



Comhairle Contae Thiobraid Árann
Tipperary County Council



An Roinn Iompair
Department of Transport

Tipperary County Council Chomhairle

Contae Thiobraid Árann

Requirements

for a

Preliminary Ground Investigation Report

For the

Clonmel Link Roads

REPORT CONTROL SEET

Project Name: Clonmel Link Roads

Project Phase: Planning

Report Title: Service Requirements for the Preliminary Ground Investigation Report

Report Ref: Clonmel Link Roads – Preliminary Ground Investigation Report

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1. INTRODUCTION

1.1. General

- 1.1.1. This specification is for the use of specialist ground investigation firms engaged in work for design organisations responsible for the delivery of 2 link roads in Clonmel, Co Tipperary.

1.2. European Mutual Recognition

- 1.1.2. Except where the specified standard implements or is technically equivalent to a Harmonised European Standard or to a European Standard adopted for use within the European Communities after 31 December 1985, any requirement for products or materials to comply with an Irish or British Standard shall be satisfied by compliance with

- (i) a relevant standard or code of practice of a national standards institution or equivalent body of any states of the European Economic Area.

or

- (ii) a relevant international standard recognised in any states of the European Economic Area.

or

- (iii) a relevant specification acknowledged for use as a standard by a public authority of any states of the European Economic Area.

or

- (iv) traditional procedures of manufacture of any states of the European Economic Area where these are the subject of a written technical description sufficiently detailed to permit assessment of the goods or materials for the specified use

or

- (v) a European Technical Approval (ETA) issued in accordance with the Construction Products Directive 89/0106/EEC (or, until procedures are available for the issue of ETAs, a specification sufficiently detailed to permit assessment) for goods or materials of an innovative nature or subject to innovative processes of manufacture and which fulfil the purpose provided for by the specified standard, provided that the proposed standard, code of practice, specification, technical description or European Technical Approval

provides in use levels of safety, suitability and fitness for purpose equivalent to those required by the specified standard in so far as they are not inconsistent with the Essential Requirements of the Construction Products Directive (89/106/EEC).

1.3. The Contractor

Organisations considered for Contracts under this specification.

2. PURPOSE AND SCOPE

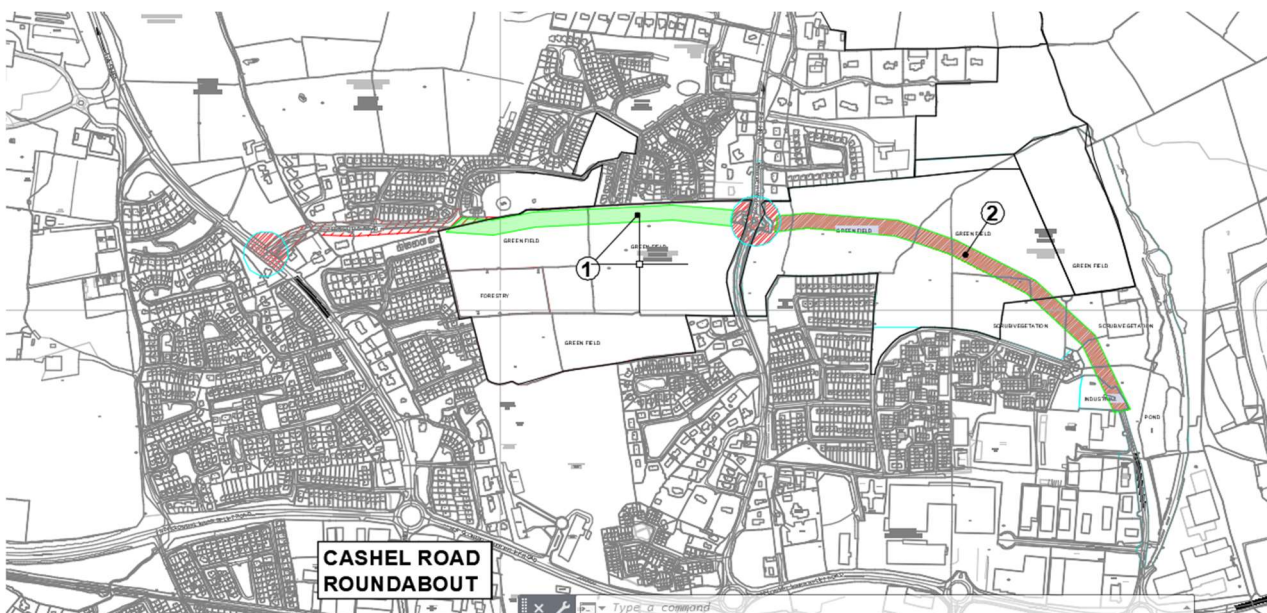
2.1. Background

Tipperary County Council (TCC) is proposing to carry out the planning and detailed design for two link roads through predominantly green fields with some small areas of roadway also included.

Refer to Drawing No's N24-LINKROADS-000-04, N24-LINKROADS-000-05 and N24-LINKROADS-000-06 for the extent of ground investigation works required.

Link Road 1 design will consist of new carriageways with footways and Cyle ways both sides, drainage, public lighting, junctions etc. linking the existing R688 Cashel Road via the L3623-1 Longfield Road through green fields to the existing Fethard Road (R689).

Link Road 2 design will consist of new carriageway with footways and Cyle ways both sides, drainage, public lighting, junctions etc. through green fields connecting the Fethard Rd (R639) to the L3623-0 Carrigeen Business Park Road.



The aim of the detailed ground investigation report is to obtain appropriate data and interpretative report to enable TCC and its consultants (to be appointed) to undertake a detailed road design, including carriageway, footpath & cycleway, cut/fill embankments,

verges, road junctions, drainage, public lighting, services, signing and lining, connections to existing entrances and roads etc.

3. TENDER PARTICULARS & Deadline, Award Criteria

3.1 Tender Deadline

Tender should be returned by eTenders portal, date of which is outlined on eTenders advert.

1.1. Tender Award Criteria

The award criteria for works contracts awarded will be as follows:

- 100% Price

Pass / Fail criteria

- Completion of SAQ (QW) Part 01 and Part 02 as part of this tender
- Provision of a Programme of Works detailing how the successful contractor will complete the SI works within 30 days of appointment and agreed start date.
- Confirmation that Site Investigation Works and associated documentation will be delivered within 30 days of award of contract award.
- Requirement for Successful compliance with Tipperary County Council competency questionnaire before consideration for any appointment using the BPC2 form.
- Provide evidence of how you will provide carbon reduction measures as part of delivering this project.

