

APPENDIX 1

IMPORTANT NOTICE:

This document must be disseminated to ALL contractors and personnel who are in any way involved in the proposed earthworks. A copy of this document is also available at <http://www.earthworks.sg> ALL REQUIREMENTS IN THIS DOCUMENT MUST BE STRICTLY COMPLIED WITH. If a contractor encounters difficulty in complying with any requirement, it must consult servicedesk@earthworks.sg or Matrix Networks Pte Ltd (Matrix) on the appropriate action to be taken.

REQUIREMENTS TO BE COMPLIED WITH BY EARTHWORKS CONTRACTORS FOR THE PREVENTION OF DAMAGE TO TELECOMMUNICATION CABLES

INTRODUCTION

1. Section 33(3)(a) of the Telecommunications Act 1999¹ (“**Telecoms Act**”) requires contractors who carry out earthworks² (“**Earthworks Contractors**”) to comply with all reasonable requirements of telecommunication system licensees for the prevention of damage to telecommunication cables.

<https://www.imda.gov.sg/regulations-and-licensing-listing/Earthworks-Requirements>

2. This document sets out the requirements of Matrix Networks Pte Ltd (Matrix) (the “**Licensee**”) that must be complied with by Earthworks Contractors for the purposes of Section 33(3)(a) of the Telecoms Act (“**Licensee’s Earthworks Requirements**”).
3. This document comprises three sections –
 - **Section A** sets out the step-by-step procedures that must be followed by Earthworks Contractors before they can commence earthworks.

¹ Formerly Section 29(3)(a) of the Telecommunications Act (Cap.323), which has been renumbered at section level pursuant to the 2020 Revised Edition of Acts which came into force on 31 December 2021.

² Under the Telecoms Act, “earthworks” is defined as including —

- (a) any act of excavating earth, rock or other material (by whatever means) in connection with —
 - (i) any works for or relating to the construction, reconstruction, extension, renovation, alteration, demolition or repair of any building, road, railway, bridge, viaduct, flyover, sewer or sewage works;
 - (ii) any works for or relating to the laying, inspecting, repairing or renewing of any mains, pipes, cables, fittings or other apparatuses;
 - (iii) any soil investigation works; or
 - (iv) such other works as are usually undertaken by a person carrying on business as a contractor in the construction industry or as a professional civil or structural engineer;
- (b) any act of boring, dredging, jacking, levelling, piling or tunnelling on or under any premises or street by any mechanical means; and
- (c) the driving or sinking of any earth rod, casing or tube into the ground.

- **Section B** sets out the measures to be complied with by Earthworks Contractors where the Licensee's telecommunication cables need to be diverted.
 - **Section C** sets out the "Do's and Don'ts" to be complied with by Earthworks Contractors to prevent damage to the Licensee's telecommunication cables.
4. **The Earthworks Contractor who performs the actual earthworks (e.g. a piling contractor) shall be directly responsible for complying with the Licensee's Earthworks Requirements.** It shall not be an excuse for the Earthworks Contractor to claim that it had delegated such responsibility to another party or relied on another party to ensure that the requirements are complied with, whether pursuant to any contract, agreement, arrangement, understanding or otherwise that it has with such other party.
 5. **If there are more than one Earthworks Contractors who are carrying out earthworks at the work site, each party is required to comply with the Licensee's Earthworks Requirements on their respective earthworks separately.** In addition, all parties who supervise or instruct Earthworks Contractors on any aspect of the earthworks (e.g., a developer or main contractor) should also ensure that the Earthworks Contractors comply with the Licensee's Earthworks Requirements to prevent damage to telecommunication cables.
 6. Where the proposed earthworks involve Road Opening, as it would likely include traffic or road closures for the carrying out of earthworks, the Earthworks Contractors are advised to proceed with Step 3, i.e., submit the "Notice for Commencement of Earthworks" ("**NCE**") application to the relevant Licensee (after completion of Steps 1 and 2) and concurrently, submit the road opening application via LTA.PROMPT timely.
 7. Earthworks Contractors who are commencing or carrying out any earthworks in emergency situations and have reasonable cause to believe that it is necessary to do so quickly in the interest of public or private safety, are not required to complete Section A of the Earthworks Requirements. Such earthworks requests to the Earthworks Contractors, in the interest of public or private safety, can be initiated by **a relevant third party, e.g., Government agencies, Town Councils etc.** Prior to the commencement of such earthworks, these earthworks contractors are advised to submit to the affected Licensee(s) and provide: (a) the name of the earthworks contractor, (b) the name of the relevant third party requesting for the earthworks, (c) the project coordinator's contact, (d) the photos of the location of the earthworks/excavation, and (e) the date and time of the earthworks. These earthworks contractors can proceed with the earthworks, and provide the affected Licensee(s) with a notice in writing (which can be in the form of the NCE) stating the nature and extent of those earthworks and explaining how these earthworks were in the interest of public or private safety, not more than 7 days after the commencement of such earthworks.
 8. **IMPORTANT: The Earthworks Contractors are reminded to continue to adopt necessary precautionary measures, which may include performing cable detection works at site and carrying out manual digging of trial holes to ascertain**

