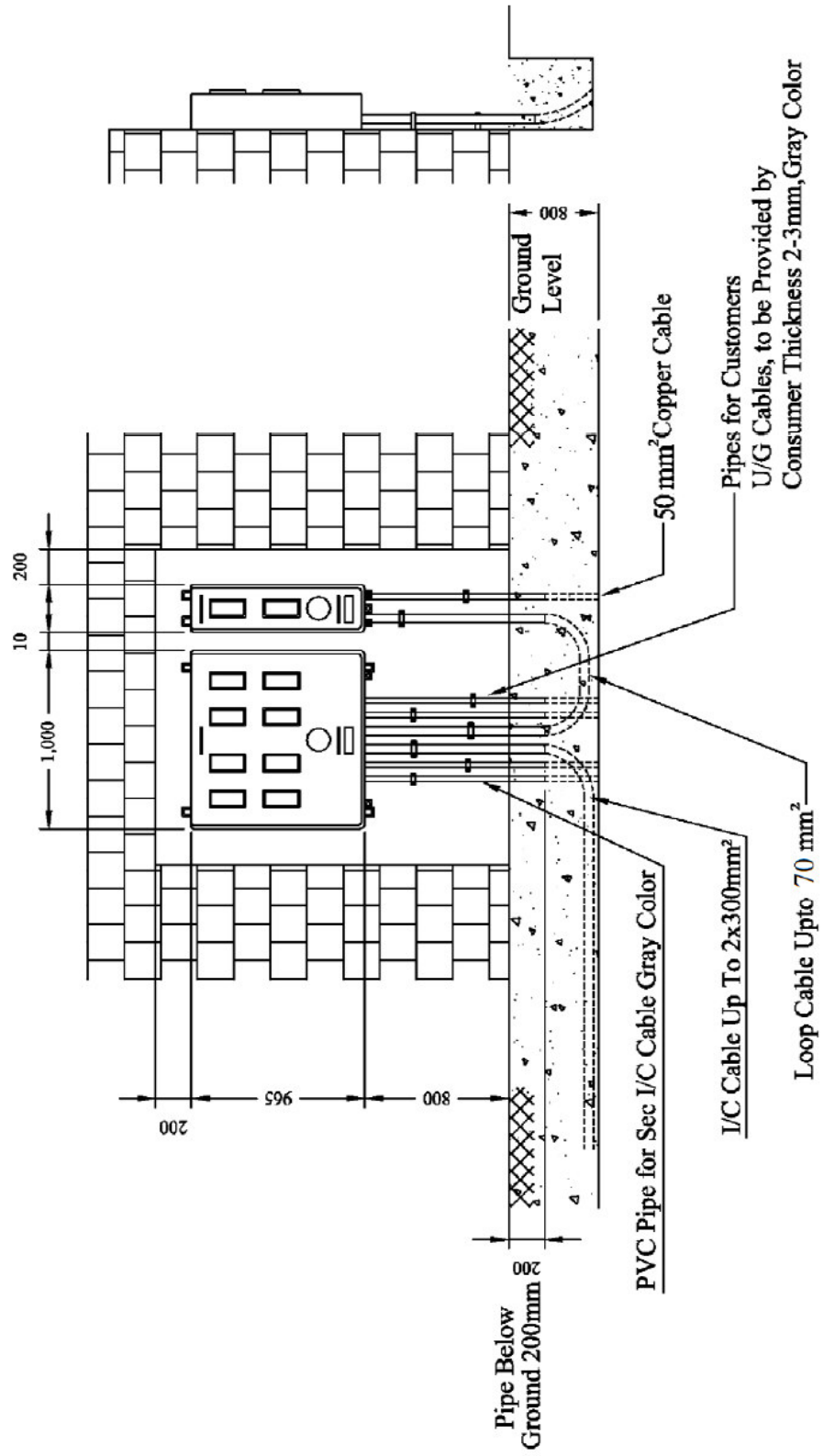

Figure 5: Installation of 5 Direct KWH Combined Meters on the Front Wall

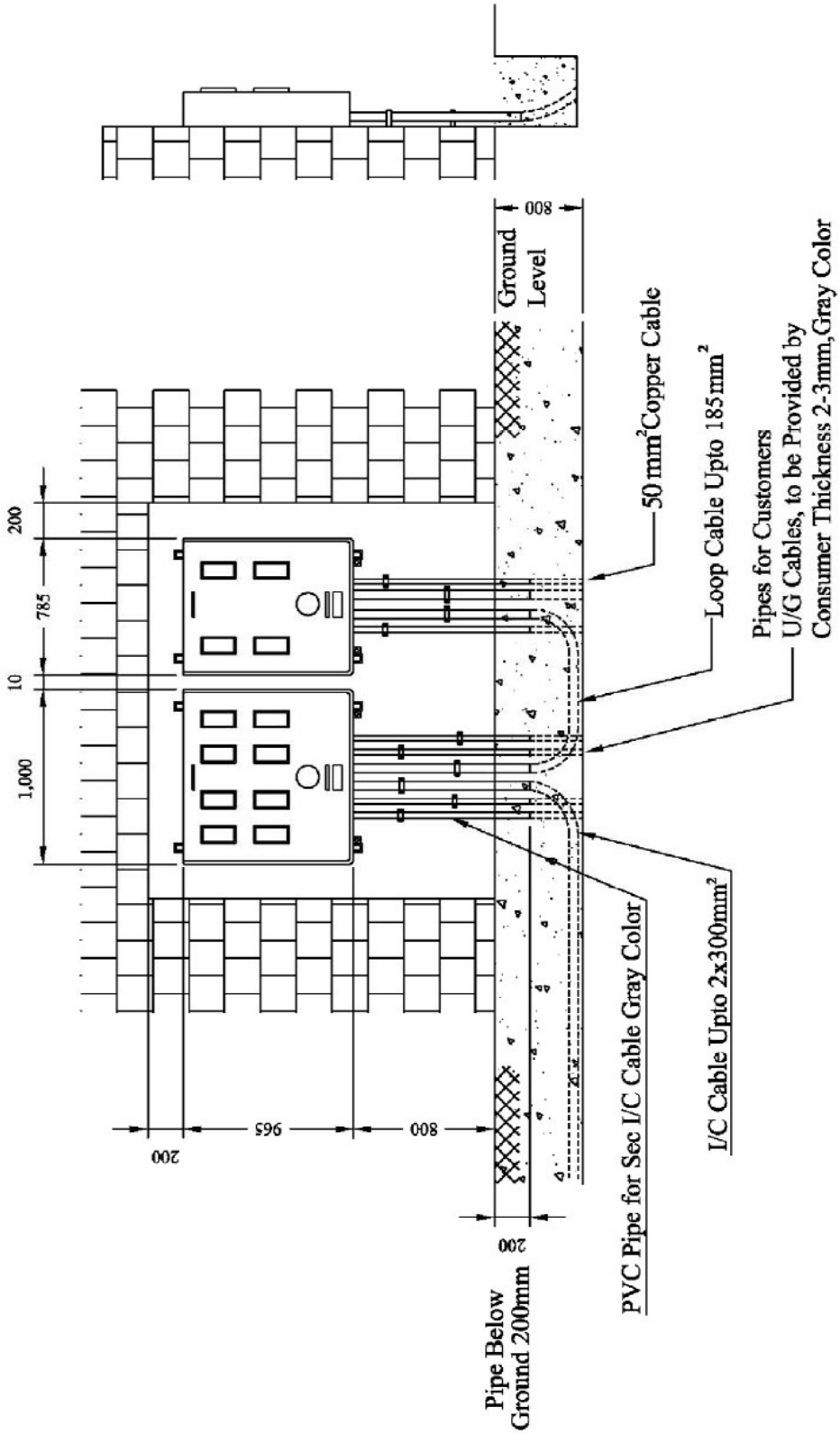

Figure 6: Installation of 6 Direct KWH Combined Meters in the Inset

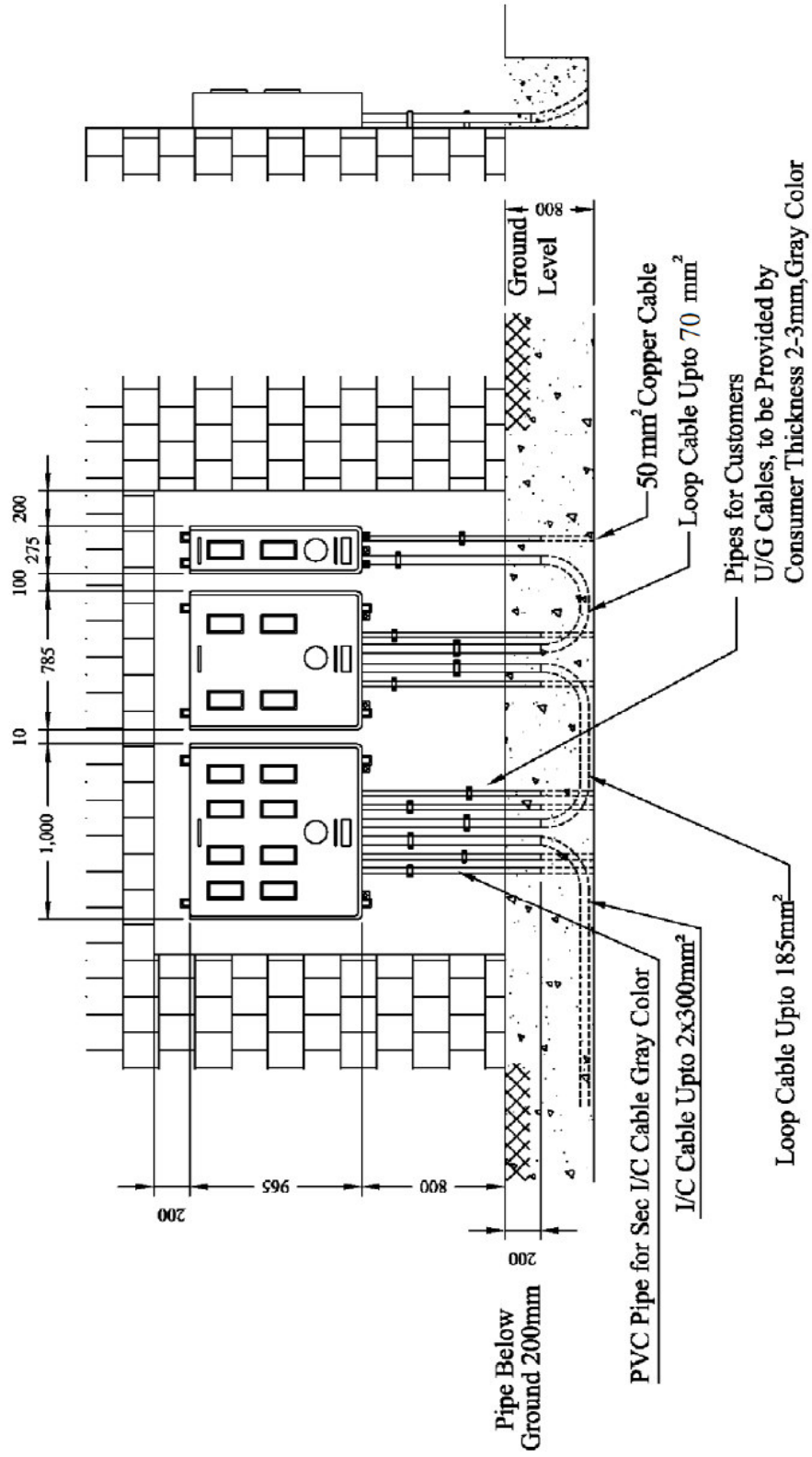

