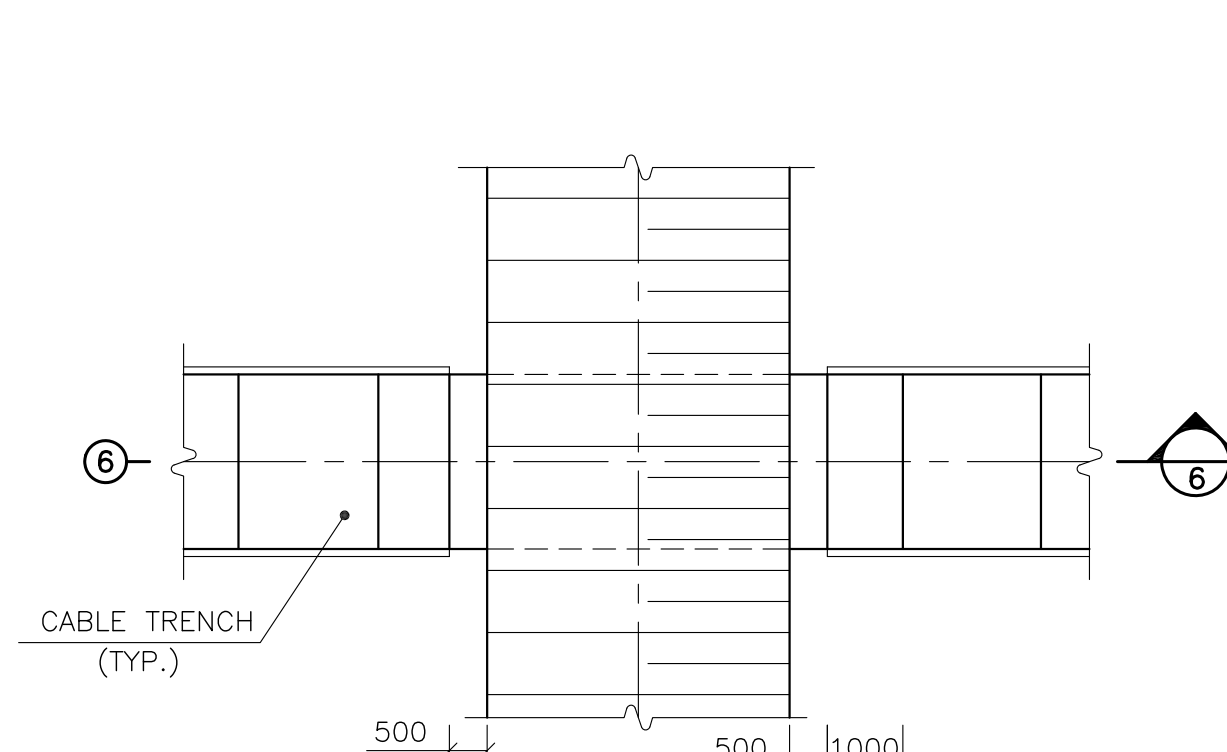
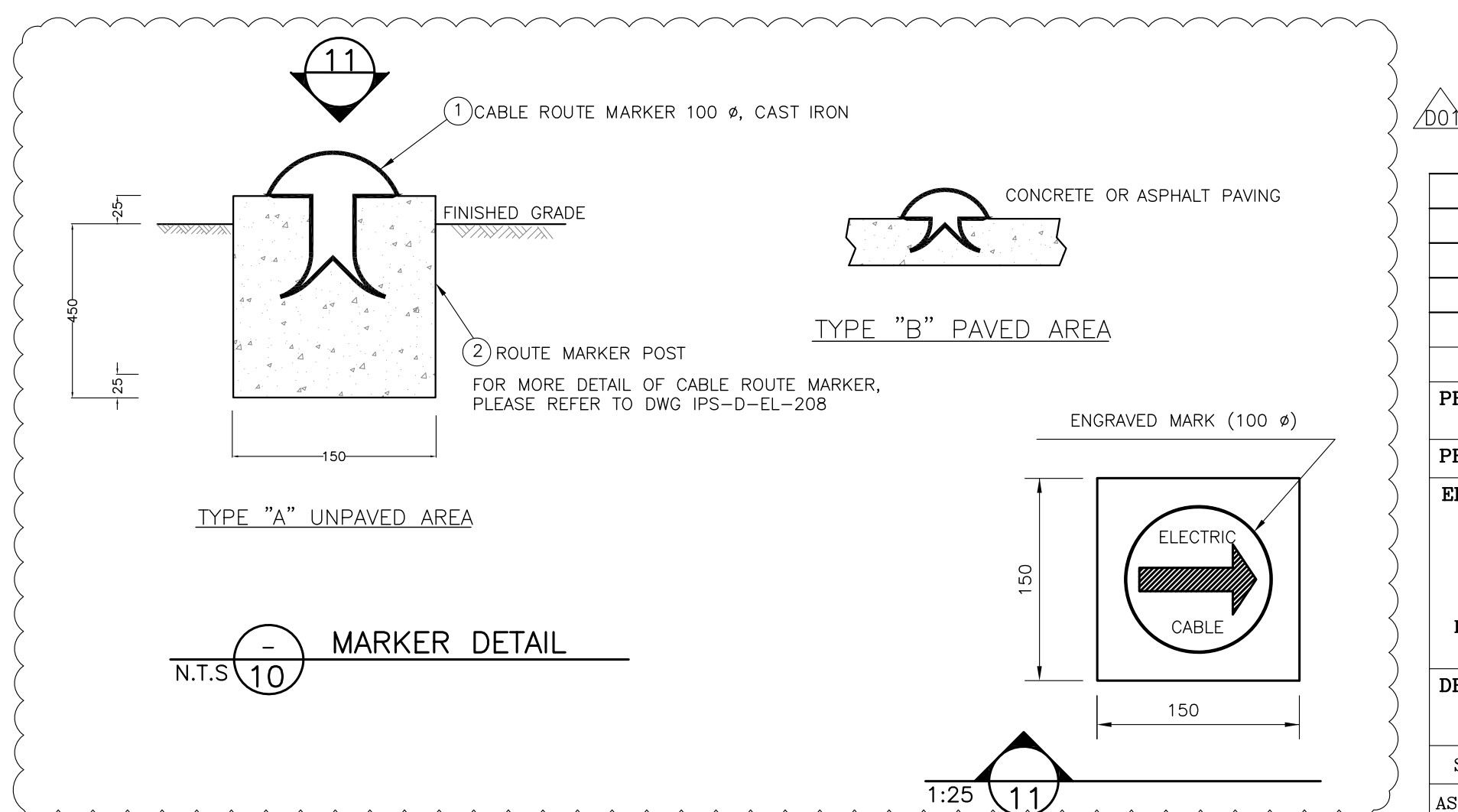