3.3 Conditions of Contract

Any works awarded under this Competition shall comply with the PW-CF7 Public Works Investigation Contract v1.7 25-11-2025.

3.4 Information to be provided with this tender

- Completed Part 01 and Part 02 of the Suitability Assessment Questionnaire (SAQ)
Completed Pricing Schedule – PRICING SCHEDULE
Completed Tender & Schedule
- Letter noting Tender Sum, availability to commence Works, proposed duration of Site Investigation and proposed timeframe for issuing of Site Investigation data as specified.
- Copies of latest insurance (PL, EL & PI).
- Copy of your latest Tax Clearance Certificate confirmation.
 - Safety Questionnaire as per Appendix C.
 - Programme of Works as outlined in section 3.1 of this specification.

3.5 Extent of the works

The extent of the required works are shown on Drawing Nos. N24-LINKROADS-000-04, 'Clonmel Link Roads – Preliminary Ground investigation Works – Extent of Works contained in Appendix C.

4.0 SCOPE OF THE WORKS

The ground investigation works consists of the following;

1. Conduct GPR survey at the locations as per contract drawings N24-LINKROADS-000-04, N24-LINKROADS-000-05. – Hatched red for clarity.
2. Excavate 7 No. trial pits at locations on attached drawing to a depth of 5.0m, unless rock is encountered.
3. Carry out 3 No. Road Cores of the existing pavement at the locations shown in contract drawings drawings N24-LINKROADS-000-04, N24-LINKROADS-000-05 and N24-LINKROADS-000-06.
4. Carry out 8 No. boreholes by Cable Percussion using a tripod rig (Shell and Auger) (locations indicated on attached drawing). The casing shall be 200mm diameter. The boreholes shall be taken to refusal. If refusal is not met within 6m of ground level the contractor shall inform the Engineer immediately and seek instruction for additional work. Where refusal is met within 6m of the ground level using cable percussion (Shell and Auger), then, rotary drilling with core recovery shall be used until a depth of penetration into rock of 3m is achieved.
5. Excavate 3 No. Slit Trenches to a depth of 1.2m at the locations as per contract drawings Ref:12226-1002 Site Investigation D01 (see Appendix A).
6. Provision of traffic management to Chapter 8 to accommodate the investigation and to include Road Opening License for works on public roads;
7. Liaison with Local Authority and the other public and private bodies as necessary;
8. Preparation & presentation of detailed factual reports & drawings as per IS EN 1997 (Eurocode 7) the Specification and the Scope of Works;
9. In addition, this investigation will include analysis and documentation of the results, and reporting on the geology, strata and soil conditions encountered to a professional standard. The Contractor shall provide all plant, labour and materials necessary to carry out the site Investigation.
10. The works are to be conducted in accordance with BS5930: 1999 incorporating Amendment No. 1 dated 31st December 2007, BS10175: 2001 and BS1377:1990.

4.1 Ground Penetrating Radar Survey

The site location and survey areas are shown on the contract drawing attached in Appendix A.

The survey is required to locate and identify ALL underground utility services and the depth of peat in map format of the survey area.

The Contractor shall submit to the Employers Representative a full description of the equipment and procedures for the ground penetrating radar survey required. The scope and method statement should be evaluated and carried out by the geophysical specialist detailed in this document.

The Contractor should allow for orthogonal GPR transects in urban situations of sufficient penetration and resolution to detect buried pipes and other utilities to an accuracy of +/-5% (assuming normal ground conditions).

The equipment, procedure and information to be submitted for the ground penetrating radar survey shall be described in BS5930, BS7022 and the Geological Society Engineering Group Working Party Report on Engineering Geophysics and the essential Guide to Utility Surveys, published by the Survey Association Dated March 2011. The surveys must comply with the best practice document ETSI EG 303 730 and the equipment used should conform to the R&TTE directive 1999/5/EC.

The GPR survey outputs should be supplied with the factual reports, in CAD (hard and soft copy format) at a workable scale of 1:200, though where the area is congested with utilities, the drawings should be supplied at 1:100, allowing adequate room for required text.

4.1 CABLE PERCUSSION BORES

It is required to excavate a total of 8 No. boreholes by cable percussion (Shell and Auger) within the site boundaries with the locations indicated on award if contract.

The boreholes shall be taken 200mm diameter, to refusal. If refusal is not met within 6m of ground level the contractor shall inform the Engineer immediately and seek instruction for additional work. Ground level at each borehole location shall be given in relation to Malin Head (OD).

4.2 ROTARY DRILLING REQUIREMENTS

Where refusal is met using cable percussion (Shell and Auger), then rotary drilling with core recovery shall be used until a depth of penetration into rock of 3m is achieved. Ground level at each rotary drilling location shall be given in relation to Malin Head (OD). Rotary drilling is to follow on from boreholes in same holes.

It is also required that 3 No. pavement core samples are drilled to a depth of 1.2m and recovered for laboratory testing. To establish the pavement composition, depths and strength.

4.3 PITTING AND TRENCH REQUIREMENTS

It shall also be required to excavate 7 No. trial pits on the site (locations indicated on the drawings are subject to change) to a depth of 5.0m, unless rock is encountered. Trial pits should where possible, be done in advance of the percussion boring. Trial pits to be positioned so that a min of 3m clearance is maintained between the building and edge of Trial Hole.

Trial pits will also be required for the purpose of carrying out soak away tests to BRE 365 Digest "Soak away Design" requirements.

It shall also be required to excavate 3 No. Slit Trenches to a depth of 1.2m. The trenches are to be excavated by a combination of hand digging and mechanical excavation to locate and identify buried services at the site.

The location of the Slit Trenches Slit Trenches at the locations as per contract drawings

4.4 SAMPLING & MONITORING OF INTRUSIVE INVESTIGATIONS

No special sampling is required.

