APPENDIX A : TYPICAL SHORING ARRANGEMENTS

Figure A1  Typical arrangement of half timber board shoring system  22
Figure A2  Typical arrangement of full timber board shoring system  23
Figure A3  Typical arrangement of sheet pile shoring system with timber struts and walings  24
Figure A4  Typical sheet pile shoring detail with steel struts and walings  25
Figure A5  Typical shoring detail for cable trench  26
Figure A6  Typical arrangement of timber support in areas surrounding existing crossing services  27
Figure A7  Typical arrangement of sheet pile shoring system with timber support in areas surrounding existing crossing services  28
Plate A1  Timber support with one layer of struts for shallow depth of excavation  29
Plate A2  Timber support with two layers of struts  29
Plate A3  Timber support for deeper excavation  30
Plate A4  Steel sheet pile support  30
Plate A5  Steel sheet pile support  31
Plate A6  Timber support provided in areas surrounding existing crossing services  31
Plate A7  Timber support provided in areas surrounding existing crossing services  32
Plate A8  Timber support provided in areas surrounding existing crossing services  32
Plate A9  Installation of support from outside the trench  33
Notes:  
1. The sizes of the structural members (eg. timber boards, struts and walings) and the spacings between struts depend on the actual excavation depth, ground conditions and other factors affecting the loading on the shoring system.

2. Half timber board shoring may be adequate for moderately firm to firm soil provided that the groundwater level is below the bottom of the trench.

Figure A1 - Typical arrangement of half timber board shoring system
Note: The sizes of the structural members (e.g., timber boards, struts and walings) and the spacings between struts depend on the actual excavation depth, ground conditions and other factors affecting the loading on the shoring system.

Figure A2 - Typical arrangement of full timber board shoring system
Note: The sizes of the structural members (e.g. sheet piles, struts and walings) and the spacings between struts depend on the actual excavation depth, ground conditions and other factors affecting the loading on the shoring system.

Figure A3 - Typical arrangement of sheet pile shoring system with timber struts and walings
Notes:  
1. All dimensions are in millimeters.  
2. The sizes of the structural members (e.g. sheet piles, strut and walings) and the spacings between struts depend on the actual excavation depth, ground conditions and other factors affecting the loading on the shoring system.

Figure A4 - Typical sheet pile shoring detail with steel struts and walings
Note: Typical excavation depths for cable trenches are between 1m and 2m.

Figure A5 - Typical shoring detail for cable trench
Note: The sizes of the structural members (e.g. timber boards, struts and walings) and the spacings between struts depend on the actual excavation depth, ground conditions and other factors affecting the loading on the shoring system.

Figure A6 - Typical arrangement of timber support in areas surrounding existing crossing services
Note: The sizes of the structural members (e.g. sheet piles, struts and walings) and the spacings between struts depend on the actual excavation depth, ground conditions and other factors affecting the loading on the shoring system.

Figure A7 - Typical arrangement of sheet pile shoring system with timber support in areas surrounding existing crossing services
Plate A1 – Timber support with one layer of struts for shallow depth of excavation

Plate A2 – Timber support with two layers of struts
Plate A3 – Timber support for deeper excavation

Plate A4 – Steel sheet pile support
Plate A5 – Steel sheet pile support

Plate A6 – Timber support provided in areas surrounding existing crossing services
Plate A7 – Timber support provided in areas surrounding existing crossing services

Plate A8 – Timber support provided in areas surrounding existing crossing services
Plate A9 – Installation of support from outside the trench