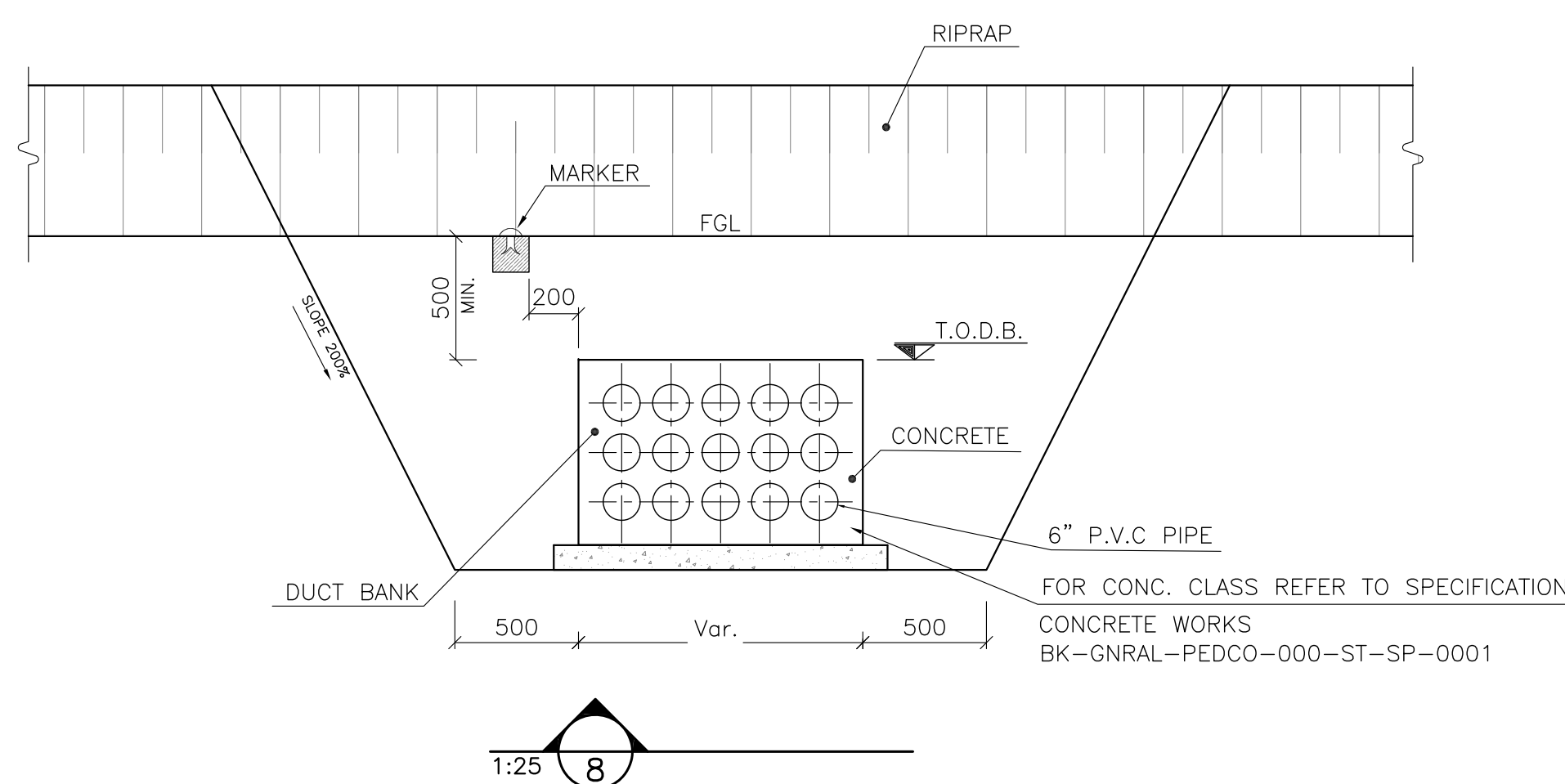
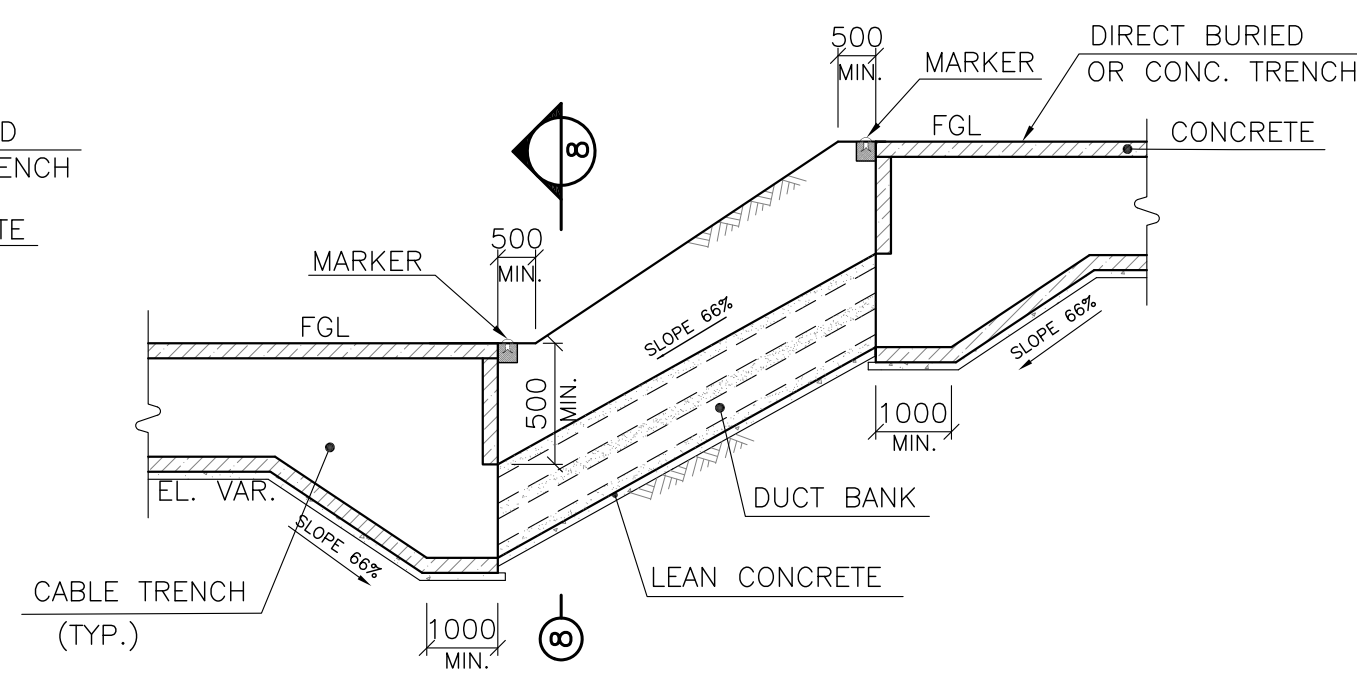