4.5 PROBING AND CONE PENETRATION TESTING

Normal SPT testing is required. No special in situ testing is required

4.6 GEOPHYSICAL SURVEYING

Not required

4.7 IN SITU TESTING

The following in situ tests shall be carried out and reported in accordance with the current appropriate standards

1. Standard Penetration Test (SPT) (IS EN ISO 22476-3)
2. California Bearing Ratio (CBR) (BS 1377)

4.8 INSTRUMENTATION

There are no specific requirements with regard to instrumentation

4.9 INSTALLATION, MONITORING AND SAMPLING

Groundwater monitoring is required – standpipe installed on all **2** bore holes.

No gas monitoring is required

Groundwater samples are required

4.10 DAILY RECORDS

Daily records taken on site shall be submitted to the Investigation Supervisor by email on the following day.

4.11 GEOTECHNICAL LABORATORY TESTING

The following geotechnical laboratory testing may be required.

Moisture content

Atterburg limits

Particle size distribution

SO₃ acid and water soluble

PH

Organic

Oedometer

Shear box residual

Large shear box 300

Triaxial single

CBR

Waste Acceptance Criteria (WAC)

4.12 GEOENVIRONMENTAL LABORATORY TESTING

No testing for contamination is required

4.13 PARTICULAR REPORTING REQUIREMENTS

Variations to final digital data supply requirements (Clause 16.5.3)

See Clauses included in The Specification.

Preliminary digital data (Clause 16.5.3)

On submission of the Draft Factual Report, the Contractor shall issue to the Employer's Representative a copy of the digital clearly marked "Draft" by email.

Type(s) of report required (Clause 16.6)

The Contractor will be responsible for the preparation of:

(a) Factual Report

Electronic report requirements (Clause 16.6.3)

See Clauses included in The Specification.

Contents of Ground Investigation Factual Report (Clause 16.8)

See Clauses included in The Specification.

Times for supply of electronic information (Clause 16.11.1).

The period for review of the draft factual report by the Employer's Representative &/or Tipperary County Council shall be a maximum of 5 days' duration. The period for subsequent modification and finalisation of the factual report by the Contractor shall be of 3 days duration. The Contractors' programme shall make allowance for these periods within the overall time for completion of the Works.

Electronic information transmission media Information can be provided by email.

Report approval

See Clauses included in The

Specification. The number of reports shall be as follows:

Draft Report

- 1 no digital copy

Final Report

- 1 no digital copy.

Reporting shall be carried out in accordance this specification and relevant British Standard/EN. Amendments and additions are detailed below

1.1.1. Form of exploratory hole logs

Exploratory hole logs shall be prepared in accordance with the requirements of relevant IS EN ISO standards and the format shall be agreed with the Investigation Supervisor.

1.1.2. Information on exploratory hole logs

The information on exploratory hole logs shall comply with the Specification. Fracture spacing should be stated on the exploratory hole logs and soil classification is required.

1.1.3. Variations on Exploratory Hole Logs

No restrictions or relaxation.

1.1.4. Preliminary digital data

the Contractor must provide the digital data in AGS version 4.0. The preliminary data shall be supplied 5 days after completion of site works.

The Contractor shall provide exploratory hole, in-situ test, groundwater, and laboratory test data in AGS digital form and locations in AutoCAD dwg format.

Prior to the Date for Commencement of the Investigation the Contractor shall submit to the Investigation Supervisor a dummy set of data in the required format.

At the end of Site Operations, the Contractor shall issue to the Investigation Supervisor a set of digital data containing Preliminary Hole Records, sample schedule and in-situ test records, fully checked and edited, and incorporating the Investigation Supervisor's amendments if instructed.

On submission of the final Ground Investigation Report, the Contractor shall issue to the Investigation Supervisor a full set of digital data.

1.1.5. Type(s) of report required

A Ground Investigation Factual Report shall be prepared and supplied 10 days after receiving lab testing results.

1.1.6. Electronic report requirements

Electronic reports shall be delivered by file transfer. Photographs shall be in the appropriate format.

AGS data is to be in AGS version 4.0 format. Coordinates shall be to ITM and ground levels relative to the Malin head Datum. Photographs shall be cross-referenced within the AGS data as associated files. The AGS data file shall be provided both as a stand-alone file or files and shall be embedded within the report (PDF format).

The results of all laboratory tests shall also be provided in MS Excel format.

All drawings shall be provided in PDF and AutoCAD format (in Irish Transverse Mercator Coordinates).

1.1.7. Format and contents of Desk Study Report

Not required.

1.1.8. Contents of Ground Investigation Report (or specified part thereof)

The Ground Investigation Factual Report shall be in accordance with the British Standard /EN 5930.

1.1.9. Contents of Geotechnical Interpretative Report or Geotechnical Design Report (or specified part thereof)

Not required.

1.1.10. Time for supply of electronic information

To be supplied at the same time as PDF reports.

1.1.11. Electronic information transmission media

AGS version 4.0 format data shall be issued as a single file. However, subject to the agreement of the

Investigation Supervisor, separate files may be permitted. Using AGS checking software; all data must be checked for AGS format errors / integrity, and corrections are to be made prior to issue.

Preliminary and draft data shall be submitted by email to the Investigation Supervisor. Where data files are too large for practical transmission by email, alternative methods of transmittal may be agreed with the Investigation Supervisor which may include flash drives, FTP transfer or distribution via extranet. The media shall be clearly labelled with project information and issue details, including unique sequence numbers.

Files shall not be compressed (zipped) without the agreement of the Investigation Supervisor.

1.1.12. Report approval (Clause 16.12)

As per this specification and Employers Representative.