Figure 7: Installation of 7 Direct KWH Combined Meters in the Inset

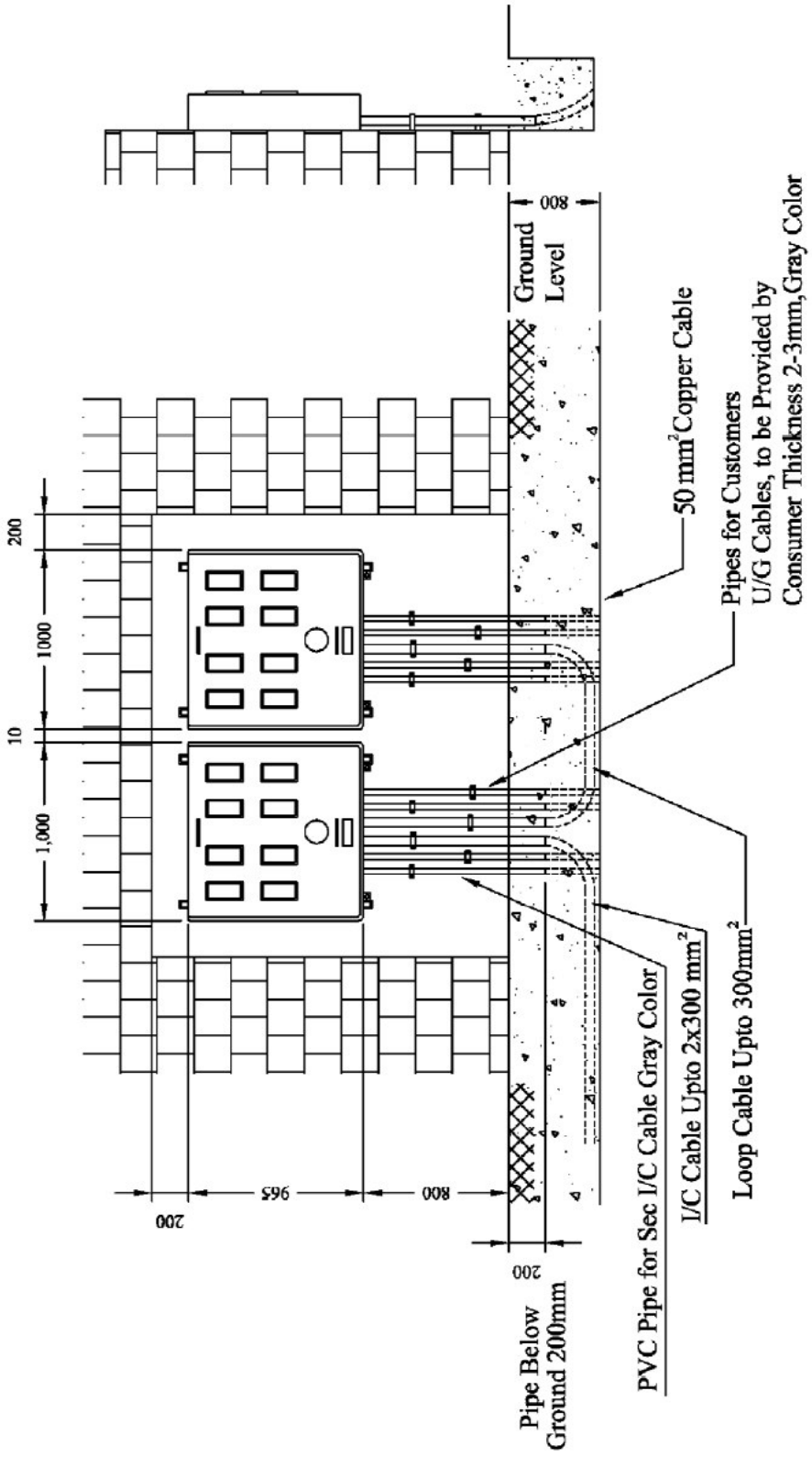

Figure 8: Installation of 8 Direct KWH Combined Meters in the Inset

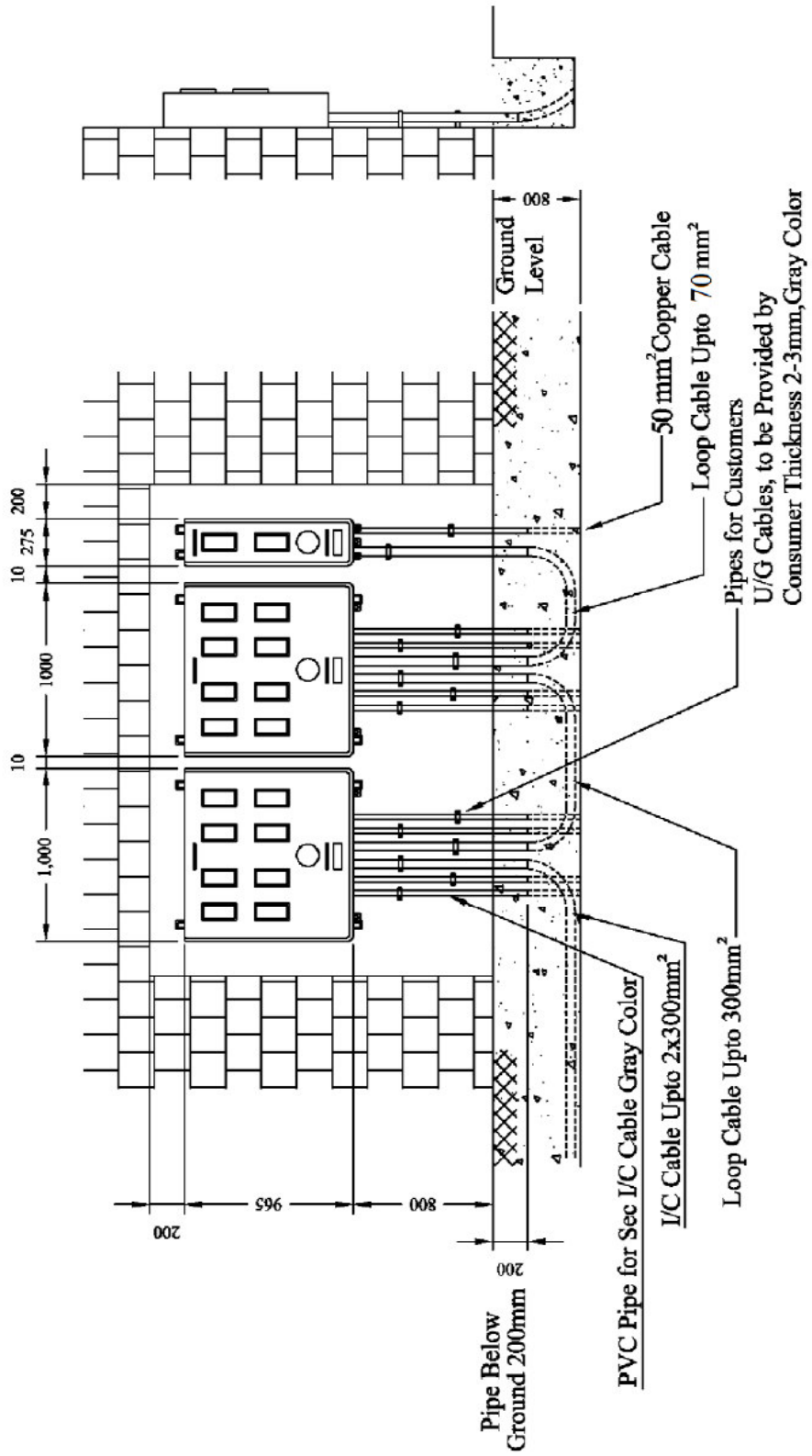