the location of the telecommunication cables, to avoid damage to any telecommunication cables when carrying out such earthworks as mentioned in paragraph 7.

SECTION A: STEP-BY-STEP PROCEDURES TO BE COMPLIED WITH BY EARTHWORKS CONTRACTORS BEFORE COMMENCING EARTHWORKS

STEP 1: OBTAIN LICENSEE'S SERVICE LAYOUT PLAN

- A.1 The Earthworks Contractor shall contact all telecommunication system licensees with underground plant³ and obtain the relevant service layout plans from licensees who have telecommunication cables located within the vicinity of the proposed earthworks.
- A.2 **IMPORTANT: The Licensee's service layout plan only indicates the *approximate* locations of the Licensee's telecommunication cables and is not conclusive. The exact positions and depths of the Licensee's telecommunication cables **MUST** be ascertained by the manual digging of trial holes (refer to A.24 for more details), by the Earthworks Contractor in accordance with Steps 6 and 7 below.**
- A.3 The **Licensee's service layout plan shall only be valid for a period of six months.** In this regard –
- (a) If the Earthworks Contractor will only commence the proposed earthworks more than six months from the date that it obtained the Licensee's service layout plan, the Earthworks Contractor shall obtain a fresh set of the Licensee's service layout plan. This is important as updates and revisions may have been made to the Licensee's service layout plan since the time it was issued to the Earthworks Contractor.
 - (b) The Earthworks Contractor shall ensure that its copy of the Licensee's service layout plan is obtained no more than six months prior to the date of commencement of the earthworks.
 - (c) The Earthworks Contractor shall ensure that it refers to and uses the most updated version of the Licensee's service layout plan in its possession at all times.

³ Please refer to the list of telecommunication system licensees with underground plant at the Info-communications Media Development Authority's website at <https://www.imda.gov.sg/regulations-licensing-and-consultations/licensing/licences/licence-for-provision-of-service-of-detecting-underground-telecommunication-cable>

- (d) The Licensee shall issue its service layout plan to the Earthworks Contractor in physical⁴ or digital (PDF) format.

STEP 2: ENGAGE LICENSED TELECOMMUNICATION CABLE DETECTION WORKER TO CARRY OUT CABLE DETECTION WORK

A.4 The Earthworks Contractor shall engage a licensed telecommunication cable detection worker (“**TCDW**”) to –

- (a) carry out telecommunication cable detection work and prepare a cable detection report to indicate the locations and routes of all the Licensee’s telecommunication cables throughout the entire vicinity of the proposed earthworks;
- (b) physically mark out the locations and routes of all the Licensee’s telecommunication cables throughout the entire vicinity of the proposed earthworks in accordance with A.6 below; and
- (c) determine the positions and number of proposed trial holes that are to be manually dug by the Earthworks Contractor to ascertain the exact location of the Licensee’s telecommunication cables throughout the entire vicinity of the proposed earthworks in accordance with A.7 below.