The required approval periods

Table 1 – Reporting Requirements

Items to be submitted by the Contractor	Required submission date
Preliminary exploratory hole logs	2 working days from the completion of the explorations to which they refer
Draft Ground Investigation Factual Report	10 working days from the completion of all site work
Final Ground Investigation Factual Report	The greater of 10 working days from the completion of all site work or 5 working days from the submission of comments on the Draft Ground Investigation Factual Report by the Investigation Supervisor

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5 SCHEDULE: EXPLORATORY HOLES

5.1 SLIT TRENCHES (ITM)

Description	Easting	Northing	Depth (m)
ST 01	619603.2424	624214.2656	1.2
ST 02	619825.9237	624217.1931	1.2
ST 03	621174.2317	623814.5290	1.2

5.1.1 TRIAL PITS WITH CBR (ITM)

Description	Easting	Northing	Depth (m)
TP 01	619954.8594	624216.9608	5.0m
TP 02	620143.5943	624232.7493	5.0m
TP 03	620350.5292	624232.0648	5.0m
TP 04	620611.5840	624219.4468	5.0m
TP 05	620762.9239	624199.1170	5.0m
TP 06	620946.1978	624113.9191	5.0m
TP 07	621109.4468	62393.3984	5.0m

5.1.2 BORE HOLES (ITM)

Description	Easting	Northing	Depth (m)
BH 01	619850.4852	624210.8288	6.0
BH 02	620053.8303	624231.2627	6.0
BH 03	620246.8380	624223.7916	6.0
BH 04	620507.8683	624221.9579	6.0
BH 05	620711.4458	624213.8903	6.0
BH 06	620857.5260	624158.5966	6.0
BH 07	621025.3429	624050.6668	6.0
BH 08	621163.4457	623854.8171	6.0

5.1.3 CORING (ITM)

Description	Easting	Northing	Depth (m)
RC 01	619527.3967	624190.9463	1.2
RC 02	619712.8157	624211.3792	1.2
RC 03	621198.8659	623713.3997	1.2

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6.0 General Requirements

6.1 Health and Safety

- 6.1.1 All activities performed during the course of work undertaken by the Survey Contractor on this Contract shall be in accordance with the requirements of the Safety, Health and Welfare at Work (Construction) Regulations, 2013 (S.I. No. 291 of 2013), and any amendment thereof.
- 6.1.2 All Traffic Management is to be provided by the Contractor for the survey in compliance with Chapter 8 of the latest issue of the Traffic Signs Manual published by Department of Transport Tourism & Sport and strictly within the parameters set out within Appendix B of this document. All proposals for traffic management shall be approved by Tipperary County Council and An Garda Síochána.
- 6.1.3 The Contractor must complete, at tendering stage, the Safety, Health and Welfare Questionnaire in Appendix G. The Contractor must comply with the safety rules listed below:
- 6.1.4 The Contractor must have a written Method and Safety Statement and valid insurances before commencing the Works.
- 6.1.5 The Contractor must prepare site specific hazard analysis, risk assessments and safe systems of work before commencing Work.
- 6.1.6 The Contractor's staff must be in possession of valid Safe Pass Cards and CSCS cards, specific emphasis should be given to duty holders relevant to Health & Safety at Roadworks.
- 6.1.7 The Contractor must ensure that only trained and competent personnel undertake work on site.
- 6.1.8 Provide competent workers and competent and adequate supervision of their employees and activities.
- 6.1.9 The Contractor must inform Tipperary County Council contact person of any intention to bring subcontractor personnel onto site.
- 6.1.10 The Contractor must ensure that all equipment brought on site is in safe condition and has valid statutory certification, where necessary.

- 6.1.11 The Contractor must not use any equipment or the service of personnel belonging to or engaged by Tipperary County Council without prior approval being granted by an appointed County Council Official.
- 6.1.12 The Contractor must provide and wear personal protective equipment appropriate to the area/task where they are working.
- 6.1.13 The Contractor must ensure that access equipment used by him/her is installed and maintained in accordance with current standards and regulations.
- 6.1.14 The Contractor must ensure that all portable electric hand tools are run off 110 volt systems. Step-down transformers must be used.
- 6.1.15 The Contractor must take care for their own health and safety and also the safety of others affected by the work they are doing and must observe all statutory safety and health precautions.
- 6.1.16 The Contractor must report all accidents and dangerous occurrences immediately to the Tipperary Council contact person and must co-operate in any investigation into the circumstances of the incident.

6.2 Presentation

- 6.2.1 All survey contract information shall be presented in a format and manner which allows for ease of use and permits additional copies to be made as necessary, excepting any limitations which may be imposed in respect of the copyright of data from third parties.
- 6.2.2 All final products from the source data shall be supplied on stable media. All products supplied shall be intelligible and usable for the purpose specified.

6.3 General

- 6.3.1 The Ground Investigation Contractor shall conform to all requirements of any private or Public Utility Service Company or Statutory Authority involved as far as access to their facilities is concerned.
- 6.3.2 The Ground Investigation Contractor shall ensure that written permission is obtained from the Client for any works which in the opinion of the Ground Investigation Contractor are likely to cause damage to property.

- 6.3.3 The Ground Investigation Contractor shall make provision to carry out any Traffic Safety and Management requirements necessary to undertake the Survey on public roads in accordance with all relevant statutory regulations. Details of these requirements are included in Appendix B.
- 6.3.4 All source survey information shall be safely held by the Ground Investigation survey Contractor for a period of seven years from the date of completion of the survey contract.

6.4 Working in Overgrown Areas

- 6.4.1 The amount cutting of shrubbery, hedging etc. should be kept to the minimum required to obtain the necessary information and no lasting damage is to result. At all times, the integrity of the boundaries shall be preserved.

6.5 Identification of Field Operatives

- 6.5.1 Field operatives shall have identification badges clearly displayed which shall include personnel name, photograph, company name, logo and date. Any employees of sub- contractors working in the field during the Contract duration shall be provided with a badge by the Contractor identical in appearance to the Contractors badges.

7.0 PROJECT INFORMATION

Project Promoted by:	Tipperary County Council
Principal Contact for the Works	Paul Keane
Address:	Housing - Roads Capital Department Tipperary County Council Emmet Street Clonmel Co Tipperary
	Tel: 076 106 5000
	Email: paul.keane@tipperarycoco.ie

Details of requirements for Traffic Safety and Management – see Appendix B. Traffic Management to be within the parameters set out in Appendix B and in compliance with Chapter 8 of the Traffic Signs Manual.

Schedule of Contract Drawings – see Appendix A of this tender.

8.0 SPECIFIC SPECIFICATION

The specification shall be the Specification for Ground Investigation 2nd Edition, published by The Institution of Engineers of Ireland (2016) with information, amendments and additions as described in the Schedules.

8.1 NAME OF CONTRACT

Preliminary Site Investigations works for Clonmel Link Roads.

8.2 INVESTIGATION PROJECT SUPERVISOR DESIGN PROCESS

The Investigation Project Supervisor Design Process for this ground investigation will be Tipperary County Council or its appointed Employers Representative.