Figure 9: Installation of 9 Direct KWH Combined Meters in the Inset

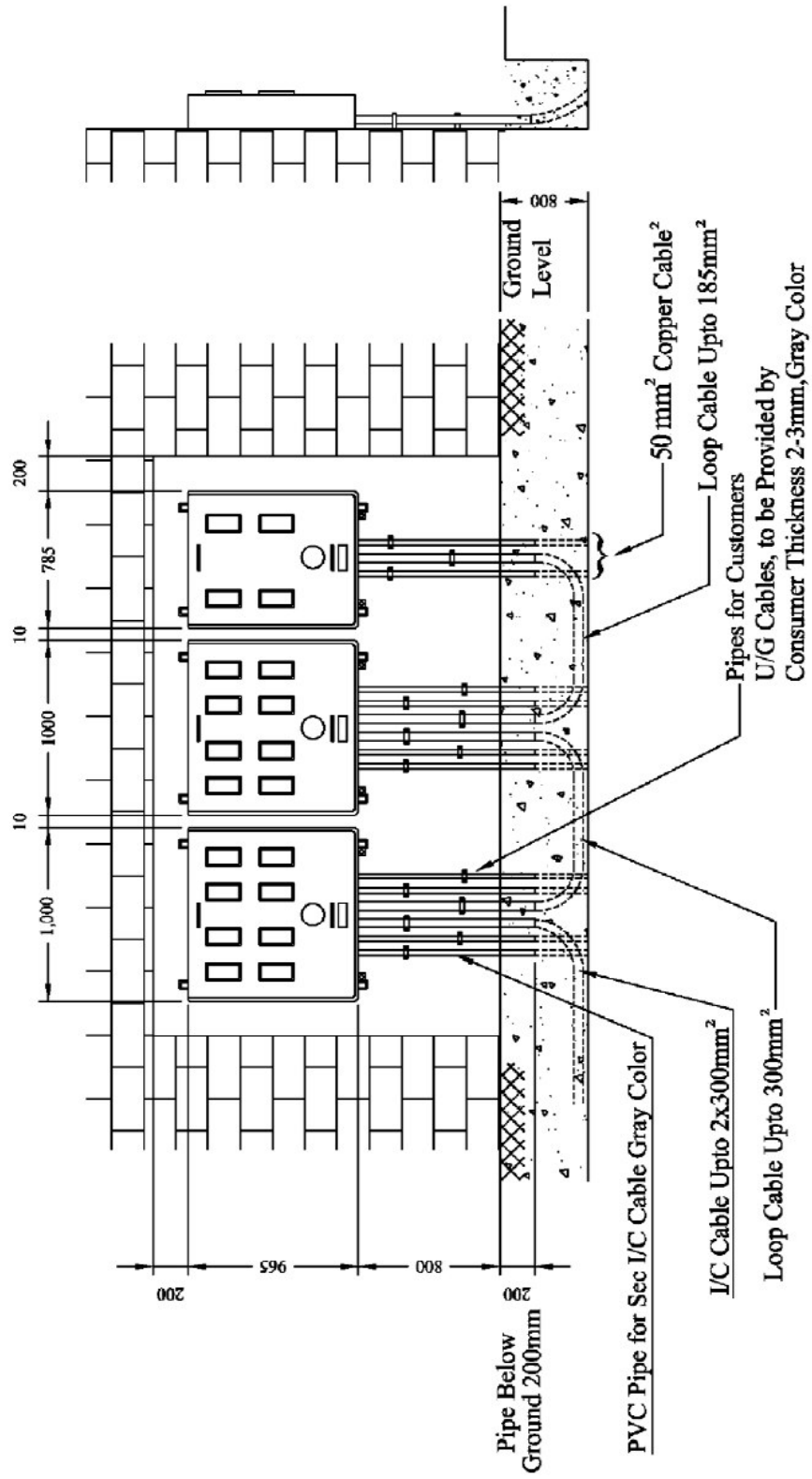

Figure 10: Installation of 10 Direct KWH Combined Meters in the Inset

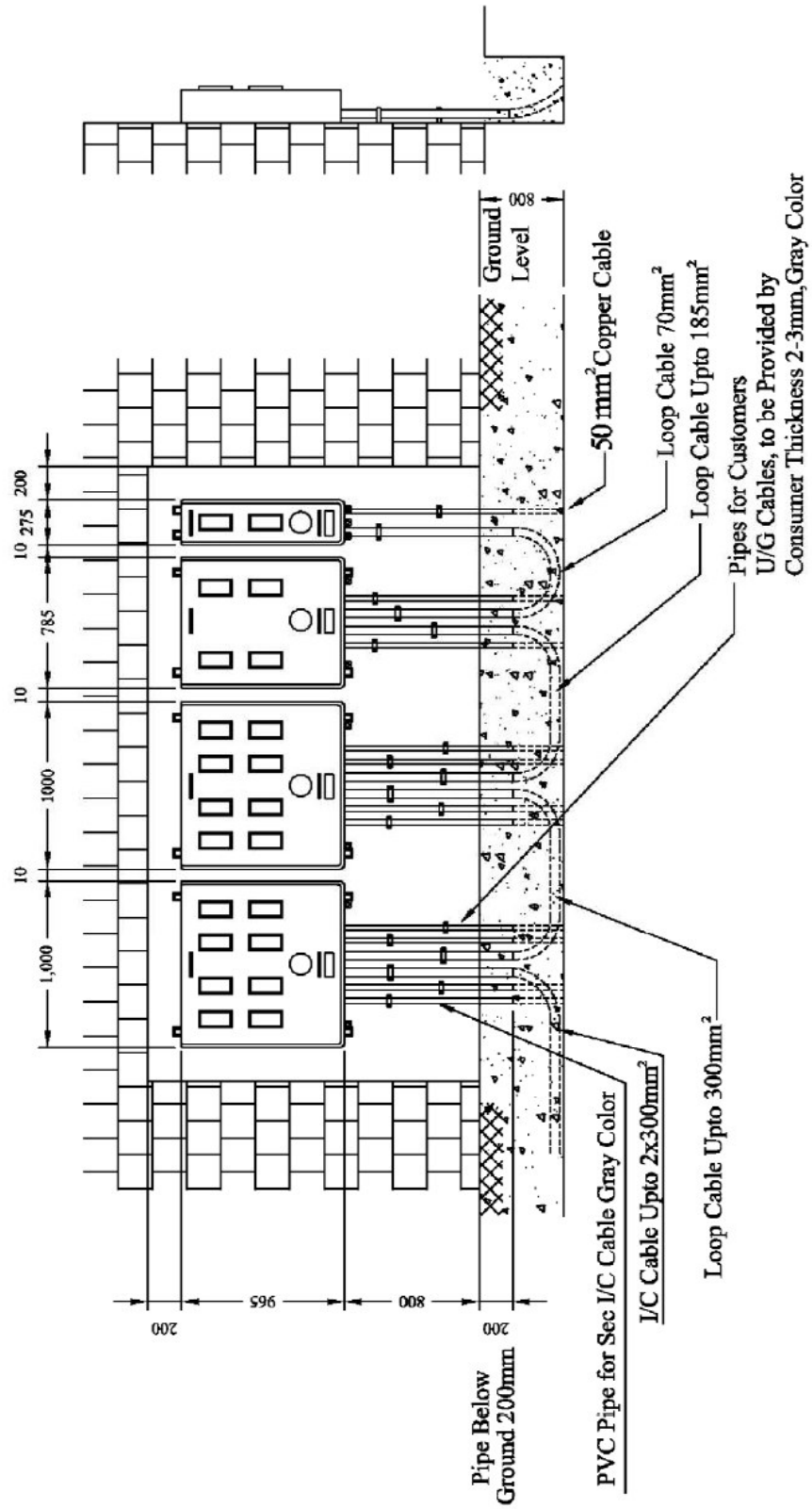

Figure 11: Installation of 11 Direct KWH Combined Meters in the Inset