A.5 **IMPORTANT: The TCDW’s cable detection report only indicates the *approximate* detected locations of the Licensee’s telecommunication cables and is not conclusive. The TCDW may also not be able to detect all telecommunication cables (e.g. optical fibre cables without copper elements or metallic tracer wire inserts). Therefore, the exact positions and depths of the Licensee’s telecommunication cables **MUST** be ascertained by the manual digging of trial holes in accordance with Steps 6 and 7 below.**

A.6 The Earthworks Contractor shall ensure that –

- (a) the TCDW physically marks out the locations and routes of all detected telecommunication cables throughout the entire vicinity of the proposed earthworks using suitable methods such as surface markers, pegs, barricades and signposts to alert all contractors and personnel at the work site to the presence of the cables;
- (b) the markings are durable, prominent and visible;

⁴ If the Earthwork Contractor is unable to view the service layout plan in digital format and produce hard copies of the same, the Licensee shall provide the service layout plan to the Earthwork Contractor in physical format.

- (c) the markings are maintained and reapplied from time to time as necessary so that they remain prominent and visible at all times throughout the entire duration of the earthworks;
- (d) the markings are not covered over, obscured, disturbed, removed or tampered with at any time by any person, plant, equipment, material or object; and
- (e) all contractors and personnel at the work site are fully briefed on the markings so that they are clear about the locations and routes of the telecommunication cables.

A.7 The proposed trial holes –

- (a) shall be positioned on and along the routes of the telecommunication cables indicated in the TCDW's cable detection report in order to positively confirm that the cables are in fact running along the said routes;
- (b) shall, where the Licensee's service layout plan and the TCDW's cable detection report indicate the route of the cables to be running in a straight line, be spaced at intervals of no more than 50m apart for such segments of the cables;
- (c) shall, where the Licensee's service layout plan and the TCDW's cable detection report indicate the route of the cables to be running in a curved or meandering line, be spaced at intervals of no more than 20m apart for such segments of the cables; and
- (d) shall be spaced at appropriate intervals of no more than 50m apart (and where curved or meandering, no more than 20m apart) along the route of the telecommunication cables throughout the entire vicinity of the proposed earthworks.

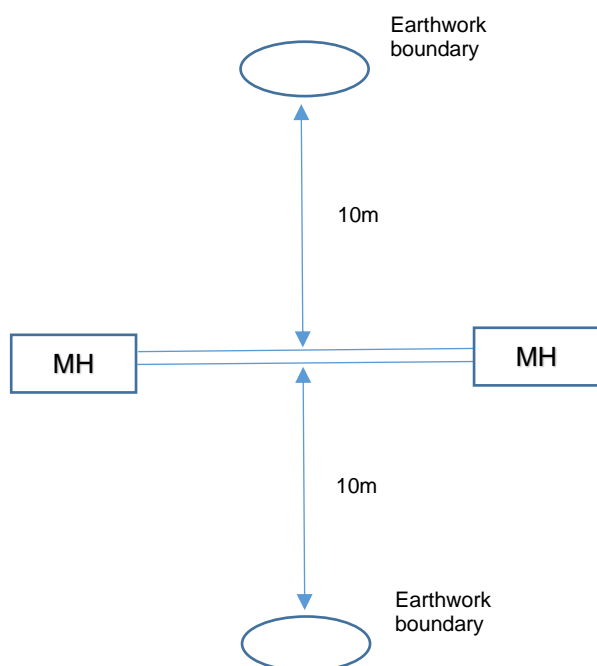
A.8 The exact positions and number of proposed trial holes shall be accurately recorded and marked up on the TCDW's cable detection report for the purposes of NCE Submission in accordance with A.10 below.