The Project Supervisor for Construction Stage shall be the Contractor subject to assessment of competency

8.3 GEOLOGY AND GROUND CONDITIONS

There is no current knowledge about the geology and ground conditions of the sites, or if the ground is contaminated or not.

8.4 SCHEDULES OF DRAWINGS AND DOCUMENTS

- Location drawings as contained with appendix A
- Contract Conditions, Tender and Schedule
- Ground Investigation Specification and Schedules contained within this document
- Bill of Quantities – Appendix C.

8.5 PARTICULAR CONTRACT RESTRICTIONS

The Contractor shall examine the job site and be familiar with all existing conditions. The contractor shall be responsible for any damage to services caused by the execution of the Contract. Where necessary, to avoid services, trial pits and borehole locations shall be moved subject to agreement with the Engineer.

The Contractor shall secure right of access to the work site through the Employer and their representative, and confine operations to the minimum of ground required for the works and access to the works.

The Contractor shall secure all necessary permits before the work is started.

The Programme for the execution of the fieldwork and the date of submission of the report are to be agreed with the Engineer however the following shall apply:

Field Work shall commence within 10 working days of notification of the award of contract.

A completed report shall be submitted to the Engineer within 5 working days of the completion of the sitework.

Please note the following;

Project is broken up to 3 distinct sections;

- **Section 3** is the Link Road 2 between Fethard Road and Carrigeen area of Clonmel – access permission here is by Tipperary County Council
- **Section 2**: between the Fethard Road and Longfield estate road (green field section) will require prior permission for entry - this will be arranged by Tipperary County Council.
- **Section 1**; Is the Longfield estate road including section L3623-1. Permission to carry out works here is by Tipperary County Council.

8.6 PARTICULAR REQUIREMENTS

The Contractor shall be competent, experienced, and qualified to perform the works required.

Professional attendance by a Chartered Geotechnical Engineer/ Engineering Geologist on site shall be such as to ensure the proper execution of the work in accordance with the specification and relevant codes of practice, to ensure that accurate geotechnical information is obtained, and information is reported to the Engineer as required.

Professional attendance by a Geophysical Engineer with at least 5 years post graduate experience in the undertaking of ground penetrating radar surveys and recording/interpretation results on site shall be required to undertake the GPR surveys.

Any services or pipes damaged during the Works are to be immediately repaired or replaced by the Contractor at the Contractors expense to the satisfaction of the Employers Representative and the Service Provider, including completion of all testing necessary to confirm that the services are in full working order.

Areas disturbed during the works shall be immediately repaired with secure temporary fencing or barriers. The Contractor shall permanently reinstate all such areas to their pre-investigation condition. All remediate works whatsoever shall be completed to the satisfaction of the Employers Representative and all costs for this work shall be borne solely by the Contractor with no extras being allowed to his tender price as per current edition of Guidelines for Managing Openings in Public Roads (purple book).

8.6.1 Access to Site:

The Contractor shall be responsible for coordinating site access requirements (subject to section 5.5) for the purpose of carrying out investigations with the Employer / or Employers Representative, prior to beginning works.

The Contractor shall provide sufficient notice to the Employer to arrange access to Site.

The Contractor shall provide details of dates when access is required to carry out the investigations and any method statements required to perform the Works, for approval. The Contractor is required to submit programmes in advance, including a minimum notice period of five working days before entry is required, so as to obtain the necessary permissions.

The Contractor will comply with the following conditions for access:

- The Contractor must provide a minimum of five days' notice before accessing the site.
- All ground disturbed by the work shall be made good
- Any damage to walls, gates or any other property found to be due to the execution of the work shall be made good.
- The owner shall be fully indemnified against any claim arising from or relating to the carrying out of this work.

- The Contractor shall include in his rates for all access difficulties and for reinstatement of access routes damaged during the course of the investigations. the Contractor is deemed to have included for difficult access and set up in his rates.
- Payment for any additional work shall not be permitted without agreement through a change order issued by the Employer's Representative.

5.6.2 Health & Safety:

The Contractor is expected to establish store and hygiene facilities appropriate to the duration of the scheme and comply with the Safety Health and Welfare Act 2005 and the Safety Health and Welfare (Constructions) regulations 2013 and other relevant legislation, suitable for the number of people proposed to be on site.

Tipperary County Council will be appointed as Project Supervisor Design Process (PSDP) in accordance with the provision of Safety, Health and Welfare at Work (Construction) Regulations, 2013.

In addition to the above, provisions for the safety of all personnel engaged in duties shall be made by the Contractor and shall include for the use of suitable hand, face and body protection, and first aid and cleaning facilities.

All personnel on site shall use waterproof footwear with steel toecaps and reinforced shanks. Brightly colored safety jackets in accordance with BS 6629 shall be worn by all personnel whilst within the site or on public highways.

5.6.3 Quality Management System:

All work shall be carried out in accordance with a quality management system established in accordance with I.S. EN ISO 9001, I.S. EN ISO 14001 and I.S. OHSAS 18001. Records to demonstrate compliance shall be made available to the Investigation Supervisor on request. INAB or UKAS accreditation will be required for all laboratory testing undertaken under this contract.

5.6.4 Programme:

The Contractor shall provide a Programme of works at the outset of the Contract. Professional attendance on site:

The contractor is required to provide the following minimum levels of superintendence.

- Professional attendance by a Chartered Geotechnical Engineer/ Engineering Geologist for logging of all subsoil conditions and separately a Geophysical Engineer with at least 5 years post graduate experience in the undertaking of ground penetrating radar surveys and recording/interpretation results on site shall be required to undertake the GPR surveys.
- 1 person of at least 3 years' experience in the management of temporary Traffic Management (at each

work site if works are progressed while traffic management is in place).

Should the Employers Representatives be dissatisfied with the conduct of such supervisor or foreman or any workman or other employed by the Contractor on the site, he may order his or their immediate dismissal from the work and replacement with suitable personnel. The Contractor shall comply with such order without delay.

The Geophysical Engineer shall be in attendance to carry out the following work:-

- Full-time supervision of GPR Surveys

5.6.5 Method Statements:

The Contractor shall submit Method Statements to the Employer's Representative not less than seven working days prior to commencement of the operation to which the Method Statement refers. Method Statements may include, but not be limited to, the following operations:

- GPR Survey
- Trial Holes

- Boreholes / Rotary Coring
- Slit Trenches

5.6.6 Traffic management measures

Traffic Management arrangements will be appropriate to the requirements of the site. A risk assessment shall be undertaken to determine the extent traffic management is required and submitted to the Employer's Representative.