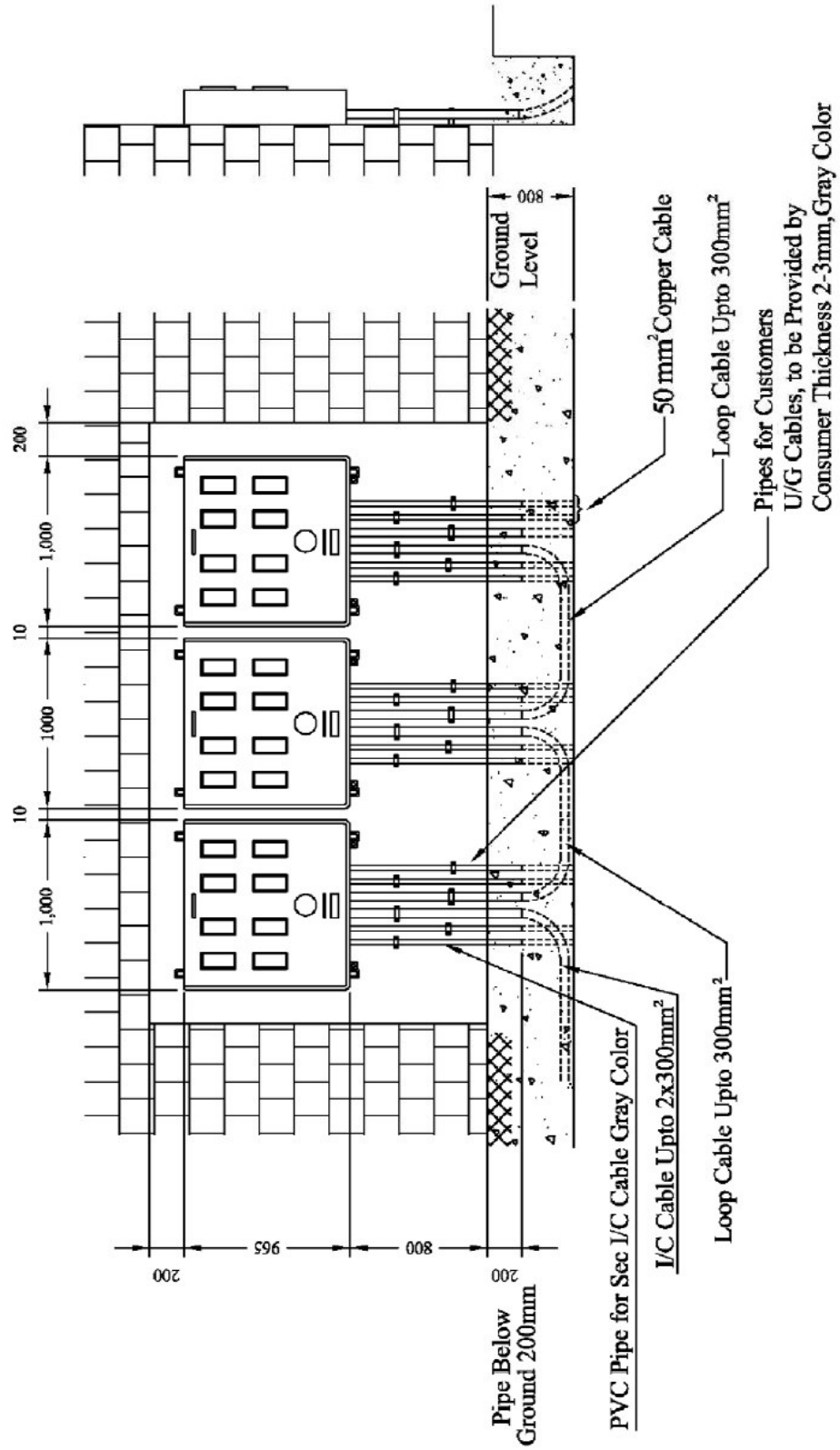

Figure 12: Installation of 12 Direct KWH Combined Meters in the Inset

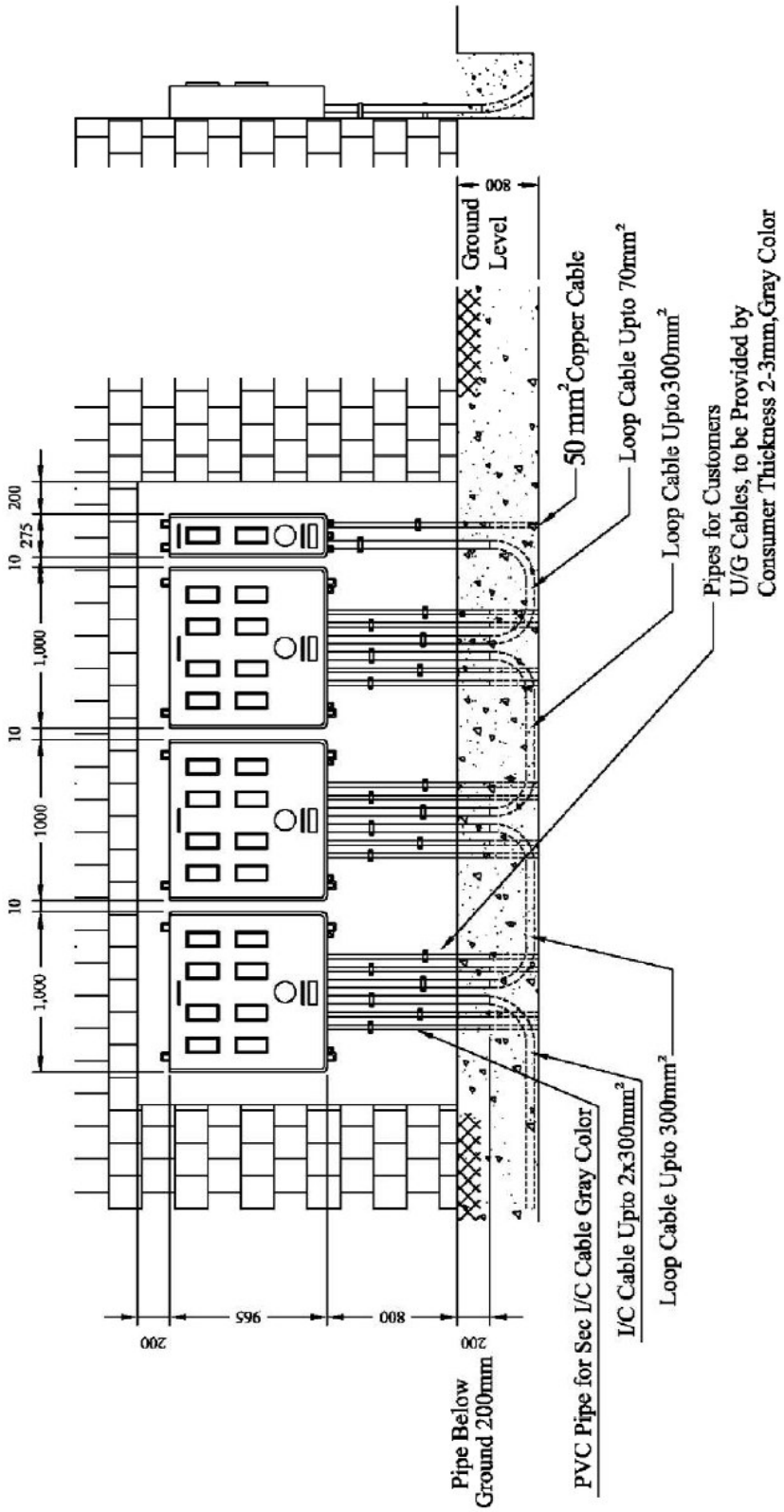

Figure 13: Installation of 13 Direct KWH Combined Meters in the Inset

