



# GRAHAM

## CONSTRUCTION

### FORTH REPLACEMENT CROSSING – FIFE ITS

FRC/FITS/JG/TMP/001-Rev A

### TRAFFIC MANAGEMENT PLAN

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## 1.0 INTRODUCTION

### 1.1 Introduction to Project

- 1.1.1 Graham Construction have been awarded the FIFE ITS project as part of the overall scheme to provide the new Forth Road Crossing. This design and build contract will comprise the provision of an Intelligent Transport System (ITS) on the northbound and southbound carriageways of the M90 between Junction 1 (Admiralty) and Junction 3 (Halbeath) and on the associated road connections.
- 1.1.2 The project involves the provision and installation of approximately eighteen gantries, including foundations and associated maintenance lay-bys. The gantries will support ITS equipment and direction signing. Associated with the gantries is the provision of hard landscaping, ducting, cabling and carriageway resurfacing.
- 1.1.3 The overall scheme layout can be seen in Appendix A including gantry locations, resurfacing operations and works at Pitreavie Roundabout.

### 1.2 INTRODUCTION TO TRAFFIC MANAGEMENT PLAN

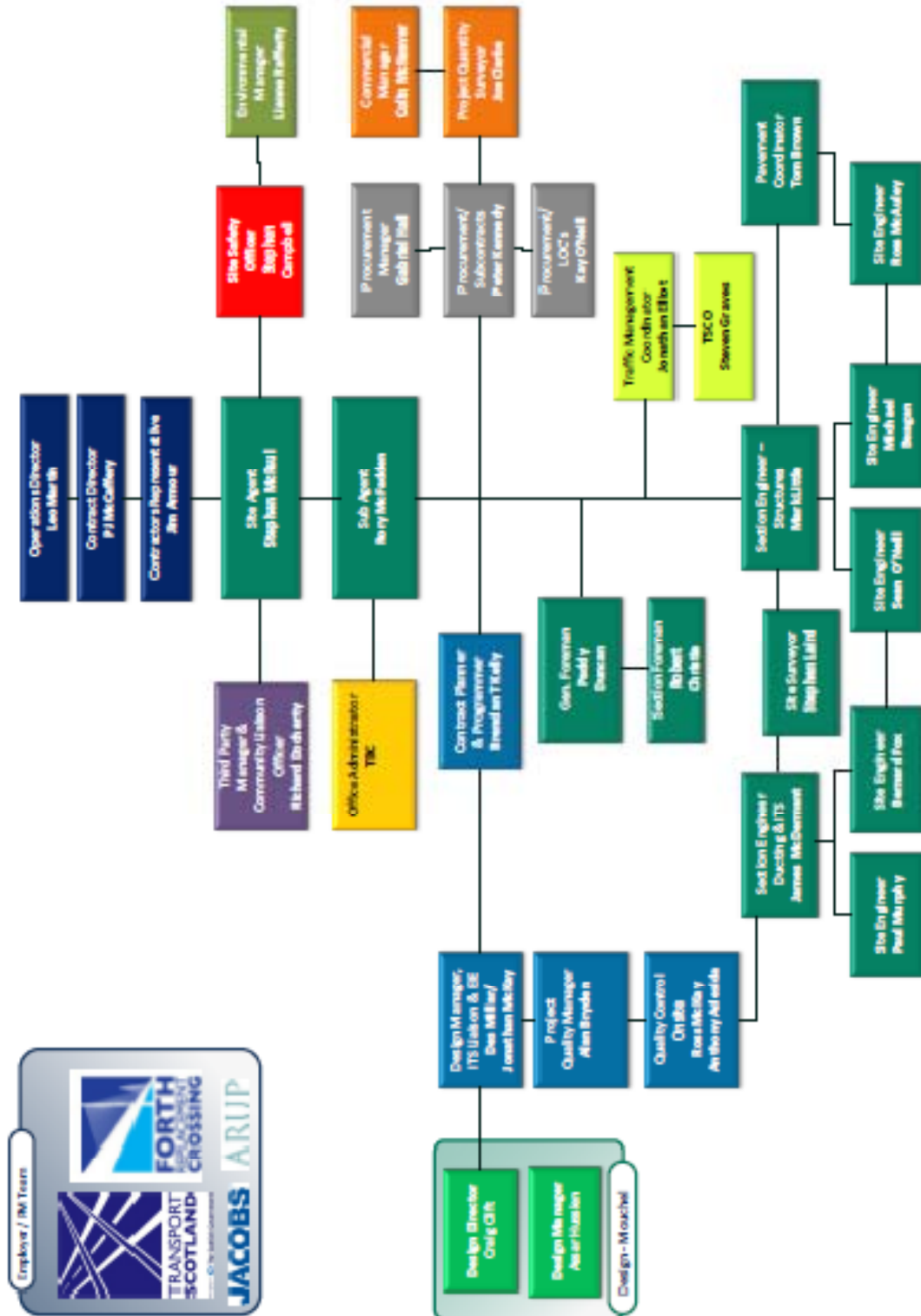
- 1.2.1 This document was developed to provide information on the traffic management requirements and procedures associated with the proposed construction work to be undertaken on the project. GRAHAM Construction recognises the need to manage, maintain and monitor the traffic management during the construction phase. In order to maintain the health and safety of traffic, the public and construction staff.
- 1.2.2 Guidance with regards to traffic management has been obtained from the detail within the Code of Construction Practice, Appendix 1/17, Appendix 1/18, Appendix 1/19, and Appendix 1/20 of the specification.
- 1.2.3 Due to the nature of the project there is potential for delays and disruption to be created by means of traffic management required for particular elements of works, such as gantry installation, resurfacing etc. However through careful planning these issues can be minimised or even eliminated before the works commence, for example from co-ordinating works, changing works sequencing or adopting alternative traffic management schemes. Through careful planning disruption can be reduced or mitigated through advertising. Advertising via TMWG, press releases, web updates, letter drops etc. as appropriate for the scope of the traffic management scheme will also be used.
- 1.2.4 It will be a policy of GRAHAM Construction to avoid unnecessary delays and disruption to traffic, the public during construction of the Fife ITS project while

maintaining the relevant safety standards for traffic, the public and the construction staff.

- 1.2.5 A Traffic Management Working Group (“TMWG”) has been formed for the project which includes representatives from Transport Scotland, road operators, road authorities, the emergency services and the contractors for the Principal Contract and M9 Junction 1a contracts. GRAHAM Construction shall advise members of the group as to future traffic management proposals, meeting at monthly intervals as a minimum. Information to be reviewed at meetings of the TMWG shall be submitted at least 7 days in advance of the next meeting of the TMWG.