The Contractor shall be responsible for proper control of traffic on active roadway s throughout the course of the works. Requirements are set out in the requirements below.

Prior to commencement of the Works, the Contractor shall appoint a Traffic Safety and Control Officer who shall make all arrangements necessary for traffic safety and control. The Contractor shall be required to safely maintain traffic flow in both directions for the duration of the site operations, where his works are carried out on or in the vicinity of the existing road network.

The Contractor will be responsible for the preparation of traffic management plans as well as the provision and proper positioning of all warning and advisory signs, traffic cones, signals and warning lamps which may be necessary for the proper control of traffic and to minimize inconvenience to the public caused by his operations. The Contractor shall be responsible for the planning, design, implementation, maintenance and removal of all traffic safety and management measures required to facilitate the Works, this shall include all temporary and permanent works. All such measures shall be in accordance with:

- Chapter 8 of the Department of Transport Temporary Traffic Measures and Signs for Roadworks, current version at the date one week prior to the Tender Date,
- Guidance for the Control & Management of Traffic at Road Works (2nd Edition 2010), and
- this Schedule.

Without prejudice to the Specification, at least 7 Working Days prior to any work impacting on National, Regional and Local Road traffic and any public or private access, the Contractor shall prepare and submit to the Investigation Supervisor and Employer's Representative a Detailed Temporary Traffic Management Plan.

The Contractor shall provide and maintain access to all existing properties adjacent to the Works.

The Contractor must always maintain at least one line of traffic in each direction. In addition, pedestrian traffic along footways and pedestrian access to any place of business must not be impeded. A temporary road closure will not be permitted.

5.6.7 TTM Constraints:

- Consideration must be given to operations of the Creche and residents on the Longfield estate road during works here and measures taken to minimize any delays or disruption because of these investigative works;
- Flagmen instead of actuated traffic lights shall be used when lengthy queues build up (i.e. when the length of queuing traffic does not pass through the signals in within one cycle).
- Additional Traffic Management Operatives (TMOs) shall be provided through any bad bends to ensure safety of survey personnel and road users and always ensure an adequate flow of traffic.

8.7 GROUND PENETRATING RADAR SURVEY

The site location and survey areas are shown on the contract drawing attached in Appendix A – for clarity the sections hatched red are required for a GPR survey.

The survey is required to locate and identify ALL underground utility services and the depth in map format of the survey area.

The Contractor shall submit to Tipperary County Council and its appointed consultants (if appointed) a full description of the equipment and procedures for the ground penetrating radar survey required. The scope and method statement should be evaluated and carried out by a geophysical specialist

The Contractor should allow for orthogonal GPR transects in urban situations of sufficient penetration and resolution to detect buried pipes and other utilities to an accuracy of +/-5% (assuming normal ground conditions).

The equipment, procedure and information to be submitted for the ground penetrating radar survey shall be described in BS5930, BS7022 and the Geological Society Engineering Group Working Party Report on Engineering Geophysics and the essential Guide to Utility Surveys, published by the Survey Association Dated March 2011. The surveys must comply with the best practice document ETSI EG 303 730 and the equipment used should conform to the R&TTE directive 1999/5/EC.

The GPR survey outputs should be supplied with the factual reports, in CAD (hard and soft copy format) at a workable scale of 1:200, though where the area is congested with utilities, the drawings should be supplied at 1:100, allowing adequate room for required text.

9 APPENDICES

Traffic Safety and Management Requirements

- 1) The Survey Contractor shall be responsible for the planning, design, implementation, maintenance and removal of traffic safety and management measures required to facilitate and complete the survey.
- 2) The Survey Contractor shall comply at all times with the requirements of Chapter 8 of the Department of the Transport Traffic Signs Manual, current edition and Guidance for the Control and Management of Traffic at Road Works (Second Edition, 2010) prepared by the Local Government Management Services Board and any additional requirements detailed in the Design Manual for Roads and Bridges. The traffic management plan submitted by the contractor in advance of commencement on site shall be approved by TCC and An Garda Síochána.
- 3) The successful Survey Contractor shall liaise as necessary with An Garda Síochána, Tipperary County Council and any other relevant Utility Providers and Third Parties.
- 4) Traffic Management is to be supervised by a competent person who has successfully completed the three-day Signing, Lighting and Guarding at Roadwork's Course.
- 5) The Contractor shall submit to TCC detailed traffic management plans. The traffic management plans shall include the following information as a minimum:
 - (i) Drawings showing traffic management layout, including:
 - a. Geometric Design
 - b. Roadworks speed limits (if proposed by the Contractor);
 - c. Position of traffic signals and signs;
 - d. Safety Zones
 - e. Location and Width of Lanes;
 - f. Working Areas;
 - g. Access and Exit locations for Contractor's things;
 - h. Temporary Barriers;
 - i. Crossovers;
 - j. Contra-flow arrangements;
 - k. Provision for emergency services & Vulnerable roads users;
 - l. Protection/diversion of services, supplies and the like;
 - m. Signing
 - (ii) Timing of operations.
- 6) Drawings showing the Contractor's Traffic Management plans shall be to a scale not less than 1/1000, supplemented by drawings at 1/500 scales as necessary.
- 7) Traffic Restrictions are to be confined to the following times:
 - Monday to Friday (Excluding Public Holidays) – 09:30 and 16:30
- 8) All vehicles used on Site shall be fitted with a roof mounted amber flashing beacon as a minimum. The use of a vehicles hazard warning lights shall not be acceptable on Site.
- 9) All necessary traffic safety precautions shall be undertaken by the Survey Contractor to ensure the safety of all traffic and pedestrians using the existing roads adjacent to the Survey Site and connecting minor roads during the execution and completion of

the survey, and all precautions shall be taken to minimize disruption to the residents.
The Contractor shall

maintain access at all times to land and property affected by or adjacent to the survey site. He shall pay particular attention to side road junctions, domestic, commercial and farm premises adjacent to the Survey Site.

a) The Survey Contractor shall ensure that no item of plant, goods or equipment (including stores or offices) shall be placed or parked on the public roadway or its verges in a manner which shall / may result in danger to the personnel on the Survey Site or members of the public, or which shall / may restrict sight distances on all accesses to the Site or on public roads. *Traffic Management proposals should take cognizance of all connecting side roads and direct access.*