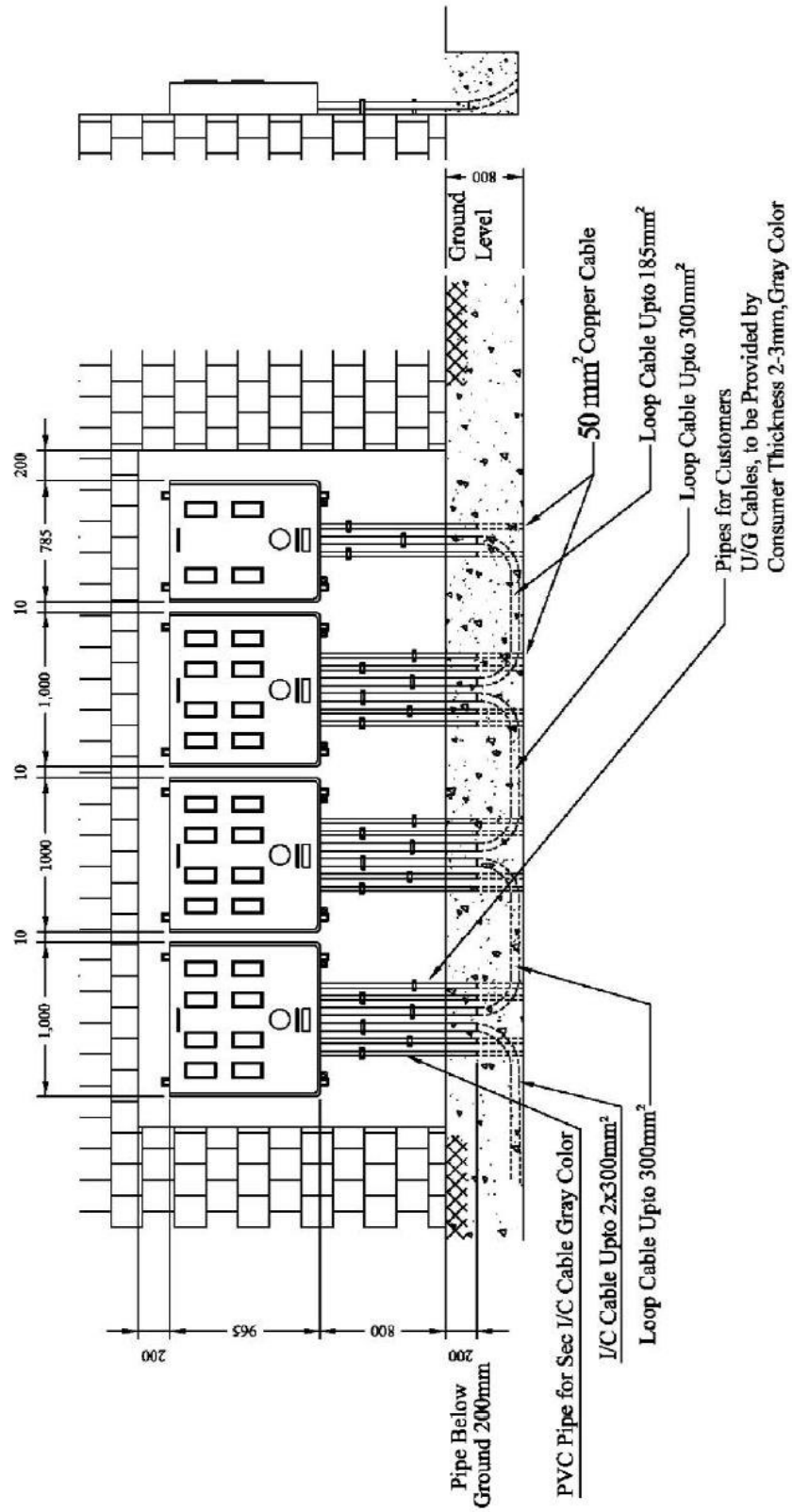

Figure 14: Installation of 14 Direct KWH Combined Meters in the Inset

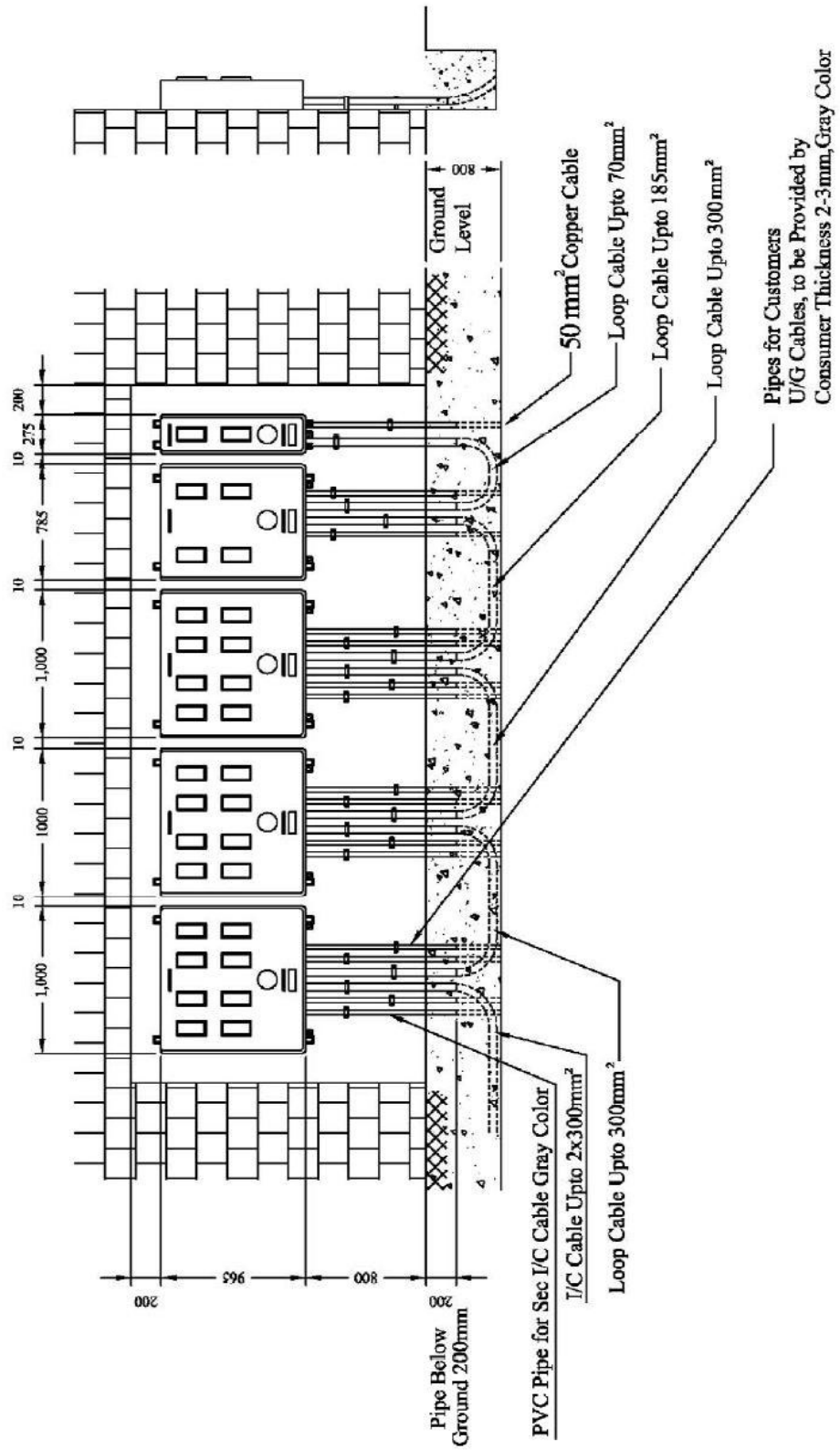

Figure 15: Installation of 15 Direct KWH Combined Meters in the Inset

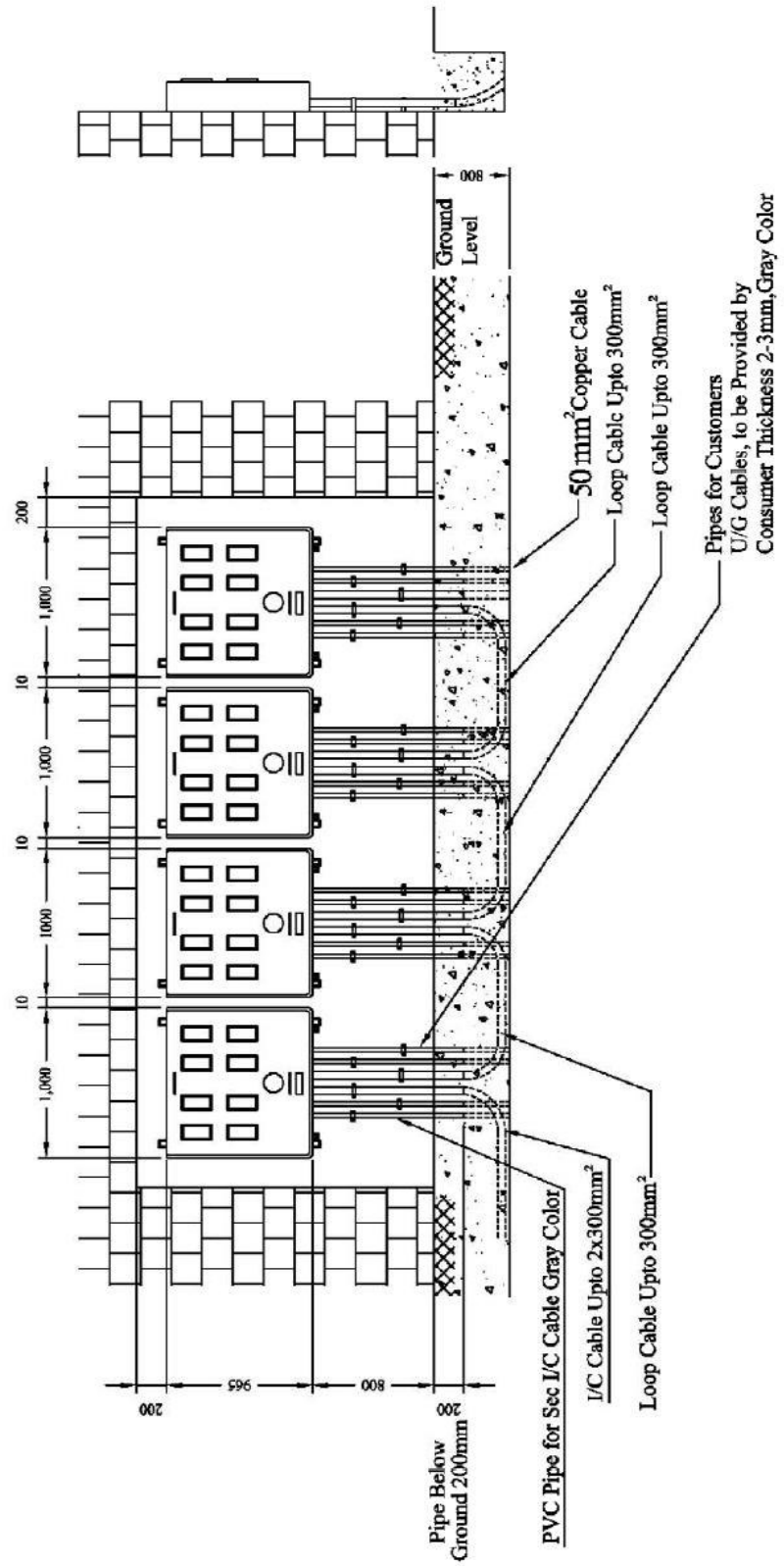