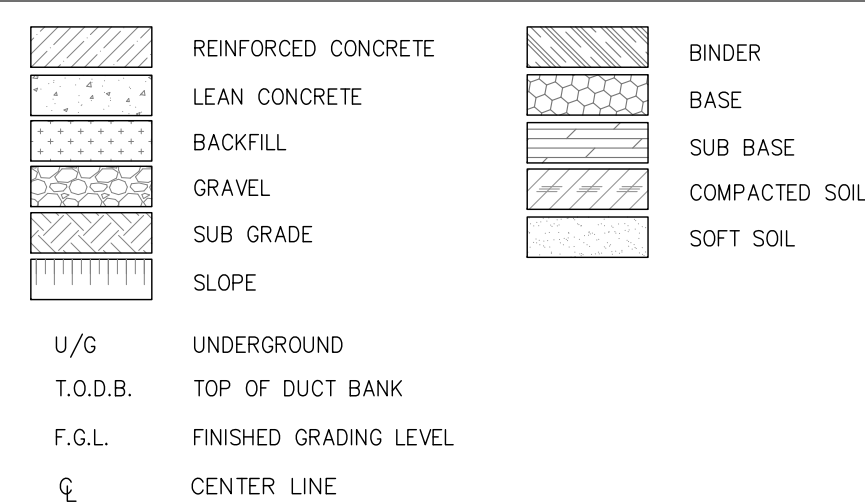
1:100  DUCT BANK TYPICAL PLAN 3  
FOR SLOPE CROSSING