- 10) The Contractor shall provide and maintain access to all existing properties adjacent to the Works.
- 11) In the event of a traffic accident occurring adjacent to the survey site, the Survey Contractor shall immediately contact the Gardaí and Tipperary County Council informing them of the following:
 - (i) Location of the accident
 - (ii) The seriousness of the accident and whether any persons are trapped, whether the collision involves vehicles carrying inflammable, corrosive or hazardous substances, whether there is a possibility of ignition from leaking fuel or chemicals.
- 12) Liaison with Traffic Gardaí shall be through the following offices:

Contacts	Contact
Clonmel Garda Station, Emmet St., Clonmel, E91 H799	Tel: 052 6177647
Tipperary County Council, Emmet St, Clonmel, E91 N512	Tel: 0818 06 5000
Tipperary County Council, Contact Person for Contract	Tel: 087 3820722

- 13) All drivers, including those delivering plant and materials, must be given clear instructions regarding the traffic arrangements applicable at any particular time.
- 14) The Survey Contractor shall be responsible for maintaining the running traffic carriageway and **all pedestrian and/or cycle routes** adjacent to the survey site in a clean and safe condition at all times.
- 15) The Survey Contractor shall assist the Gardaí in moving wide/abnormal loads through the Works by modifying the signing/coning as necessary. Signs/cones so moved shall be replaced immediately once the abnormal loads have passed through the survey site.

The Successful Contractor will be asked to submit his detailed Traffic Management Plan for approval to TCC and details of his programme with respect to Traffic Management within the following timescales:

- a) *prior to the Date for Commencement; and*
- b) *at least 7 days prior to partial lane closures (if any)*

The successful survey contractor will also be asked to submit the following for approval prior to commencement of the survey:

- COMPANY EMPLOYERS' LIABILITY, PUBLIC LIABILITY & PROFESSIONAL INDEMNITY INSURANCE DETAILS (INSURANCE DETAILS MUST ALSO INCLUDE FOR TRAFFIC MANAGEMENT)

Further relevant information relating to the site:

- a) *Notwithstanding that traffic management will be influenced by the proposed survey methodology; the minimum level of traffic management to be applied, when operators are required to step onto the roadway, is a **Static Manual Controlled Shuttle System**. A generic layout is presented in Fig. AB 1.*
 - b) *All on-road WORKS is to be undertaken within the Works Area. In this regard, narrow lane widths are likely to restrict access to the Centre line and crown in many areas. A survey methodology enabling remote recording of the centerline is likely to be required in such conditions.*
 - c) Pedestrian Footways where present are to be maintained at all times. Movement of cyclists should also be given detailed consideration. Generic Layouts for provision of pedestrians and cyclists are shown on Fig AB 2.
- Table AB 1 presents a non-exhaustive list of site-specific Constraints which are likely to influence temporary traffic management design. It is strongly recommended that the person responsible for the temporary traffic management visits the site prior to submitting their tender.

Site Name	Posted Speed Limits	Estimated AADT	Estimated % HGV	Potential for Cyclist Activity	Other Notable Features
R688 Cashel Road	50kph	10,435	5%	Medium	T Junction at Longfield Avenue
R689 Fethard Road	50kph	11,014	4%	Low	Roundabout on R689 Fethard Rd
Longfield Road/Avenue	50kph	N/A	N/A	Low	T Junction with R688 Cashel Road
Carrigeen Business Park	50kph	N/A	N/A	Low	

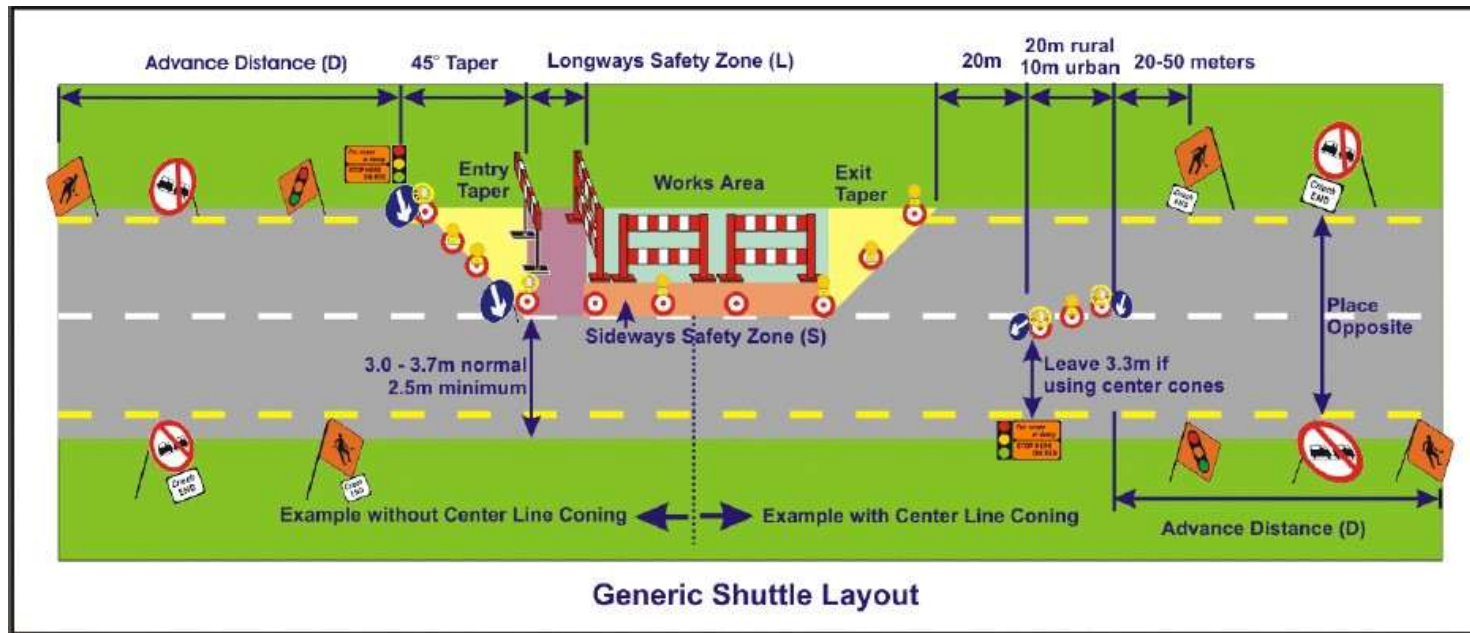


Fig AB 1 – Generic Shuttle Layout.