Figure 16: Installation of 16 Direct KWH Combined Meters in the Inset

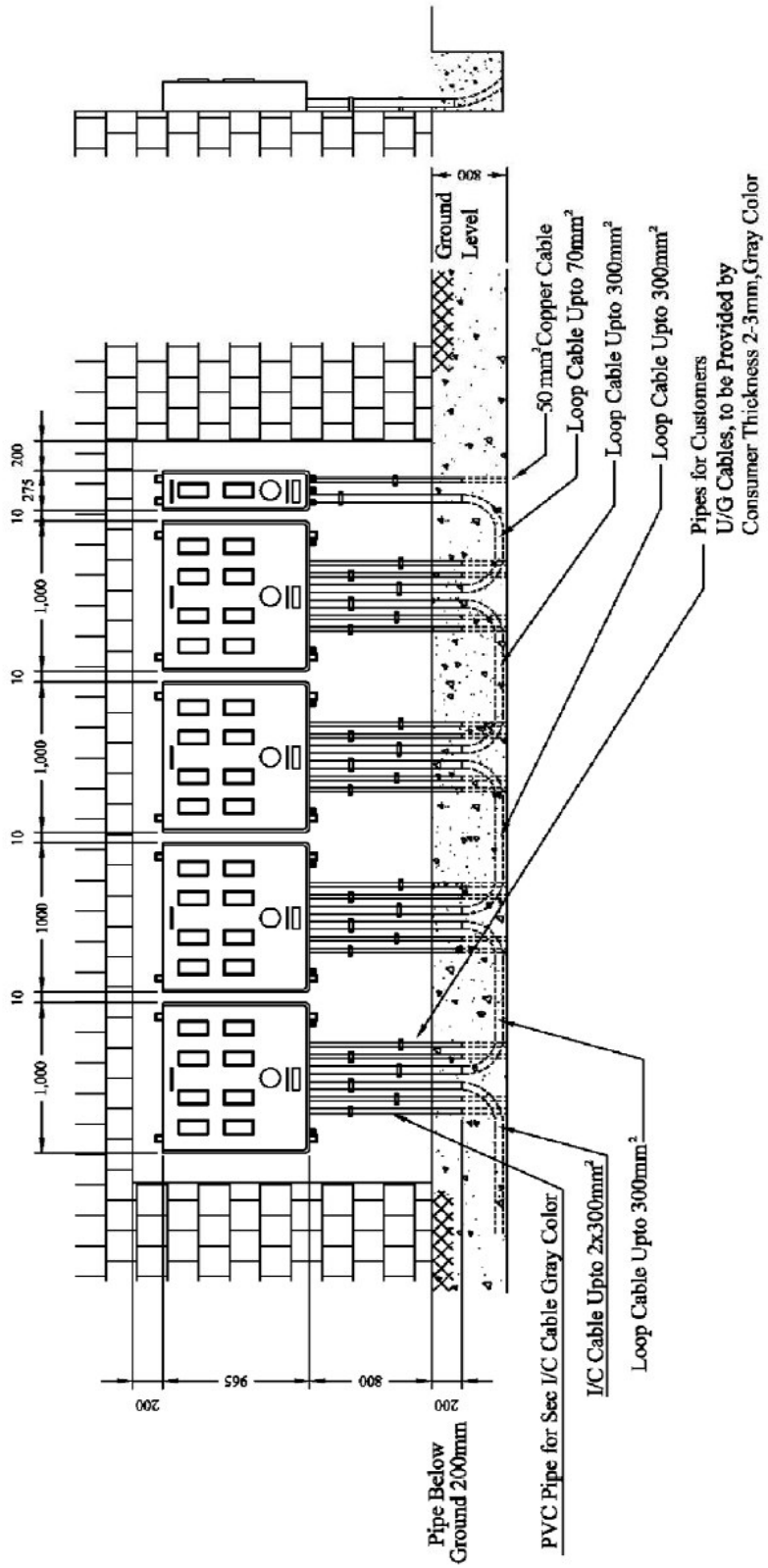

Figure 17: Installation of 17 Direct KWH Combined Meters in the Inset

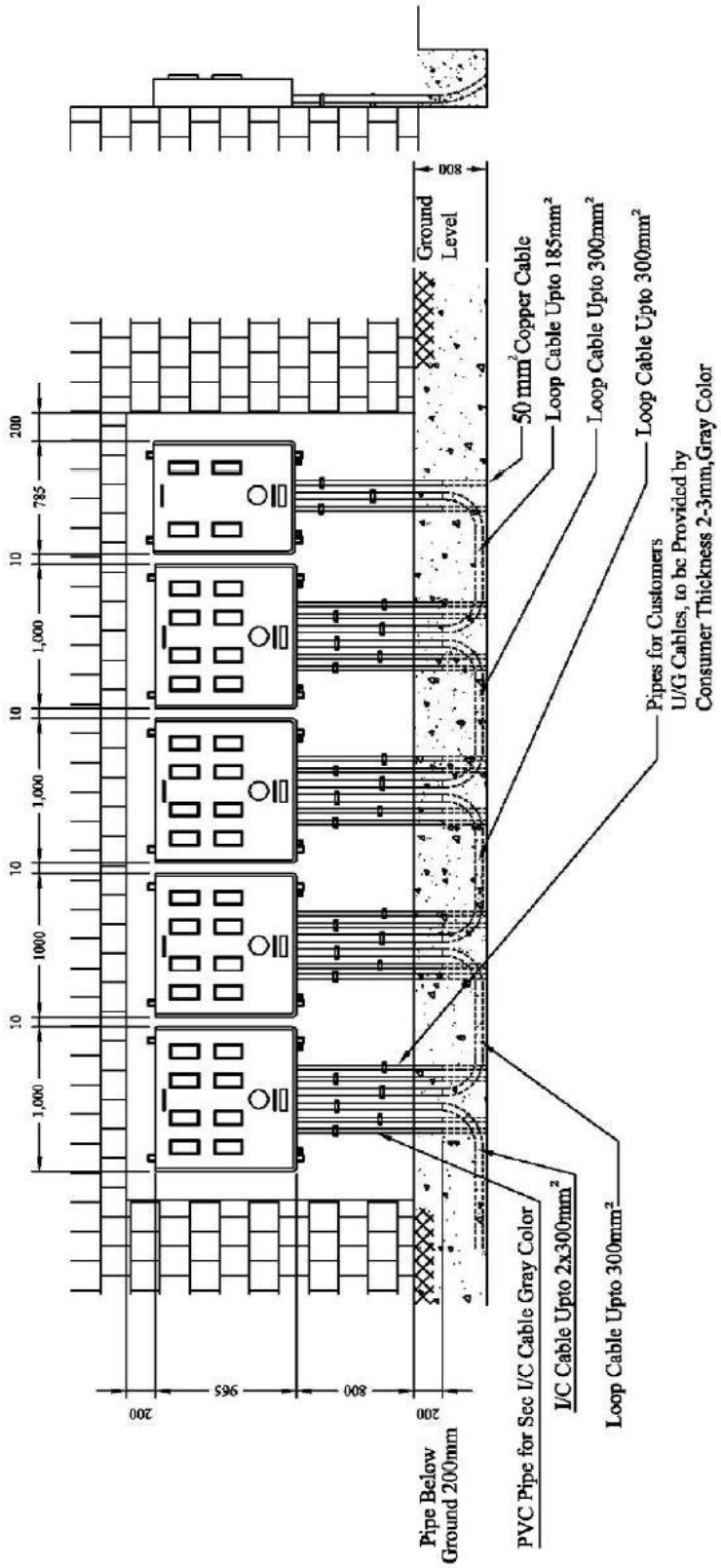