STEP 3: SUBMIT NOTICE FOR COMMENCEMENT OF EARTHWORKS

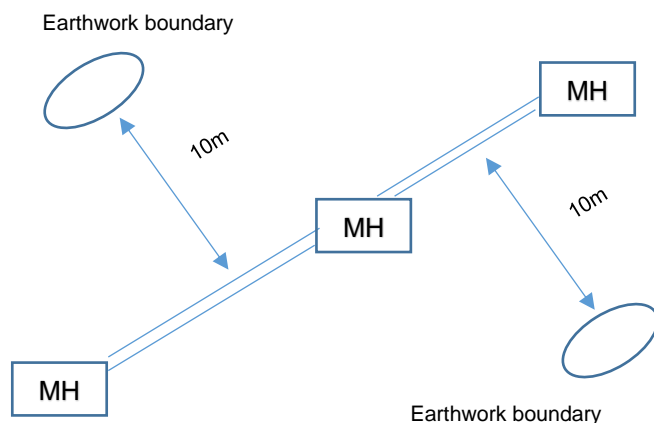
A.9 If the proposed earthworks are to be carried out within **a distance of 10m** of any of the Licensee's telecommunication cables (which refers to the perpendicular distance between the linear line of sight of manholes as shown in the examples below), the Earthworks Contractor shall submit the NCE to the Licensee in the form as set out at **Appendix A-1** to the Licensee **not less than seven days** prior to the commencement of the proposed earthworks. In particular, the Earthworks Contractor shall state within the NCE whether the proposed earthworks involves Road Opening or not.

The Earthworks Contractor shall complete all the required steps under Section A and obtain the “Final Approval For Commencement of Earthworks” in the form set out at Appendix D-1 from the Licensee before proceeding with the proposed earthworks.

E.g. Between two manholes



E.g. Between a few manholes



A.10 The Earthworks Contractor shall submit the NCE **together** with the following information –

- (a) the TCDW’s cable detection report and the Licensee’s service layout plan;
- (b) the exact positions and number of proposed trial holes that will be manually dug by the Earthworks Contractor, which shall be clearly indicated and marked up on the TCDW’s cable detection report; and
- (c) the works schedule for the proposed earthworks.

(collectively, the “**NCE Submission**”)

A.11 The Earthworks Contractor shall submit the NCE Submission to the Licensee via online <http://www.earthworks.sg>

A.12 **Each NCE Submission shall only be valid for a period of 12 months.** Where the earthworks are to be carried out and completed more than 12 months after the date of the NCE Submission (the “**expiry date**”), the Earthworks Contractor shall comply with the following procedure –

- (a) The Earthworks Contractor shall obtain a fresh set of the Licensee's service layout plan from the Licensee to confirm whether there have been any revisions or updates to the plan since the previous set obtained by the Earthworks Contractor (which shall be within the validity period specified in A.3 above).
- (b) If there have been changes such as updates or revisions to the Licensee's service layout plan, the Earthworks Contractor shall be required to repeat Steps 2 and 3 and make a fresh NCE Submission to the Licensee.
- (c) If there have been no changes to the Licensee's service layout plan, the Earthworks Contractor may apply to the Licensee to extend the NCE Submission for a further period of 12 months, which shall be accompanied by the updated works schedule for the proposed earthworks. In the event where the Licensee has issued the Final Approval for Commencement of Earthworks (i.e., Step 9, A.38) to the Earthworks Contractor, since the said Final Approval has the same expiry date as the NCE Submission, the Earthworks Contractor shall also apply to the Licensee to extend the Final Approval for Commencement of Earthworks.
- (d) Where the request for extension is approved, the Earthworks Contractor shall carry out and complete the earthworks within the extended 12 months' validity period. In the event that the Earthworks Contractor does not do so, the Earthworks Contractor shall be required to repeat Steps 2 and 3 and make a fresh NCE Submission to the Licensee to carry out the earthworks.

A.13 **IMPORTANT: The "Notice for Commencement of Earthworks" MUST be signed and submitted by the Earthworks Contractor who will be carrying out the actual earthworks. Earthworks Contractors who are carrying out separate earthworks at the work site are required to submit individual NCEs on their respective earthworks. This is to ensure that the *actual party* carrying out the earthworks is fully aware of the Licensee's Earthworks Requirements and is directly responsible for providing the declarations, confirmations and information required in the NCE Submission.**

STEP 4: CONDUCT JOINT SITE MEETING (TO BE ATTENDED BY EARTHWORKS CONTRACTOR, TCDW AND LICENSEE)