1:25 11

- NOTES**
1. ALL DIMENSIONS ARE IN MILLIMETER UNLESS OTHERWISE STATED.
  2. "BK-GNRL-PEDCO-000-ST-SP-0001",28 DAYS CHARACTERISTIC COMPRESSIVE STRENGTH OF MAIN CONCRETE IS 25 MPa(ON CYLINDRICAL SPECIMEN).
  3. "BK-GNRL-PEDCO-000-ST-SP-0001",28 DAYS CHARACTERISTIC COMPRESSIVE STRENGTH OF LEAN CONCRETE IS 10 MPa(ON CYLINDRICAL SPECIMEN).
  4. REINFORCING BARS SHALL BE S400 ACCORDING TO: ISIRI3132 AND INC99 WITH MINIMUM TENSILE YIELD STRENGTH 400 N/mm<sup>2</sup>.
  5. ALL REINFORCEMENT TO HAVE MIN. 50 mm COVER.
  6. PORTLAND CEMENT TYPE II SHALL BE USED. THE TYPE OF CEMENT SHALL BE REFERRED TO GEOTECHNICAL INVESTIGATION REPORT.
  7. THE EDGES OF REINFORCED CONCRETE SLAB SHALL BE BEARED BY VIRGIN GROUND WHEREVER PRACTICALLY POSSIBLE.
  8. PIPE BURIED DEPTH "H" SHALL BE MIN. 1200 FOR ROAD CROSSING. FOR "H" GREATER THAN 1800, LOAD BEARING SLAB IS NOT REQUIRED AND WARNING SLAB SHALL BE LOCATED OVER CHANNEL.
  9. TOP OF SLAB SHALL BE MARKED AFTER CASTING & WHEN PLACED IN POSITION THE MARK SHALL FACE UPWARD.
  10. PIPE SLEEVES SHALL BE COATED & WRAPPED FROM OUTSIDE.
  11. SLEEVES SHALL BE FABRICATED FROM CARBON STEEL.
  12. CASING PIPE SHALL BE CARBON STEEL API 5LX-52.
  13. SEE FOLLOWING TABLE:
- | GROUND NATURE  | $T_g$ @ | $\theta$   |
|----------------|---------|------------|
| VERY SOFT SOIL | 2:3     | MAX. 33.7° |
| SOFT SOIL      | 1:1     | MAX. 45°   |
| SEMI HARD SOIL | 3:2     | MAX. 56.3° |
| HARD SOIL      | 3:1     | MAX. 71.6° |
| ROCKS          | 4:1     | MAX. 76°   |