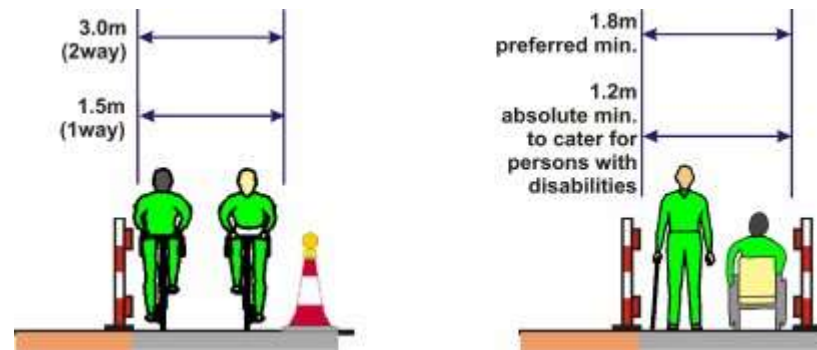


Fig AB 2 – Requirements for Pedestrians and Cyclists

11 APPENDIX B – SCHEDULE OF DRAWING

Drawing No.	Drawing Title
N24-LINKROADS-000-04	Site Location
N24-LINKROADS-000-05	Survey Area 1
N24-LINKROADS-000-06	Survey Area 2

This Questionnaire must be completed and returned with your Tender.

Note: Failure of the Contractor to successfully complete or where the Contractor has been assessed as not fulfilling the requirements, the Contractor will be excluded from proceeding further within the tendering procedure.

Certificate of Competence

1. This company declares that it is competent to perform the works as required by the Local Authority and has a thorough knowledge of the requirements of the current Safety, Health & Welfare at Work Act, Regulations, Codes of Practice and Guidance.

2. This Company declares that the information provided in this questionnaire is an accurate summary of the company's current Safety and Health Management system.

Registered Company Name: _____

Company Registration Number: _____

The year the Company was registered: _____

Average No. of Employees in the last 12 months: _____

Registered Company Address: _____

24 Hour Tel No: _____ Fax: _____ Email: _____

Completed by: _____ Position in company: _____

Contact Number: _____ Date: _____

Signed: _____ Signed: _____

Position: _____ Position: _____

Certificate of Competence

Note: All answers are to be categorized as per this questionnaire and where any supporting documents are being used to provide the answers, reference is to be made to the specific subsections

Safety Health & Welfare Management

1.	Have you previously carried out Work which is comparable in size and nature to this proposed Work? _____ List your top five jobs over the past twelve months _____ _____ _____ _____	Yes/N o
2.	Is a copy of your Safety Statement enclosed with this tender? Is your Safety Statement: • Up to-date • Does it include legislative requirements • Is it signed by the Head of your Company • Does the safety statement set out the company's commitment to safety, health & welfare and the responsibilities of individuals within the company • Does the safety statement describe your arrangements for ensuring relevant work equipment borrowed or hired-in is accompanied by all appropriate training (including induction training), inspection and maintenance records • Who is your Nominated Safety Officer? _____	Yes/N o Yes/N o Yes/N o Yes/N o Yes/N o Yes/N o
3.	How often do you show your Safety Statement to your Staff:	
4.	State how your Safety policy is brought to the attention of all your employees:	

Safety Health & Welfare Management

5.	Does your company have specific arrangements for the implementation of the Safety Statement? Is this detailed in your Safety Statement?	Yes/No Yes/No
6.	Is there a procedure in place for the provision, use and maintenance of personal protective equipment? Is this detailed in your Safety Statement?	Yes/No Yes/No
7.	Does your company have a hazard identification/risk assessment procedure in place? Is this detailed in your Safety Statement?	Yes/No Yes/No
8.	Are there procedures for maintaining, inspecting and assessing the hazards of plant & machinery operated/hired, or owned by the company for use on and off site?	Yes/No
9.	Is your company in a position to provide traffic management services?	Yes/No
10.	Are the following procedures detailed in your Safety Statement: • Work inspection system • Machine inspections • Maintenance inspection • Regular inspection	Yes/No Yes/No Yes/No Yes/No
11.	Are there procedures for dealing with emergencies?	Yes/No

Site Management

12.	Is your company willing to co-ordinate with the Project Supervisor(s) prior to work commencing and during the performance of the Work?	Yes/No
13.	Are you familiar with the process of preparing Safety Statements?	Yes/No

Health & Safety Performance

14.	Have your company's employees been involved on any accidents which were required to be notified to the Health & Safety Authority over the past three years? If Yes, please provide details: _____	Yes/No o
15.	Has your company or individuals employed by your company been prosecuted for any breaches of Health & Safety Legislation within the past three years? If Yes, please provide details: _____	Yes/No o
16.	Has any prohibition, improvement or other enforcement notice/order been issued against your company in the past three years? If Yes, please provide details: _____	Yes/No o
17.	Have there been any dangerous occurrences?	Yes/No o

Health & Safety Training, Instruction & Information

18.	Have all your supervisors attended Health & Safety courses within the past three years?	Yes/No o
19.	Have all your operatives received appropriate training for their work and in general health & safety aspects of your type of work?	Yes/No o
20.	Are records maintained of all training and any certification or license's obtained and induction undertaken for employees of your company?	Yes/No o
21.	Provide evidence that all employees have completed the Safety Pass Scheme. Details enclosed?	Yes/No o
22.	Provide evidence that all relevant persons have completed the CSCS Scheme as per Schedule 4 of 2013 Construction Regulations. Details enclosed?	Yes/No

Site Management

		o
23.	Outline the level of training that your Managers & Employees have received:_____	
24.	Is it your company's policy to carry out site specific training for all employees?	Yes/No
25.	Is it your company's policy to carry out site specific Induction training for all employees?	Yes/No

Site Management

12 APPENDIX C – LIST PROPOSED SUB CONTRACTORS

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

Site Management

7.

Site Management

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