## 2.0 CONTRACT INFORMATION

### 2.1 Organogram





## 2.2 TSCO

Name	TBC
Contact Details	TBC
Responsibilities	All traffic management measures
	Ensuring all equipment is in place and in full working order
	Enforcement of health and safety in liaison with the Graham Construction's contractor's Health and Safety Manager, relating to operations and live traffic
	Liaison with the Employer's Representative, CDM Co-ordinator and relevant authorities and ongoing monitoring of traffic management measures
	Arranging for site inspections and equipment attended to and maintained and in the case of accidents or incidents
	Informing the Traffic Scotland Control Centre (TSCC), AA Road watch, RAC, Radio Scotland, local radio and the local press at least two weeks in advance of any planned major changes to the traffic management layouts, including any plans to reduce the number of lanes.
	In the event of a traffic accident occurring in or adjacent to the Site, contacting the emergency services and the Employer informing them of: <ul style="list-style-type: none"> <li>• The location of the accident</li> <li>• The seriousness of the accident and whether any persons are trapped</li> <li>• Whether the incident involves vehicles carrying flammable, corrosive or hazardous substances; and</li> <li>• Whether there is a possibility of ignition from leaking fuel or chemicals</li> </ul>

## 2.3 Traffic Management Co-ordinator

Name	Jonathan Elliott
Contact Details	07989349184

## 2.4 Traffic Management Programme

- 2.4.1 The traffic management programme is contained within Appendix B. The programme will be updated in accordance with the contract programme.

### 3.0 TTMS REGISTER

- 3.1 The traffic management drawings required along with the consultation register for the works are summarised in the Appendix C.

#### 4.0 TIMING OF OPERATIONS

4.1 Normal working hours for the Works shall be Monday to Friday - 0800 hours to 1900 hours and Saturday – 0800 to 1800 hours. GRAHAM Construction will be required to provide such information as may be considered necessary in accordance with the Noise and Vibration Monitoring Plan if an extension to the normal working hours is sought.

4.2 The erection and removal of any traffic management installation, temporary diversion or Stage 3 Road Safety Audit shall not be carried out during the following hours or during any other time periods specified by the Employer or TMWG:

- Monday to Sunday – 06:00-09:30 hours inclusive and 16:00 (15:30 on Fridays) to 20:00 hours inclusive and on any local or national public holiday or ‘one-off special events’ identified by the Employer, unless agreed in writing by the Employer and any other relevant authority, or on specific instructions from the police.

4.3 Key events are scheduled in table 4.3 below. GRAHAM Construction shall ensure that the traffic management proposals take account of events and public holidays which are likely to affect traffic flows. The events schedule shall be updated quarterly or as required to revise dates and include any additional events identified that may be affected by the works.

Royal Highland Show	23 June 2011 – 26 June 2011
T in the Park Music Festival	8 July 2011 – 10 July 2011
The Scottish open	TBC (July)
Queensferry Ferry Festival	TBC (August)
Edinburgh International Festival	TBC (3 weeks in August)
Edinburgh Hogmanay Street Party	31 December annually
Olympic Games	25 July 2012 – 12 August 2012
Olympic Games	27 July 2012 – 12 August 2012
Paralympic Games	29 August 2012 – 9 September 2012

**Table 4.3 Events Schedule**

4.4 TTMS which are only permitted in Exceptional Circumstances shall not be permitted during the following periods, except in the case of emergencies:

- 1 December to 2 January inclusive
- Good Friday to Easter Monday inclusive
- Between Friday and Monday inclusive on any local bank holiday or public holiday weekend during May, July, August or September
- As directed by the TMWG or the police



## 5.0 CONSTRUCTION TRAFFIC ACCESS

5.1 Any vehicle over 3 tonnes unladen weight used for the haulage of materials for the Works shall not be permitted to use the routes listed below:

- Routes through Inverkeithing and Castlandhill / Rosyth (i.e. sections of the B981 (Hope Street) and B980)
- Routes through Crossgates (i.e. sections of the B925 (Dunfermline Road and Spronghill Brae) and the B981 (Main Street))

5.2 Any other existing public or private roads including footways, farm and house accesses shall be used by GRAHAM Construction only with the prior agreement of the owner, the Employer and relevant authority as appropriate.

5.3 A haulage route plan will be developed for the site for the major suppliers (concrete, earthworks, surfacing etc.) showing routes to be used to get to works areas and access locations for the works areas. Controlled site access / egress will be incorporated into the design of each TTMS. The access egress plan will be communicated to the suppliers and sub-contractors.

5.4 Site compound location and access route from Admiralty Junction on the M90 is contained in Appendix D.

5.5 GRAHAM Construction shall consult and comply with the relevant road authority regarding the routing of vehicles to and from the Site. GRAHAM Construction shall submit to the Employer in accordance with the Review Procedure proposals for construction traffic access.

## 6.0 MEASURES TO PROVIDE FOR THE SAFETY OF TRAFFIC, THE PUBLIC AND CONSTRUCTION STAFF DURING THE TRAFFIC MANAGEMENT WORKS AND TEMPORARY TRAFFIC CONTROL MEASURES

- 6.1 All traffic management works to be completed by trained competent personnel from specialist sub-contractor. All TTMS shall be designed and installed in accordance with Chapter 8 and design standards as specified in the Employers Requirements, Part A2, Specification and Appendix 1/18. All TTMS drawings shall be approved by the Employer prior to installations.
- 6.2 A risk assessment and method statement shall be completed for the installation of each TTMS and shall consider hazards associated with each scheme and necessary control measures. The risk assessment proforma to be used can be found in Appendix E.
- 6.3 A stage 1 Road Safety Audit has been completed on the preliminary phasing traffic management drawings. Comments from this audit will be considered and incorporated into the TTMS as appropriate in the detailed design. Stage 2 and Stage 3 Road Safety Audits shall be completed on TTMS that are judged to be sufficiently complex or major to require audit.
- 6.4 GRAHAM Construction shall provide a Temporary Automatic Speed Camera System for the Enforcement of Mandatory Speed Limits at Roadwork's (TASCAR). This system shall be installed and made operational during the first week of the initial traffic management scheme being installed.
- 6.5 During the period when traffic restrictions are imposed on any road, GRAHAM Construction shall provide a minimum of two responsible and appropriately experienced operatives with an appropriate vehicle on a 24 hour day, 7 day a week basis whose sole responsibility shall be for the operational supervision and monitoring of the TTMS.
- 6.6 In the event of an accident occurring in or adjacent to the site, the TSCO shall immediately contact the emergency services as appropriate. Emergency contact details are:

Fife Constabulary	0845 600 5702
Scottish Ambulance Service	0131 446 2600
Fife Fire & Rescue	01592 774 451

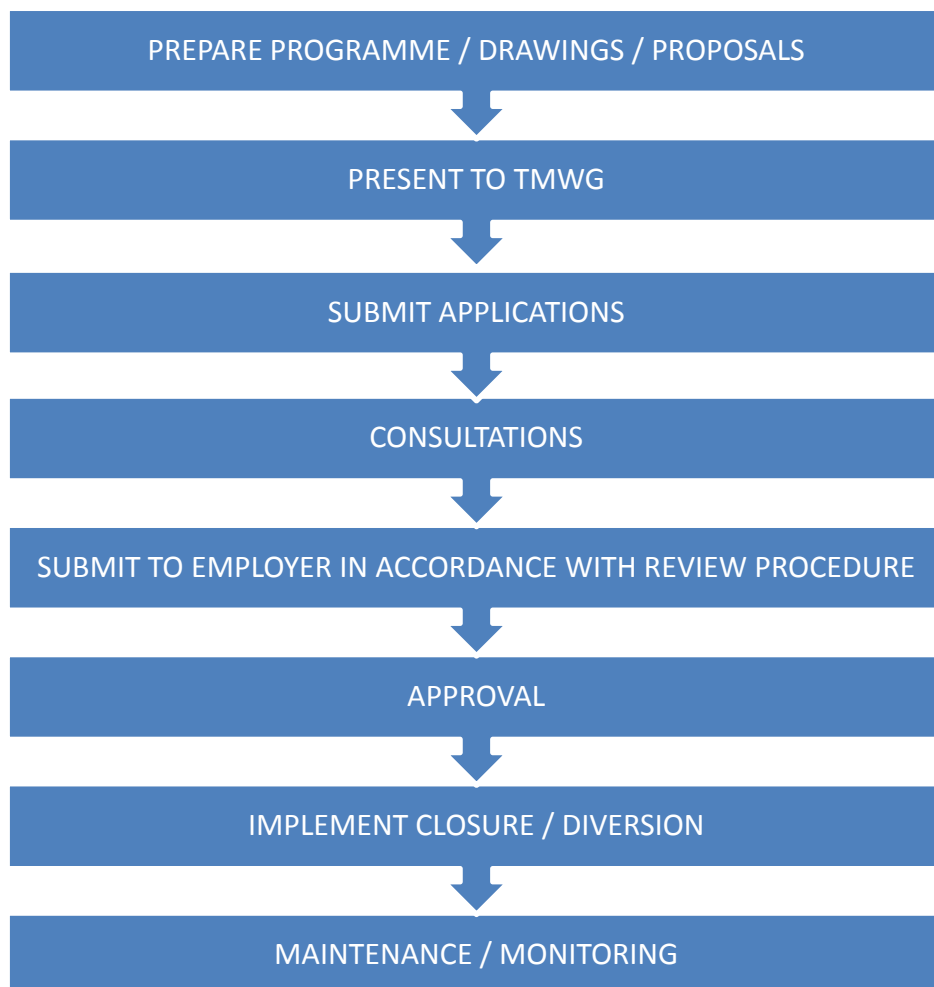
- 6.7 GRAHAM Construction shall provide a breakdown recovery service with one heavy recovery vehicle and one light recovery vehicle on the site, available at all times.
- 6.8 Where reasonable and practicable, construction vehicles will avoid travelling in convoys on public roads.
- 6.9 Construction staff using private vehicles to travel to the site will park their vehicles in designated construction site car parks and not on public roads within a two mile radius of the site. Parking of vehicles being used for construction purposes will be permitted on public roads within the limits of any traffic management scheme provided for the works.

6.10 GRAHAM Construction will seek to arrange delivery of materials to the site by road between 0930 hours and 1600 hours to minimise disruption to road users during peak periods. This will be subject to the need for deliveries to occur at other time to maintain the safe and efficient operation of the construction works.

6.11 All accesses shall comprise a minimum paved width of 6.5 metres for a distance of 20 metres from the public road.

## 7.0 PROCESSES TO BE FOLLOWED FOR THE TEMPORARY CLOSURE OR DIVERSION OF ROADS OR ACCESSES

- 7.1 Unless specifically provided for in the Forth Crossing Bill, or otherwise agreed with the relevant road authority or the owner and occupier of a private access, GRAHAM Construction will not close or divert any road or the like.
- 7.2 GRAHAM Construction shall submit to the Employer in accordance with the Review Procedure his detailed proposals for the temporary diversion of traffic (including non motorised user routes) at least 6 weeks prior to the implementation date.
- 7.3 GRAHAM Construction will apply for any consent and prepare any orders or regulations required for the temporary traffic management schemes or road closures and comply with the requirements of the relevant roads authority in this regard and to ensure that temporary or substitute roads have the appropriate legal status.



**Figure 7.0 Procedures for Temporary Closures or Diversions**

## 8.0 PROCESURES TO BE FOLLOWED TO OBTAIN CONSENT TO WORK OVER RAILWAYS

8.1 GRAHAM Construction will consult with the operators of railways regarding construction works on, over or adjacent to railways or other works which may affect railways and will obtain any consents necessary for the works to be undertaken.