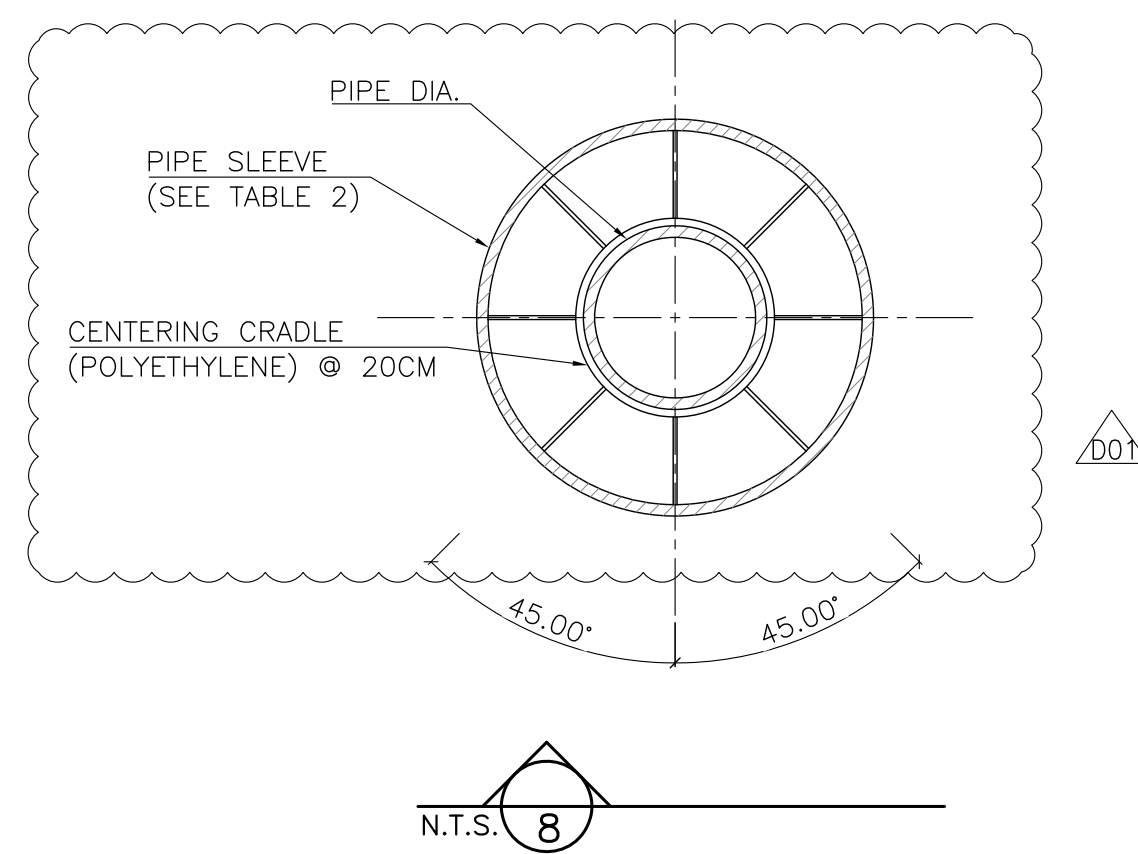
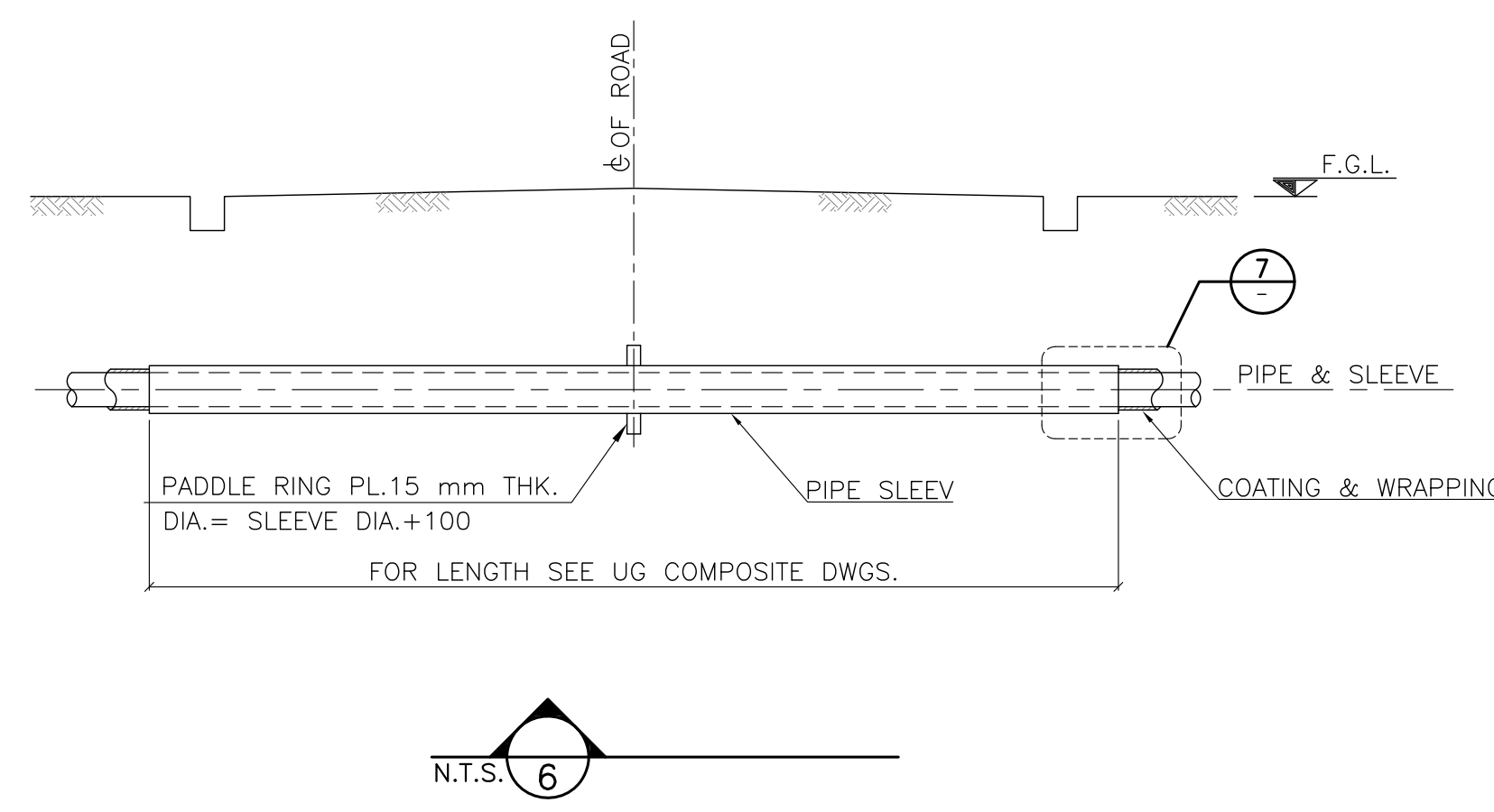