Figure 18: Installation of 18 Direct KWH Combined Meters in the Inset

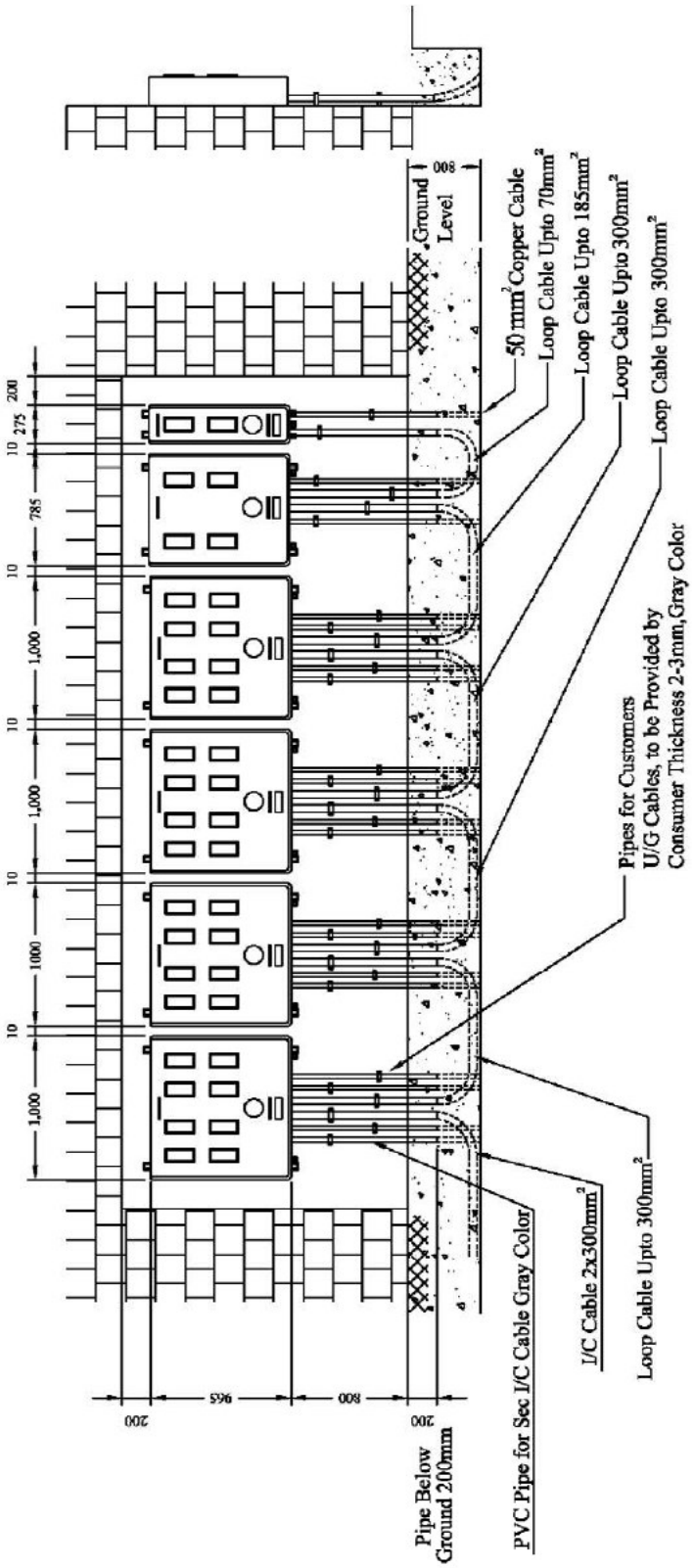

Figure 19: Installation of 19 Direct KWH Combined Meters in the Inset

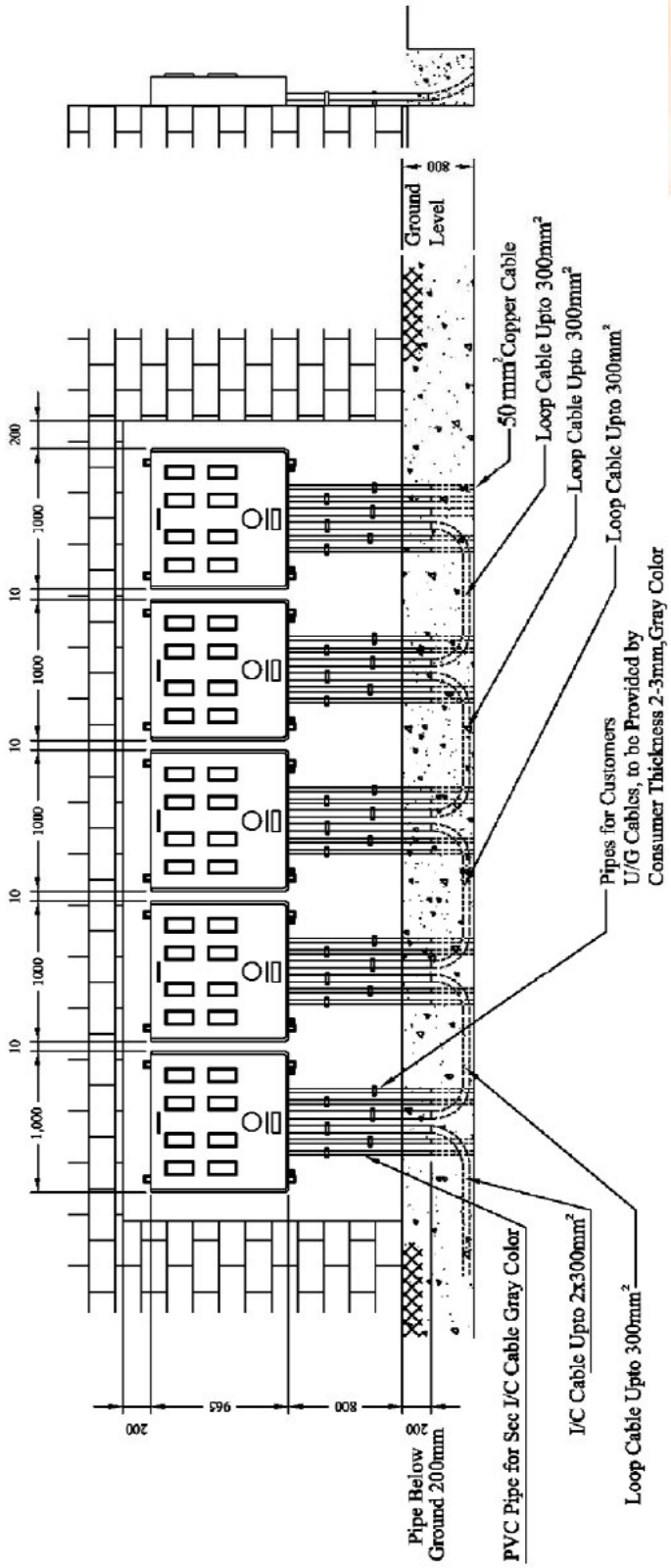

Figure 20: Installation of (UP TO 28) Direct KWH Combined Meters in the Inset