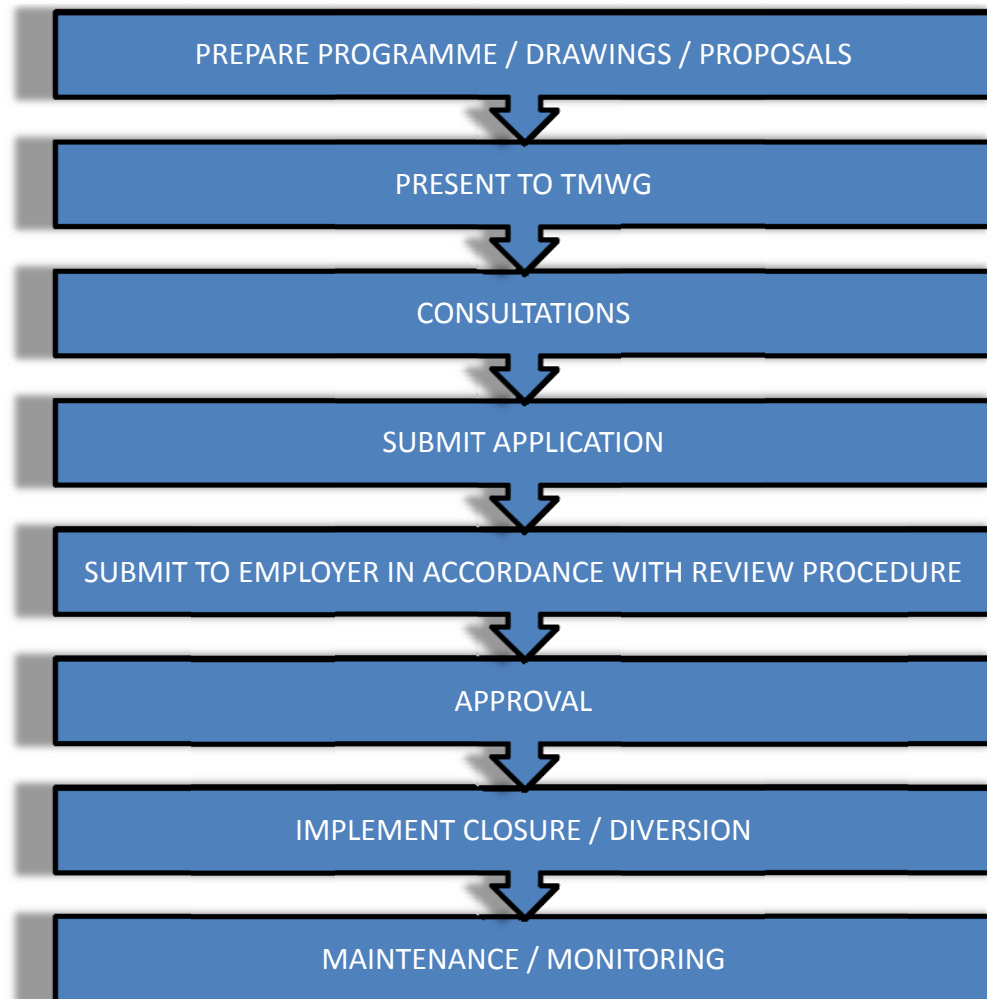


Figure 8.0 Procedures to obtain consent to work over railways

## 9.0 EXISTING PEDESTRIAN, EQUESTRIAN AND CYCLIST ROUTES

- 9.1 GRAHAM Construction shall take cognisance of cyclists, pedestrians and other road users, as appropriate, whilst undertaking any works on or adjacent to side roads. GRAHAM Construction shall take all measures required to provide appropriate mitigation for these road users.
- 9.2 No equestrian or cyclist routes have been identified in the vicinity of the works.
- 9.3 GRAHAM Construction shall construct temporary diversion ways wherever the Works interfere with existing public or private roads or other ways over which there is a public or private right of way for traffic, whether vehicular or non motorised traffic.
- 9.4 Potential Footpath / Works interfaces have been identified at Pitreavie Roundabout and are shown in Appendix F.

**10.0 MAINTAINING BUS ROUTES AND PRIVATE ACCESSES**

10.1 GRAHAM Construction will consult with the relevant local authorities and relevant public transport and local bus operators regarding traffic management schemes that may affect the flow of buses and implement appropriate measures to mitigate disruption to bus services.

10.2 Bus Routes affected by the works are listed in the table 11.2 below

Bus Operator	Location

**Table 11.2 Bus Routes**

10.3 Private Accesses affected by the temporary traffic management schemes shall have there access maintained where ever possible. Details for maintaining private accesses affected by TTMS shall be included in the detailed traffic management drawings. Private accesses affected by the works are listed in table 11.3 below

Private Access	Location

**Table 11.3 Private Accesses**



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**11.0 MEASURES TO BE IMPLEMENTED TO REDUCE CONSTRUCTION TRAFFIC IMPACTS OR IMPACTS ASSOCIATED WITH OVER-PARKING ON RESIDENTIAL STREETS**

11.1 There are no residential streets identified within the works. The works will be access from the mainline and connector routes. No impacts are anticipated on residential streets.

11.2 Refer to Section 6.0 for measures to be implemented to reduce construction traffic impacts.

## 12.0 MONITORING REQUIREMENTS IN RELATION TO THE TRAFFIC MANAGEMENT PLAN

### 12.1 Safety Inspections

- 12.1.1 GRAHAM Construction shall carry out safety inspections of the Trunk Road and Side Roads assets on existing public roads within the Land Made Available. Safety inspections shall be designed to primarily to identify Category 1 Defects. Where possible, safety inspections shall be carried out during off-peak traffic periods in order to minimise traffic disruption.
- 12.1.2 Safety inspections shall be carried out at frequencies not exceeding 7 days along existing public roads and within the Land Made Available. Safety inspections shall consist of a survey of all that can be practicably be seen from a slow moving vehicle within the boundary of a Trunk Road or Side Road within the Land Made Available.
- 12.1.3 Safety inspections shall also be carried out within 24 hours after an actual or potential problem or deficiency shall have been observed and reported by GRAHAM Construction, the Employer, the police or any other party.
- 12.1.4 A walked inspection shall, in appropriate circumstances and where it is safe to do so, be carried out if it shall be impracticable or unsafe to use a vehicle driving slowly or whenever and actual or potential problem or deficiency shall have been reported by the Contractor, Employer, the police, the public or any other party.
- 12.1.5 Night time safety inspections for road markings, road safety signs and road lighting shall be carried out every 14 days during October to March inclusive and every 28 days during April to September inclusive each calendar year.

### 12.2 Maintenance Requirements

- 12.2.1 The minimum frequency of inspections and maximum response times for maintenance shall be as follows:

Location	M90, A823(M) & A92		All other Roads	
	Frequency of inspection per 24 hour period	Maximum Response Time	Frequency of inspection per 24 hour period	Maximum Response Time
Advance Signing	4	60 minutes	2	60 minutes
Taper	12	15 minutes	6	15 minutes
Lane Closure	6	30 minutes	3	30 minutes
End Signing	4	60 minutes	2	60 minutes

12.3 Monitoring of Roadwork's

12.3.1 Traffic queues shall be measured by means of time delay. GRAHAM Construction shall inform the TSCC via regular telephone calls quoting the unique Automated Diary Facility (ADF) reference number for the Works at the following intervals:

- 15 minutes prior to traffic management commencing at a roadwork's location
- Immediately when delays to traffic, determined when using the Journey Time system meet or exceed 8 minutes
- Thereafter at no more than 30 minutes intervals or when delay changes of five minutes or more occur, giving details of the delay times until they have ceased to exceed 10 minutes
- At the closing or opening of any on or off slip road; and
- Immediately once the traffic management has been removed from a roadwork's location.