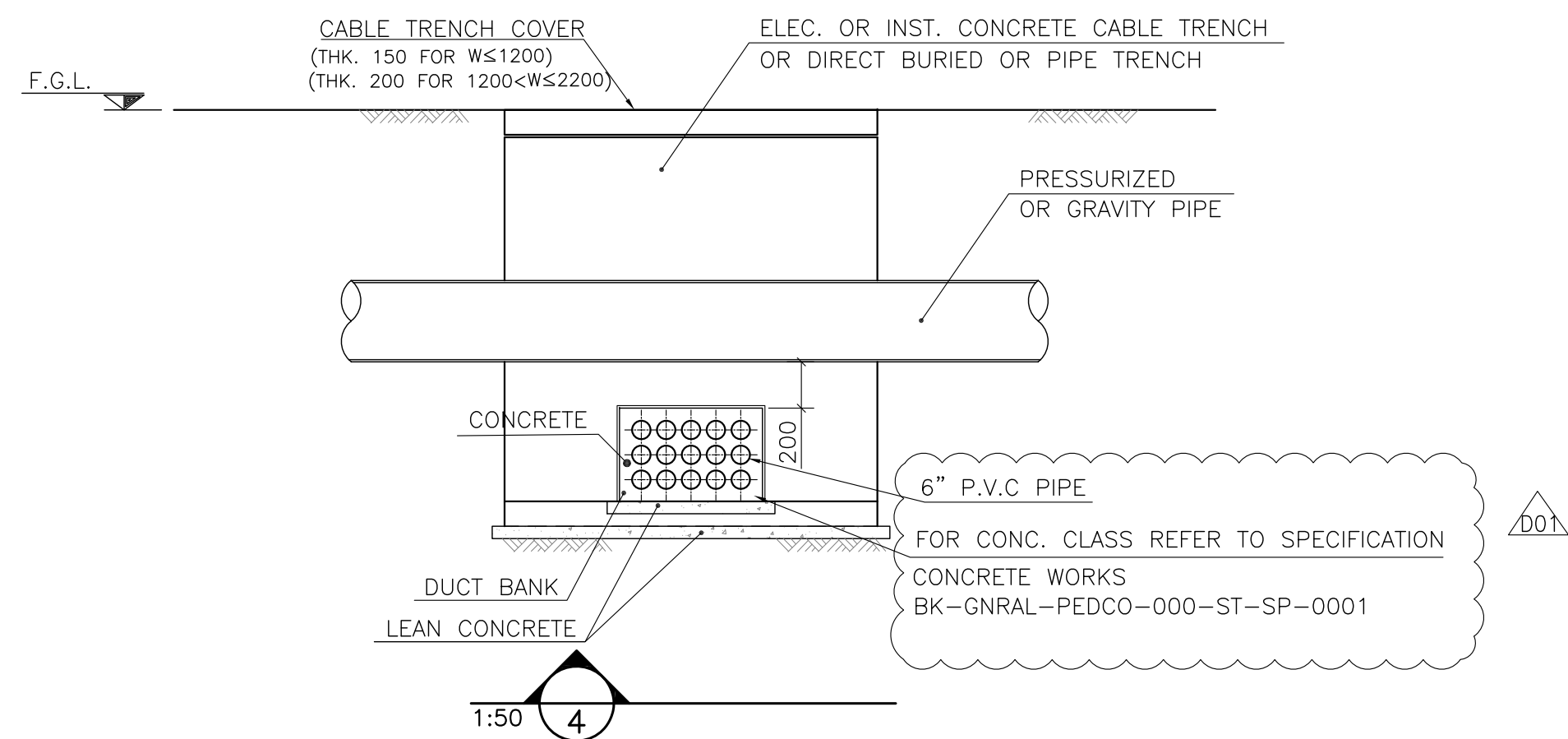
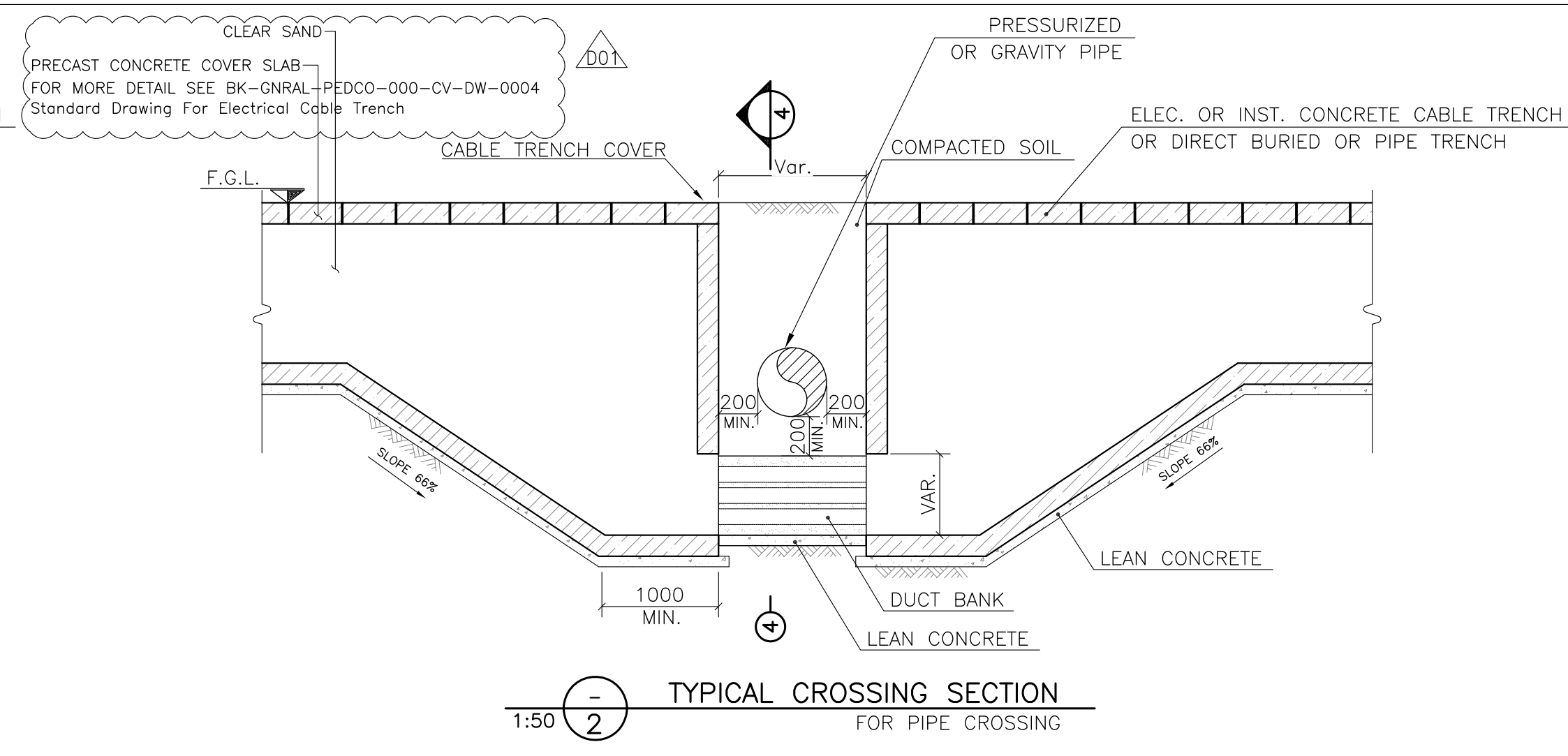
### LEGEND AND ABBREVIATION