- A.14 Following the NCE Submission, the Earthworks Contractor shall arrange for the conduct of a joint site meeting at the work site together with the Licensee and the TCDW ("**Joint Site Meeting**") to –
- (a) verify the accuracy and consistency between the Licensee's service layout plan, the TCDW's cable detection report, the locations and routes of the Licensee's telecommunication cables as physically marked out by the TCDW, and the actual site conditions;

- (b) confirm that the locations and routes of the Licensee's telecommunication cables throughout the entire vicinity of the proposed earthworks have been accurately and properly marked out by the TCDW; and
 - (c) confirm the exact positions and number of trial holes that are to be manually dug by the Earthworks Contractor to ascertain the exact location of the Licensee's telecommunication cables.
- A.15 At the Joint Site Meeting, the Earthworks Contractor shall, with the assistance of the TCDW and Licensee, verify that there are no inaccuracies or discrepancies between –
- (a) the Licensee's service layout plan;
 - (b) the TCDW's cable detection report;
 - (c) the physical markings applied by the TCDW to indicate the locations and routes of the Licensee's telecommunication cables; and
 - (d) the actual conditions at the work site.
- A.16 If there are any such inaccuracies or discrepancies, the following actions shall be taken by the relevant party –
- (a) Where there are any inaccuracies in the Licensee's service layout plan, the Licensee shall physically mark up the service layout plan on the spot to indicate the corrected locations and routes of the Licensee's telecommunication cables, and provide the marked-up plan to the Earthworks Contractor. The Licensee shall follow up by issuing an updated service layout plan to the Earthworks Contractor.
 - (b) Where there are any inaccuracies in the TCDW's cable detection report, the Earthworks Contractor shall ensure that the TCDW physically marks up the TCDW's cable detection report on the spot to indicate the corrected locations and routes of the Licensee's telecommunication cables, and provide the marked-up report to the Earthworks Contractor. The Earthworks Contractor shall follow up by obtaining an updated cable detection report from the TCDW.
 - (c) Where there are any inaccuracies in the physical markings applied by the TCDW to indicate the locations and routes of the Licensee's telecommunication cables, the Earthworks Contractor shall ensure that the TCDW makes the necessary corrections to the markings on the spot (which shall comply with the requirements stated in A.6 above). The Earthworks Contractor shall also ensure that any inaccurate markings are entirely removed and that all contractors and personnel at the work site are fully briefed on the revised markings.

A.17 At the Joint Site Meeting, the Earthworks Contractor shall obtain the Licensee's confirmation on the exact positions and number of trial holes that are to be manually dug by the Earthworks Contractor to ascertain the exact location of the Licensee's telecommunication cables. Where any corrections are made in accordance with A.16 above, the Earthworks Contractor shall consult the TCDW and the Licensee to ensure that appropriate adjustments are made to the positions and number of proposed trial holes taking into account such corrections, and that the Licensee's confirmation is obtained on the said adjustments. The Licensee may require additional trial holes to be dug by the Earthworks Contractor beyond those proposed by the Earthworks Contractor in its NCE Submission.

A.18 Where pursuant to the Joint Site Meeting –

- (a) there are any corrections made to the version of the Licensee's service layout plan that was submitted by the Earthworks Contractor in its NCE Submission;
- (b) there are any corrections made to the version of the TCDW's cable detection report that was submitted by the Earthworks Contractor in its NCE Submission;
or
- (c) there are any changes made to the positions and number of trial holes as indicated on the TCDW's cable detection report that was submitted by the Earthworks Contractor in its NCE Submission,

the Earthworks Contractor shall resubmit the relevant amended document to the Licensee to replace the version previously submitted in its NCE Submission. The Earthworks Contractor shall ensure that it refers to and uses the amended document in place of the earlier version when carrying out the steps below.

A.19 After the Joint Site Meeting, the Earthworks Contractor shall in a timely manner –

- (a) ensure that all relevant drawings and plans utilised by contractors and personnel at the work site are updated to accurately reflect the locations and routes of all the Licensee's telecommunication cables throughout the entire vicinity of the proposed earthworks, and
- (b) provide a copy of the updated service layout plan and cable detection report to all contractors and personnel (e.g., earthworks supervisor, earthworks machine operator, etc.) that are in any way involved in the proposed earthworks.