12.3.2 Measured queue lengths shall be when traffic is moving with a speed of less than 20 miles per hour over a section of road. 'No substantial delay' shall be for queues of less than 8 minutes. Substantial delay queue lengths shall be quoted in the following bands:

MEASURED DELAY	QUOTED DELAY
Up to 8 minutes	No substantial delay
Between 8 and 12 minutes	10 minute delay
Between 13 and 17 minutes	15 minute delay
Between 18 and 22 minutes	20 minute delay
Subsequent 5 minute time bands	Add 5 minutes

12.3.3 GRAHAM Construction shall implement a Journey Time System by means of a manual vehicle monitoring system and report to Traffic Scotland with any delays. When communicating a traffic queue its length shall be quoted as a distance in miles and the measured delay time for vehicles to pass through the works. A vehicle shall be chosen at random and its time taken to travel from joining the queue to exiting the works or queue, measured from the traffic monitoring locations, recorded and reported as required. This procedure shall be repeated and times reported as detailed above. The traffic queue timings shall be recorded as per the table below:

Vehicle Registration	Vehicle Description	Queue Length (Marker post & Location)	Queuing Start Time	Queuing End Time	Journey Time Through Works	Traffic Scotland Reference Number

- 12.3.4 A base line survey of traffic queuing has been completed prior to any traffic management restrictions being implemented for use as a comparison figure during the works. The potential queuing hot spots for each phase have been identified as:

PHASE	HOT SPOTS
1	M90 SB (Forth Bridge Queues), Northern Entry to TTMS M90 SB
1A	A92 SB
2	M90 SB (Forth Bridge Queues) , Northern Entry to TTMS M90 SB
3	M90 SB (Forth Bridge Queues) , Northern Entry to TTMS M90 SB
4	A823(M) SB
5	M90 SB (Forth Bridge Queues)
6	Night time working
7	Off peak or weekend works
8	M90 SB (Forth Bridge Queues)

- 12.3.5 Base line traffic monitoring was completed on Tuesday 9<sup>th</sup> August 2011 during both the morning and evening peaks and again on Tuesday 6<sup>th</sup> September 2011 during the evening peak and on Wednesday 7<sup>th</sup> September 2011 during the morning peak.

Date	Time	Observations
Tues 9 <sup>th</sup> August 2011	07:15-09:30	No queues or delays within site at any time
Tues 9 <sup>th</sup> August 2011	16:00-18:30	No queues or delays within site at any time
Tues 6 <sup>th</sup> September 2011	16:00-18:00	No queues or delays within site at any time, Forth Road Bridge queue backed up to the Admiralty southbound on slip from 17:30-17:45 (note, rain and very strong winds – Forth Road Bridge restricted to 40mph and Tay Bridge open to cars only)
Wed 7 <sup>th</sup> September 2011	07:30-09:00	M90 southbound 1 mile queue through works at 07:30 (6 minute journey time), ¾ mile queue at 07:50, ¼ mile queue at 08:00 with no queuing after 08:00 through works.

- 12.3.6 This system will be operated by having traffic monitoring operatives located at strategic locations to observe traffic queuing with reference points given for queuing lengths. The queue lengths will be measured from a datum point at the south side of Admiralty Junction and will measure the queue length through the

road works. Marker posts will be installed at half mile intervals along the M90, A92 and A823(M) on the southbound carriageways as shown in Appendix G.

12.3.7 Upon the installation of each phase the monitoring system will be reviewed and modified as required in order to fully assess all delays as required.

12.3.8 For phase 1 and subsequent phases with ongoing TTMS on the mainline M90, A823(M) and A92 the traffic monitoring points are shown in Appendix G.

#### 12.4 Plan review

12.4.1 The traffic management plan shall be reviewed every second month and updated accordingly.

### **13.0 PROCEDURES TO FACILITATE THE MOVEMENT OF EMERGENCY SERVICES THROUGH ANY TTMS**

13.1 All major TTMS and closures shall be highlighted to the emergency services through the TMWG highlighting any constraints for facilitating the movement of the emergency services through the TTMS.

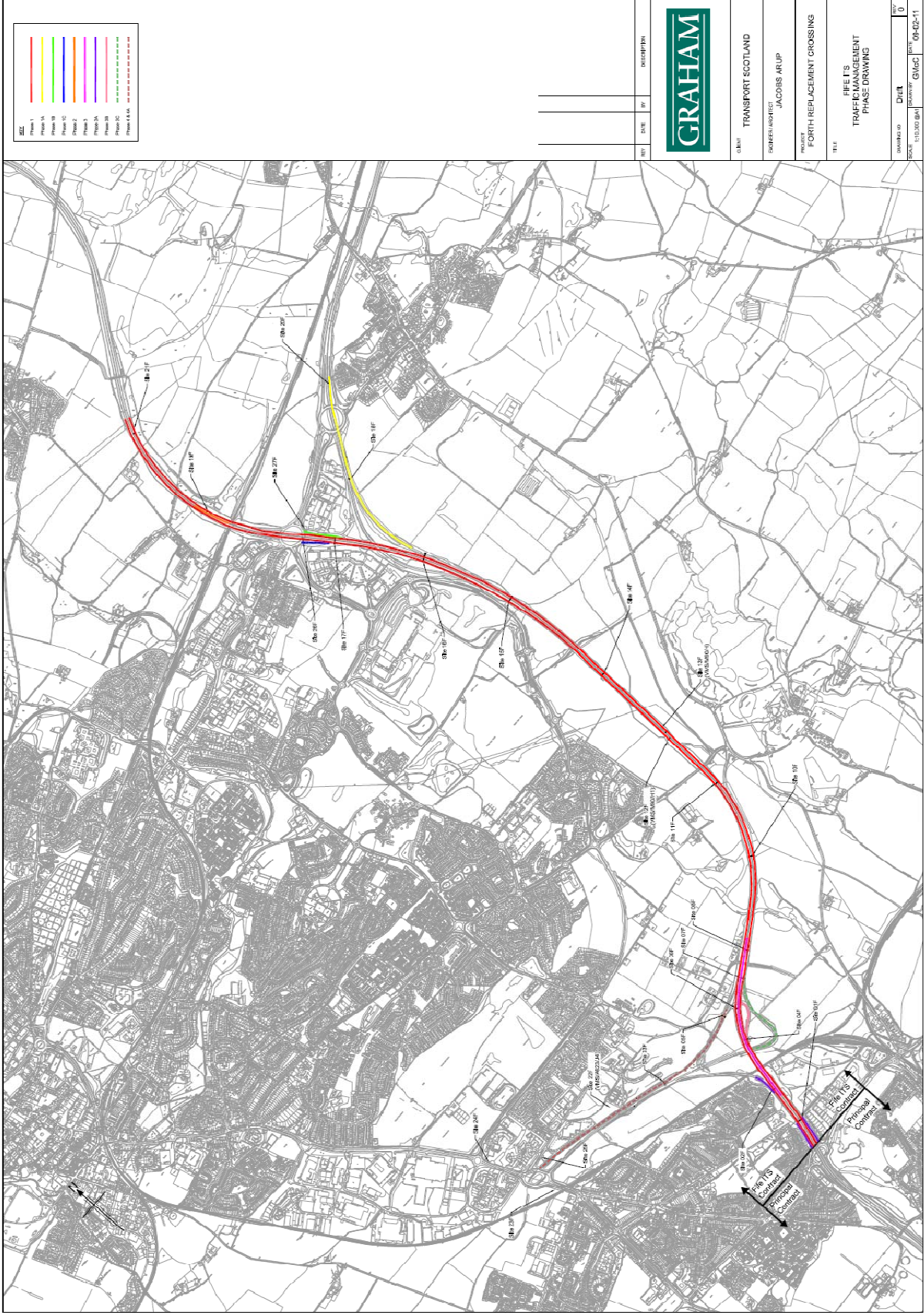
13.2 The emergency services shall in the event of an emergency contact the TSCO and/or TM maintenance team who will then arrange to facilitate and escort the movement of the emergency service through works area, if possible to do so. The assistance of the police may be required also and shall be co-ordinated with the TSCO.