| REFERENCE DRAWING                                           | DRG. No.                     |
|-------------------------------------------------------------|------------------------------|
| GENERAL NOTES – REINFORCED CONCRETE STRUCTURES              | BK-GNRL-PEDCO-000-ST-DW-0012 |
| Pipeline Standard Drawing for Cover Slabs And Set-On-Weight | BK-GNRL-PEDCO-000-PL-DW-0013 |
| Standard Drawing For Electrical Cable Trench                | BK-GNRL-PEDCO-000-CV-DW-0004 |
| Standard Details of Miscellaneous                           | BK-GNRL-PEDCO-000-CV-DW-0040 |

## KEY PLAN

[illegible]

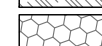
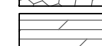
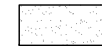


| CARRIER PIPE |      | CASING PIPE<br>(SEE NOTE 12) |      |      |
|--------------|------|------------------------------|------|------|
| NPS          | DN   | NPS                          | DN   | THK. |
| 4"           | 100  | 8"                           | 200  | 8.18 |
| 6"           | 150  | 10"                          | 250  | 9.27 |
| 8"           | 200  | 12"                          | 300  | 9.53 |
| 10"          | 250  | 14"                          | 350  | 9.53 |
| 12"          | 300  | 16"                          | 400  | 9.53 |
| 14"          | 350  | 18"                          | 450  | 9.53 |
| 16"          | 400  | 20"                          | 500  | 9.53 |
| 18"          | 450  | 24"                          | 600  | 9.53 |
| 20"          | 500  | 24"                          | 600  | 9.53 |
| 22"          | 550  | 26"                          | 650  | 9.53 |
| 24"          | 600  | 30"                          | 750  | 9.53 |
| 30"          | 750  | 36"                          | 900  | 9.53 |
| 36"          | 900  | 42"                          | 1050 | 9.53 |
| 40"          | 1000 | 48"                          | 1200 | 9.53 |
| 42"          | 1050 | 48"                          | 1200 | 9.53 |