STEP 5: OBTAIN CONDITIONAL APPROVAL FOR DIGGING OF TRIAL HOLES

- A.20 After the Joint Site Meeting and the Earthwork Contractor's submission of the amended documents (if any) in accordance with A.18 above, if there are no further clarifications required by the Licensee, the Licensee shall issue the "**Conditional Approval for Digging of Trial Holes**" in the form set out at **Appendix B-1** to the Earthworks Contractor. The Licensee shall attach the finalised version of the TCDW's cable detection report indicating the confirmed positions and numbers of trial holes that are to be dug by the Earthworks Contractor.
- A.21 The "Conditional Approval for Digging of Trial Holes" is solely for the purposes of permitting the Earthworks Contractor to proceed with the manual digging of trial holes to ascertain the exact location of the Licensee's telecommunication cables, which shall be based on the positions and number of proposed trial holes as confirmed at the Joint Site Meeting.
- A.22 **The "Conditional Approval for Digging of Trial Holes" shall only be valid for a period of one month** from the date of its issuance by the Licensee. The Earthworks Contractor is required to carry out and complete the digging of trial holes within the one month validity period. If the Earthworks Contractor does not do so, it shall be required to apply to the Licensee for a fresh "Conditional Approval for Digging of Trial Holes" subject to such application being made within the validity period of its NCE Submission as stated in A.12 above. At all times, the Earthworks Contractor must ensure that it carries out and completes the digging of trial holes within both the validity period of the "Conditional Approval for Digging of Trial Holes" and the validity period of its NCE Submission.

STEP 6: DIG TRIAL HOLES TO ASCERTAIN EXACT LOCATION OF TELECOMMUNICATION CABLES

- A.23 **The Earthworks Contractor shall dig the trial holes manually until it positively locates (i.e. visually confirms) and physically exposes all of the Licensee's telecommunication cables throughout the entire vicinity of the proposed earthworks.**
- A.24 **IMPORTANT: The Earthworks Contractor shall only use manual digging and exercise due care when digging the trial holes to avoid damaging the telecommunication cables. The Earthworks Contractor **MUST NOT** –**
- (a) use any mechanical equipment (e.g. excavator); or
 - (b) use any manual equipment that has sharp pointed edges (e.g. hand auger) which may damage the telecommunication cables.

If, in the course of digging any trial holes, the Earthworks Contractor damages or has reason to suspect that it has damaged –

- (a) the Licensee's telecommunication cables; and/or

- (b) the ducts, pipes or other infrastructure housing or encasing the Licensee's telecommunication cables,

the Earthworks Contractor **MUST** inform the Licensee immediately.

- A.25 The Earthworks Contractor **must not assume** that the Licensee's telecommunication cables are not present if the cables are not found or encountered when the trial holes are dug. There may be various reasons for this (e.g. the telecommunication cables are located deeper than the level to which the trial holes are dug, the telecommunication cables may not be travelling in a straight-line path, etc.). Accordingly, the Earthworks Contractor must continue to dig additional and/or deeper trial holes manually without the use of machinery or manual equipment with sharp pointed edges, to positively locate and physically expose the telecommunication cables.
- A.26 **IMPORTANT: In the event that the Earthworks Contractor is unable to positively locate and physically expose all of the Licensee's telecommunication cables after digging the trial holes, the Earthworks Contractor MUST obtain the Licensee's assistance to ascertain the exact location of the telecommunication cables throughout the entire vicinity of the proposed earthworks. UNDER NO CIRCUMSTANCE should the Earthworks Contractor proceed with the proposed earthworks without consulting the Licensee.**
- A.27 The Earthworks Contractor shall maintain photographic records of all the trial holes that it has dug and the exposed telecommunication cables within the trial holes. The photographic records shall also be submitted to the Licensee for reference.