#### **14.0 PROCEDURE FOR CONSULTATION WITH RELEVANT ROAD AUTHORITIES, OPERATORS AND CONTRACTORS REGARDING CO-ORDINATION OF ROAD WORKS**

- 14.1 GRAHAM Construction shall, where practicable, provide all statutory notices to the Employer for any works which are required to be entered in the Scottish Road Works Register. Written notice shall be provided to the Employer of the completion of any works entered in the Scottish Roads Works Register within seven days of the completion of said works.
- 14.2 GRAHAM Construction shall become a member of the Scottish Roads Works Register community as a utility and be responsible for all notices required by the Scottish Road Works Commissioner including details of the temporary traffic management schemes.
- 14.3 GRAHAM Construction shall liaise with the Roads Authority and Utilities Committee (Scotland) local gazetteer group with regard to establishing the information that is required to be entered into the Scottish Road Works Register.
- 14.4 Works requiring co-ordination with the FRC Fife ITC road works shall be identified at the monthly TMWG meeting with the local road authorities and operators. Measures can then be developed to, where possible, co-ordinate these works.



# 15.0 APPENDIX A: TTMS Phasing Plan



## 16.0 Appendix B: Phasing Programme

Scheme	Work Activities	TTMS Details	Start Date	End Date
Scheme 40mph/average speed/breakdown signage Generic lane closures	N/A Various works with traffic reduced to single running lane	Night time lane closures	18/08/2011	
Phase 1 - M90 SB	G08F, G10F, G11F, G14F, G15F, G16F Gantry works, verge communication ducting, verge drainage, hard shoulder surfacing preparation works, hardstanding works G12F, G13F	M90 SB hard shoulder closure	18/08/2011	
Phase 1 - M90 NB	G06F, G10F, G11F, G14F, G15F, G16F, G19F, G21F Gantry works, verge communication ducting, verge drainage, hard shoulder surfacing preparation works, hardstanding works G12F, G13F	M90 NB hard shoulder closure	19/08/2011	
A92 SB to M90 total closure and diversion	Temporary barrier installation/removal & Gantry installation	A92 SB to M90 diverted		
Phase 1A - A92 NB & SB	G18F, G20F Gantry works	A92 NB & SB reduced to single running lane		
M90 Junction 3 SB merge total closure and diversion	Temporary barrier installation/removal & Gantry installation	M90 Junction 3 SB merge diverted		
Phase 1B - M90 Junction 3 SB merge	G17F Gantry works	M90 Junction 3 SB merge single running lane		
M90 Junction 3 NB diverge total closure and diversion	Temporary barrier installation/removal & Gantry installation	M90 Junction 3 NB diverge diverted		
Phase 1C - M90 Junction 3 NB diverge	G17F Gantry works	M90 Junction 3 NB diverge single running lane		
Admiralty SB diverge total closure and diversion	Temporary barrier installation/removal & Gantry installation	Admiralty SB diverge diverted		
Admiralty SB merge total closure and diversion	Temporary barrier installation/removal & Gantry installation	Admiralty SB merge diverted		
Masterton NB diverge total closure and diversion	Temporary barrier installation/removal & Gantry installation	Masterton NB diverge diverted		
Masterton NB merge total closure and diversion	Temporary barrier installation/removal & Gantry installation	Masterton NB merge diverted		
Masterton SB diverge total closure and diversion	Temporary barrier installation/removal & Gantry installation	Masterton SB diverge diverted		
Masterton SB merge total closure and diversion	Temporary barrier installation/removal & Gantry installation	Masterton SB merge diverted		
Phase 2 - M90 NB & SB	G02F, G04F, G06F, G07F, G08F Gantry works	M90 NB & SB running HS & L1 Admiralty to Masterton		
Phase 3 - M90 NB & SB	G19F Gantry works	M90 NB & SB running HS & L1 north Junction 3 (site 19)		
A823(M) EB total closure and diversion	Temporary barrier installation/removal & Gantry installation	A823(M) EB diverted		
Phase 3A - Admiralty SB diverge lane closure	G01F Gantry works	Admiralty SB diverge reduced to single		
Phase 3A - Admiralty SB diverge closure and diversion	Temporary barrier installation/removal, G01F Gantry works, Gantry installation	Admiralty NB merge diverted		
Phase 3A - Masterton NB diverge lane closure	G02F Gantry works	Masterton NB diverge reduced to single running lane		
Phase 3B - Masterton SB merge lane closure	G04F Gantry works	Masterton SB merge reduced to single running lane		
Phase 3C - Masterton SB diverge lane closure	G07F Gantry works	Masterton SB diverge reduced to single running lane		
Phase 4 - A823(M) stage 1	G03F, G05F Gantry works, verge communication ducting works	A823(M) EB single lane running stage 1		
Phase 4 - A823(M) stage 2	G03F, G05F Gantry works	A823(M) EB & WB single lane running stage 2		
Phase 5 - Resurfacing M90 2+1+1 contraflow on NE stage 1	resurfacing works SB HS & part lane 1	2+1 on NB & single lane running on SB lane 2		
Phase 5 - Resurfacing M90 2+1+1 contraflow on NE stage 2	resurfacing works 50 part lane 2 & lane 2	2+1 on NB & single lane running on 50 hard shoulder		
Phase 5 - Resurfacing M90 2+1 contraflow on NB	resurfacing works SB	2+1 on NB & possible slips closures		
Phase 5 - Resurfacing M90 2+1 contraflow on NB	resurfacing works SB	2+1 on NB & possible slips closures		
Phase 5 - Gantry Installation M90 total closure Junction 1 to 2		total closure of M90 NB & SB and associated slips		
Phase 5 - Gantry Installation M90 total closure Junction 2 to 3		total closure of M90 NB & SB and associated slips		
Phase 5 - Gantry Installation M90 1+1 contraflow on NB sites 19 & 21	G19F, G21F gantry installation	NB & SB reduced to single running lane & possible slip closures		
Phase 5 - Gantry Installation M90 1+1 contraflow on NB sites 7 & 8	G07F, G08F gantry installation	NB & SB reduced to single running lane & possible slip closures		
Phase 5 - Gantry Installation M90 1+1 contraflow on SB sites 2 & 6	G02F, G06F gantry installation	NB & SB reduced to single running lane & possible slip closures		
Phase 7 - Pitreavie Roundabout Lane Closures & footpath closures	communication ducting	Pitreavie Roundabout single lane running & footpath diversion		
Phase 7 - Queensferry Road Lane Closures & footpath closures	communication ducting	Queensferry Road single lane running & footpath diversion		
Phase 7 - Castle Drive Lane Closures & footpath closures	communication ducting	Castle Drive single lane running under TTL's & footpath diversion		
Phase 8 - M90 Masterton Viaduct Resurfacing	resurfacing works NB	control flow on M90 SB		