**NOTES**

1. ALL DIMENSIONS ARE IN MILLIMETER UNLESS OTHERWISE STATED.
2. ACCORDING TO THE SPECIFICATION OF CONCRETE WORKS: "BK-GNRL-PEDCO-000-ST-SP-0001", 28 DAYS CHARACTERISTIC COMPRESSIVE STRENGTH OF MAIN CONCRETE IS 25 MPa(ON CYLINDRICAL SPECIMEN).
3. ACCORDING TO THE SPECIFICATION OF CONCRETE WORKS: "BK-GNRL-PEDCO-000-ST-SP-0001", 28 DAYS CHARACTERISTIC COMPRESSIVE STRENGTH OF LEAN CONCRETE IS 10 MPa(ON CYLINDRICAL SPECIMEN).
4. REINFORCING BARS SHALL BE S400 ACCORDING TO: ISIRI3132 AND INBC9 WITH MINIMUM TENSILE YIELD STRENGTH 400 N/mm<sup>2</sup>.
5. ALL REINFORCEMENT TO HAVE MIN. 50 mm COVER.
6. PORTLAND CEMENT TYPE II SHALL BE USED. THE TYPE OF CEMENT SHALL BE REFERRED TO GEOTECHNICAL INVESTIGATION REPORT.
7. THE EDGES OF REINFORCED CONCRETE SLAB SHALL BE BEARED BY VIRGIN GROUND WHEREVER PRACTICALLY POSSIBLE.
8. PIPE BURIED DEPTH "H" SHALL BE MIN. 1200 FOR ROAD CROSSING, FOR "H" GREATER THAN 1800, LOAD BEARING SLAB IS NOT REQUIRED AND WARNING SLAB SHALL BE LOCATED OVER CHANNEL.
9. TOP OF SLAB SHALL BE MARKED AFTER CASTING & WHEN PLACED IN POSITION THE MARK SHALL FACE UPWARD.
10. PIPE SLEEVES SHALL BE COATED & WRAPPED FROM OUTSIDE.
11. SLEEVES SHOULD BE FABRICATED FROM CARBON STEEL.
12. CASING PIPE SHALL BE CARBON STEEL API 5LX-52.
13. SEE FOLLOWING TABLE:

| GROUND NATURE  | Tg, Ø | Max. Ø, 7 |
|----------------|-------|-----------|
| VERY SOFT SOIL | 2:3   | MAX. 33.7 |
| SOFT SOIL      | 1:1   | MAX. 45   |
| SEMI HARD SOIL | 3:2   | MAX. 56.3 |
| HARD SOIL      | 3:1   | MAX. 71.6 |
| ROCKS          | 4:1   | MAX. 76   |

| LEGEND AND ABBREVIATION                                                             |                     |                                                                                     |                |
|-------------------------------------------------------------------------------------|---------------------|-------------------------------------------------------------------------------------|----------------|
|  | REINFORCED CONCRETE |  | BINDER         |
|  | LEAN CONCRETE       |  | BASE           |
|  | BACKFILL            |  | SUB BASE       |
|  | GRAVEL              |  | COMPACTED SOIL |
|  | SUB GRADE           |  | SOFT SOIL      |
|  | SLOPE               |                                                                                     |                |

|          |                        |
|----------|------------------------|
| U/G      | UNDERGROUND            |
| T.O.D.B. | TOP OF DUCT BANK       |
| F.G.L.   | FINISHED GRADING LEVEL |
| C.       | CENTER LINE            |

| REFERENCE DRAWING                                               | DRG. No.                     |
|-----------------------------------------------------------------|------------------------------|
| GENERAL NOTES - REINFORCED CONCRETE STRUCTURES                  | BK-GNRL-PEDCO-000-ST-DW-0012 |
| Pipeline Installation Drawing For Cover Slabs And Set-On-Weight | BK-GNRL-PEDCO-000-PL-DW-0013 |
| Standard Drawing For Electrical Cable Trench                    | BK-GNRL-PEDCO-000-CV-DW-0004 |
| Standard Details of Miscellaneous                               | BK-GNRL-PEDCO-000-CV-DW-0040 |

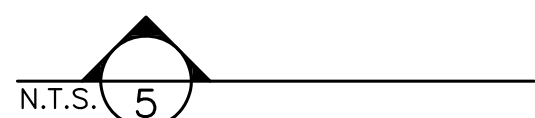
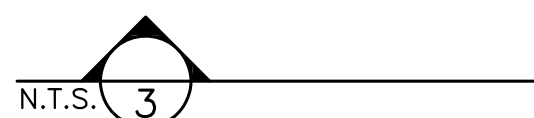
KEY PLAN[illegible]



N.T.S. 7 TYPICAL DETAIL OF WATER STOP



- | LEGEND AND ABBREVIATION                                                             |                       |                                                                                     |                |
|-------------------------------------------------------------------------------------|-----------------------|-------------------------------------------------------------------------------------|----------------|
|  | REINFORCED CONCRETE   |  | BINDER         |
|  | LEAN CONCRETE         |  | BASE           |
|  | BACKFILL              |  | SUB BASE       |
|  | GRAVEL                |  | COMPACTED SOIL |
|  | SUB GRADE             |  | SOFT SOIL      |
|  | SLOPE                 |                                                                                     |                |
| U/G                                                                                 | UNDERGROUND           |                                                                                     |                |
| T.O.D.B.                                                                            | TOP OF DUCT BANK      |                                                                                     |                |
| F.G.L.                                                                              | FINISHED GRAVEL LEVEL |                                                                                     |                |
| Q                                                                                   | CENTER LINE           |                                                                                     |                |

[illegible]