STEP 7: CONDUCT JOINT TRIAL HOLES INSPECTION (TO BE ATTENDED BY EARTHWORKS CONTRACTOR, TCDW, PARTY WHO IS SUPERVISING OR INSTRUCTING THE EARTHWORKS CONTRACTOR AND LICENSEE)

- A.28 After the Earthworks Contractor has positively located and physically exposed the Licensee's telecommunication cables via the digging of trial holes, the Earthworks Contractor shall arrange for the conduct of a joint trial holes inspection at the work site together with the Licensee, the party who is supervising or instructing the Earthworks Contractor and the TCDW ("**Joint Trial Holes Inspection**").
- A.29 The purpose of the Joint Trial Holes Inspection is for all parties to –
- (a) jointly verify that the exact location of **all** the Licensee's telecommunication cables throughout the entire vicinity of the proposed earthworks have been positively ascertained by the Earthworks Contractor; and
 - (b) determine if there is any need for diversion works by the Licensee in relation to part of or all of the Licensee's telecommunication cables.

- A.30 The Licensee may require additional trial holes to be dug by the Earthworks Contractor if there is a need to further confirm the exact locations and/or routes of the Licensee's telecommunication cables.
- A.31 After the location of all the Licensee's telecommunication cables throughout the entire vicinity of the proposed earthworks have been ascertained pursuant to the Joint Trial Holes Inspection, the Earthworks Contractor shall re-verify that there are no inaccuracies or discrepancies between –
- (a) the Licensee's service layout plan;
 - (b) the TCDW's cable detection report; and
 - (c) the physical markings previously applied by the TCDW to indicate the locations and routes of the Licensee's telecommunication cables.

If there are any such inaccuracies or discrepancies, the actions stated in A.16 above shall be carried out. In particular, where there are any inaccuracies in the physical markings previously applied by the TCDW, the Earthworks Contractor shall ensure that the TCDW makes the necessary corrections to the markings on the spot (which shall comply with the requirements stated in A.6 above). The Earthworks Contractor shall also ensure that any inaccurate markings are entirely removed and that all contractors and personnel at the work site are fully briefed on the revised markings.

- A.32 At the Joint Trial Holes Inspection, the Earthworks Contractor shall also brief the Licensee on the protection measures and methods of support that it will implement to prevent damage to the Licensee's telecommunication cables. The Earthworks Contractor shall implement such other measures that the Licensee may require the Earthworks Contractor to undertake to protect the telecommunication cables.
- A.33 The protection measures and methods of support to be implemented by the Earthworks Contractor shall be accurately detailed by the Earthworks Contractor in its "Application for Final Approval for Commencement of Earthworks" in accordance with Step 8 below.
- A.34 In the event that the Licensee determines that diversion works are necessary in relation to part of or all of the Licensee's telecommunication cables, the Earthworks Contractor shall co-ordinate and co-operate with the Licensee to facilitate the necessary diversion works and comply with the requirements specified in Section B. The Earthworks Contractor shall factor in the planning time required by the Licensee to carry out the necessary diversion works, which may generally range from 6 to 18 months depending on the site conditions.

STEP 8: SUBMIT APPLICATION FOR FINAL APPROVAL FOR COMMENCEMENT OF EARTHWORKS

- A.35 After completion of the Joint Trial Holes Inspection, the Earthworks Contractor shall submit the “**Application for Final Approval for Commencement of Earthworks**” to the Licensee in the form set out at **Appendix C-1**.
- A.36 The purpose of the “Application for Final Approval for Commencement of Earthworks” is for the Earthworks Contractor to –
- (a) declare and confirm that the Earthworks Contractor has read, understood and will comply with the Licensee’s Earthworks Requirements;
 - (b) declare and confirm that the Earthworks Contractor has duly completed Steps 1 to 7 above; and
 - (c) provide full details of the protection measures and methods of support that the Earthworks Contractor will implement to prevent damage to Licensee’s telecommunication cables throughout the entire course of the proposed earthworks.
- A.37 **IMPORTANT: The “Application for Final Approval for Commencement of Earthworks” MUST be signed and submitted by the Earthworks Contractor who will be carrying out the actual earthworks. This is to ensure that the *actual party* carrying out the earthworks is fully aware of the Licensee’s Earthworks Requirements and is directly responsible for providing the declarations, confirmations and information required in the “Application for Final Approval for Commencement of Earthworks”. The Earthworks Contractor shall also provide a copy of this document to any party that is instructing or supervising the Earthworks Contractor in the performance of the actual earthworks.**