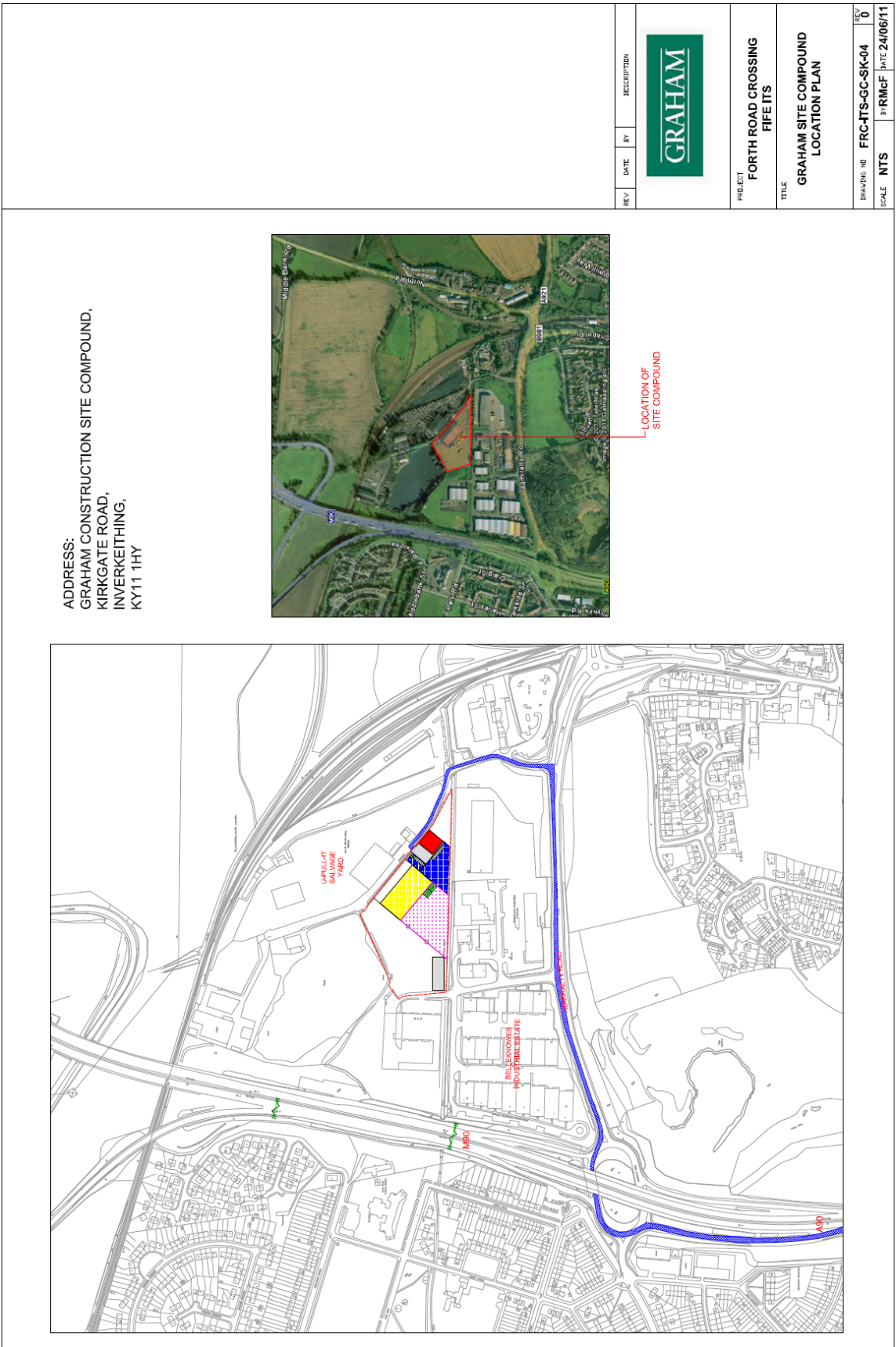
17.0 APPENDIX C: Drawings and Consultations Register