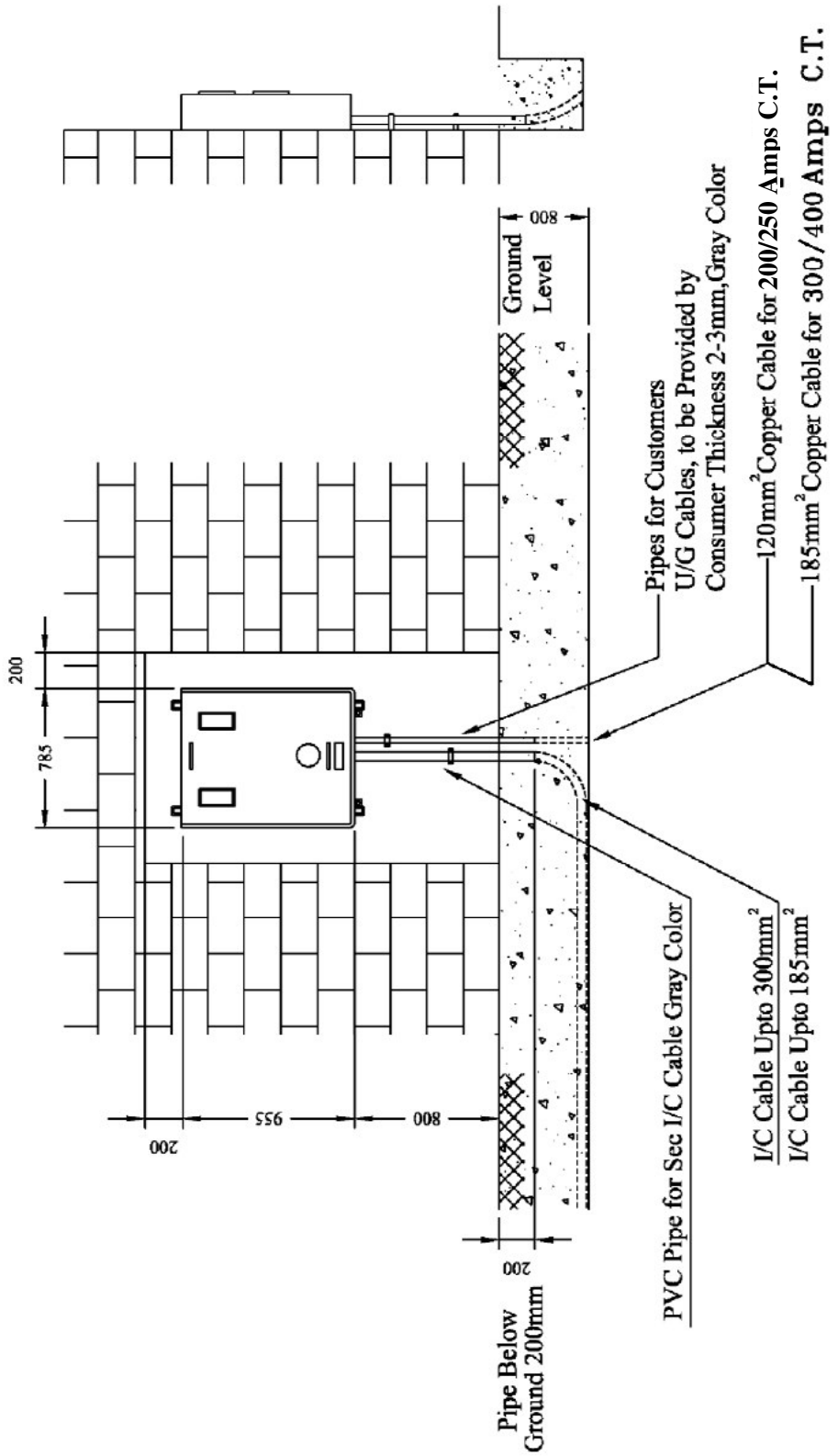

Figure 21: Installation of 200/250/300/400 Amps C.T. Meterbox on the Front Wall

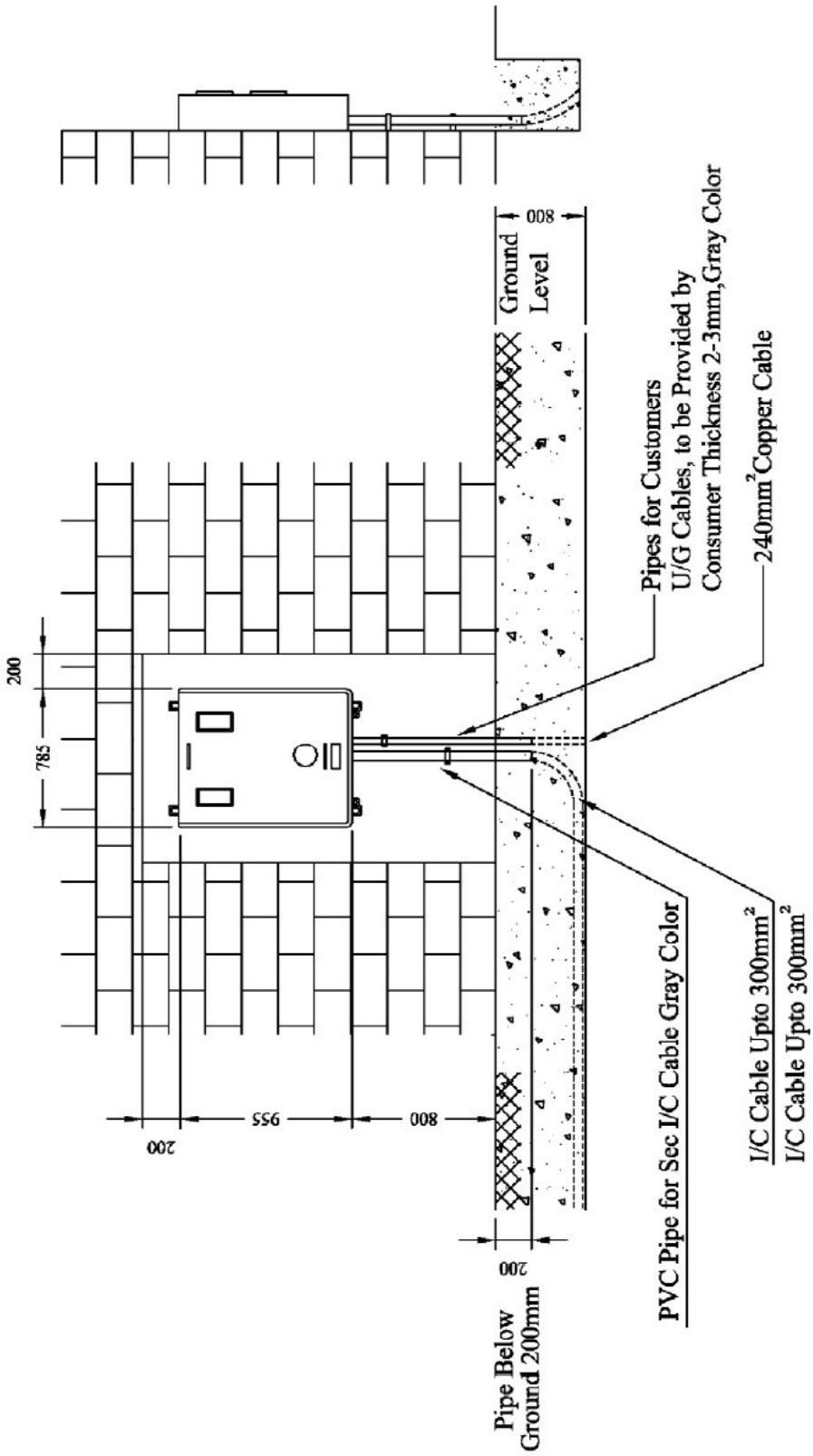

Figure 22: Installation of 500/600 Amps C.T. Meterbox on the Front Wall