STEP 9: OBTAIN FINAL APPROVAL FOR COMMENCEMENT OF EARTHWORKS

- A.38 After receipt of the duly completed Application for “Final Approval for Commencement of Earthworks” from the Earthworks Contractor and if the Licensee is satisfied as to the adequacy of the protection measures and methods of support detailed by the Earthworks Contractor therein, the Licensee shall issue the “**Final Approval for Commencement of Earthworks**” in the form set out at **Appendix D-1** to the Earthworks Contractor. The Final Approval for Commencement of Earthworks shall have the same expiry date as the NCE Submission. The Earthworks Contractor shall apply to the Licensee to extend the Final Approval for Commencement of Earthworks (and the NCE Submission) upon its expiry (see Step 3, A.12 above).
- A.39 In carrying out the earthworks, the Earthworks Contractor shall –

- (a) fully implement the protection measures and methods of support which it has undertaken to implement, as detailed in its “Application for Final Approval for Commencement of Earthworks”; and
- (b) fully comply with the “Do’s and Don’ts” specified in Section C below to ensure that the Licensee’s telecommunication cables are protected from damage throughout the entire course of the earthworks.

A.40 **IMPORTANT: The Earthworks Contractor MUST NOT proceed with the proposed earthworks until it receives the “Final Approval for Commencement of Earthworks” from the Licensee. Upon its receipt, the Earthworks Contractor shall also provide a copy of this document to any party that is instructing or supervising the Earthworks Contractor in the performance of the actual earthworks.**

SECTION B: MEASURES TO BE COMPLIED WITH BY EARTHWORKS CONTRACTORS IN THE EVENT OF CABLE DIVERSION

- B.1 In the event that the Licensee determines at the Joint Trial Holes Inspection (refer A.34 above) that it is necessary to divert any of the Licensee’s telecommunication cables which may be affected by the proposed earthworks (“**Affected Cables**”), the following procedures and requirements shall apply –
- (a) The Earthworks Contractor shall ensure that the Affected Cables are adequately protected and supported and obtain the Licensee’s written approval to the protection measures and methods of support before the diversion works are carried out.
 - (b) After completion of the relevant diversion works, the Licensee shall issue a written notice to the Earthworks Contractor to confirm that the Licensee’s Affected Cables have been fully diverted.
 - (c) Upon receipt of such written notice, the Earthworks Contractor shall arrange for a joint site inspection with the Licensee.
 - (d) The purpose of the joint site inspection is for the Earthworks Contractor and Licensee to carry out the following –
 - (i) to confirm that all of the Licensee’s Affected Cables have been diverted;
 - (ii) to confirm the exact locations and routes of the newly diverted telecommunication cables;

- (iii) where the Licensee has abandoned any telecommunication cables, ducts, pipes or other related infrastructure within the vicinity of the proposed earthworks arising from the diversion works, to confirm their exact locations and the actions to be taken by the Earthworks Contractor in relation to such abandoned plant; and
- (iv) to ensure that the Licensee's service layout plan is updated to accurately reflect the diversion of the Licensee's Affected Cables.

B.2 The Licensee shall provide the Earthworks Contractor with the updated service layout plan reflecting the diverted telecommunication cables. The Licensee shall ensure that the updated service layout plans are accurately geo-tagged to include GPS Coordinates and/or 3D Coordinates (where applicable). Where the diverted telecommunication cables are relocated to any other area within the vicinity of the Earthworks Contractor's proposed earthworks, the Earthworks Contractor shall ensure that the TCDW physically marks out the locations and routes of the diverted telecommunication cables (which shall comply with the requirements stated in A.6 above).

B.3 Where the diverted telecommunication cables are relocated to any other areas where earthworks are to be carried out by other Earthworks Contractors (e.g. where the Licensee diverts its telecommunication cables into an adjacent land at which another contractor is to perform earthworks), the Licensee shall inform such other Earthworks Contractors of the locations and routes of the diverted telecommunication cables in the vicinity of their earthworks and provide them with the updated service layout plan.