ITMS Reference	ITMS No.	Location	Activity Name	Lane Availability	Restrictions	Start	Finish	TRO#	TRO#	Application start date	Application end date	Issue to TS Lab	Order in place
TBC	Phase 1	M90 S/B Halibath - Admiralty	Install and remove TM	1 running lane M90 N/B and S/B	M90 S/B lane closure 40 mph speed limit	09/09/11	09/09/11 N/A						
			Install TM	1 running lane M90 N/B and S/B	M90 N/B and S/B lane closure 40 mph speed limit	20/09/11	20/09/11 N/A				17/08/2011	01/12/2011	06/09/2011
002	Phase 1	Elements of scheme - M90 N/B and S/B	TM in place	2 running lanes M90 N/B and S/B	Hand shoulder closure 40 mph speed limit	20/09/11	20/09/11	TR80 001	TR80 002	17/08/2011	01/12/2011	06/09/2011	
			Remove N/B HS TM	1 running lane M90 N/B	40 mph speed limit	20/09/11	20/09/11	TR80 001	TR80 002	17/08/2011	01/12/2011	06/09/2011	
004	Phase 3	M90 N/B and S/B Masterston Interchange, G02-G08F	Remove S/B HS TM	1 running lane M90 S/B	M90 S/B lane closure 40 mph speed limit	20/09/11	20/09/11	TR80 003	TR80 004	17/08/2011	01/12/2011	06/09/2011	
			Install TM	1 running lane M90 N/B and S/B	M90 N/B and S/B lane closure 40 mph speed limit	20/09/11	20/09/11	TR80 003	TR80 004	17/08/2011	01/12/2011	06/09/2011	
TBC	Phase 2	M90 N/B and S/B north of Junction 3 @ G19F	TM in place	2 running lanes M90 N/B and S/B	M90 N/B and S/B lane closure 40 mph speed limit	20/09/11	20/09/11	TR80 005	TR80 006	17/08/2011	01/12/2011	06/09/2011	
			Remove TM	1 running lane M90 N/B and S/B	M90 N/B and S/B lane closure 40 mph speed limit	20/09/11	20/09/11	TR80 005	TR80 006	17/08/2011	01/12/2011	06/09/2011	
TBC	Phase 1B	B Northbound Diverge	Remove TM	1 running lane on slip road	Lane closure on slip road	06/12/11	20/01/12 N/A			31/10/2011	30/04/2012	06/09/2011	
			Install TM	1 running lane on slip road	Slip road closure	20/01/12	20/01/12	TR80 005	TR80 006	31/10/2011	30/04/2012	06/09/2011	
TBC	Phase 1C	B Southbound Merge	Remove TM	1 running lane on slip road	Lane closure on slip road	20/11/11	06/02/12 N/A			31/10/2011	30/04/2012	06/09/2011	
			Install TM	1 running lane on slip road	Lane closure on slip road	20/11/11	06/02/12	TR80 005	TR80 006	31/10/2011	30/04/2012	06/09/2011	
TBC	Phase 1A	A62 Interchange with M90 to G10F	Remove N/B TM	A62 N/B and S/B 1 running lane	A62 N/B and S/B lane closure 40 mph speed limit	27/12/11	27/12/11	TR80 006	TR80 007	01/12/2011	30/04/2012	06/09/2011	
			Remove S/B TM	A62 S/B closure	A62 S/B lane closure	06/03/12	06/03/12	TR80 006	TR80 007	01/12/2011	30/04/2012	06/09/2011	
TBC	Phase 3A.1	Admiralty Junction Southbound Diverge	Install TM	Slip road closure	Slip road closure	06/11/11	06/11/11	TR80 003	TR80 004	17/10/2011	30/04/2012	06/09/2011	
			TM in place	1 running lane on slip road	Lane closure on slip road	06/11/11	06/11/11	TR80 003	TR80 004	17/10/2011	30/04/2012	06/09/2011	
TBC	Phase 3A.2	Admiralty Junction Northbound Merge	Remove TM	Slip road closure	Slip road closure	11/01/12	11/01/12	TR80 003	TR80 004	17/10/2011	30/04/2012	06/09/2011	
			Install TM	Slip road closure	Slip road closure	20/11/11	20/11/11	TR80 003	TR80 004	17/10/2011	30/04/2012	06/09/2011	
TBC	Phase 3A.3	Masterston Interchange Northbound Diverge	Remove TM	Slip road closure	Slip road closure	21/12/11	21/12/11	TR80 003	TR80 004	17/10/2011	30/04/2012	06/09/2011	
			Install TM	1 running lane on slip road	Lane closure on slip road	06/11/11	06/11/11	TR80 003	TR80 004	17/10/2011	30/04/2012	06/09/2011	
			Remove TM	Slip road closure	Slip road closure	06/11/11	06/11/11	TR80 003	TR80 004	17/10/2011	30/04/2012	06/09/2011	
			Install TM	Slip road closure	Slip road closure	20/01/12	20/01/12	TR80 003	TR80 004	17/10/2011	30/04/2012	06/09/2011	
			Remove TM	Slip road closure	Slip road closure	20/01/12	20/01/12	TR80 003	TR80 004	17/10/2011	30/04/2012	06/09/2011	
			Install TM	Slip road closure	Slip road closure	20/01/12	20/01/12	TR80 003	TR80 004	17/10/2011	30/04/2012	06/09/2011	





18.0 APPENDIX D: Works Compound Location



19.0 Appendix E: Traffic Management Risk Assessments

Sheet 1 of 2

TTM Risk Assessment  
No:000



**TTM RISK ASSESSMENT**

**Project:** Forth Replacement Crossing: Fife ITS

**Contract No:** FJ

The following is an assessment of risk for the temporary traffic management operations detailed below:

Details and area of work:
---------------------------

Classification of Risk = Severity x Likelihood  
(Before control measures taken)

		Likelihood of accident		
		1 (Unlikely)	2 (Likely)	3 (Near certain)
Severity of accident	1 Minor (Hazard should not result in serious illness/damage/injury)	Low risk	Medium risk	Medium risk
	2 Serious (Hazard can result in serious illness/damage/injury)	Medium risk	High risk	High risk
	3 Extreme (Hazard can cause death/serious illness/ damage/ injury)	Medium risk	High risk	High risk

\* High risk = 4 to 9; Medium risk = 2 to 3; Low risk = 1

**Corrective action to be detailed on sheet 2 for Medium to High risk activities.**

The following Hazards are to be evaluated for the above detailed operation

	Hazard	Risk		Hazard	Risk
1	Pedestrians		7	Emergency services	
2	Road users unaware of TTM		8	Sharp curvatures	
3	Workforce straying onto road		9	High Speed Travelling Public	
4	Vehicles straying into work zone		10	Maintenance	
5	Plant/ equipment striking passing vehicles		11	RTA / Breakdowns	
6	Visibility of road users at night		12	others	

Complete an operation specific Manual Handling/COSHH assessment if risk is **greater** than low.

Compiled by: - \_\_\_\_\_

Date: \_\_\_\_\_

Date of Risk Assessment review (if applicable) Ongoing

**TTM RISK ASSESSMENT**

This sheet is to be read in conjunction with Sheet 1 of the Risk Assessment.

Hazard No.	Details of hazard (More specific breakdown of dangers and those who could be affected by them)	Preventative Measures
1		
2		
3		
4		
5		
6		
7		
8		
9		

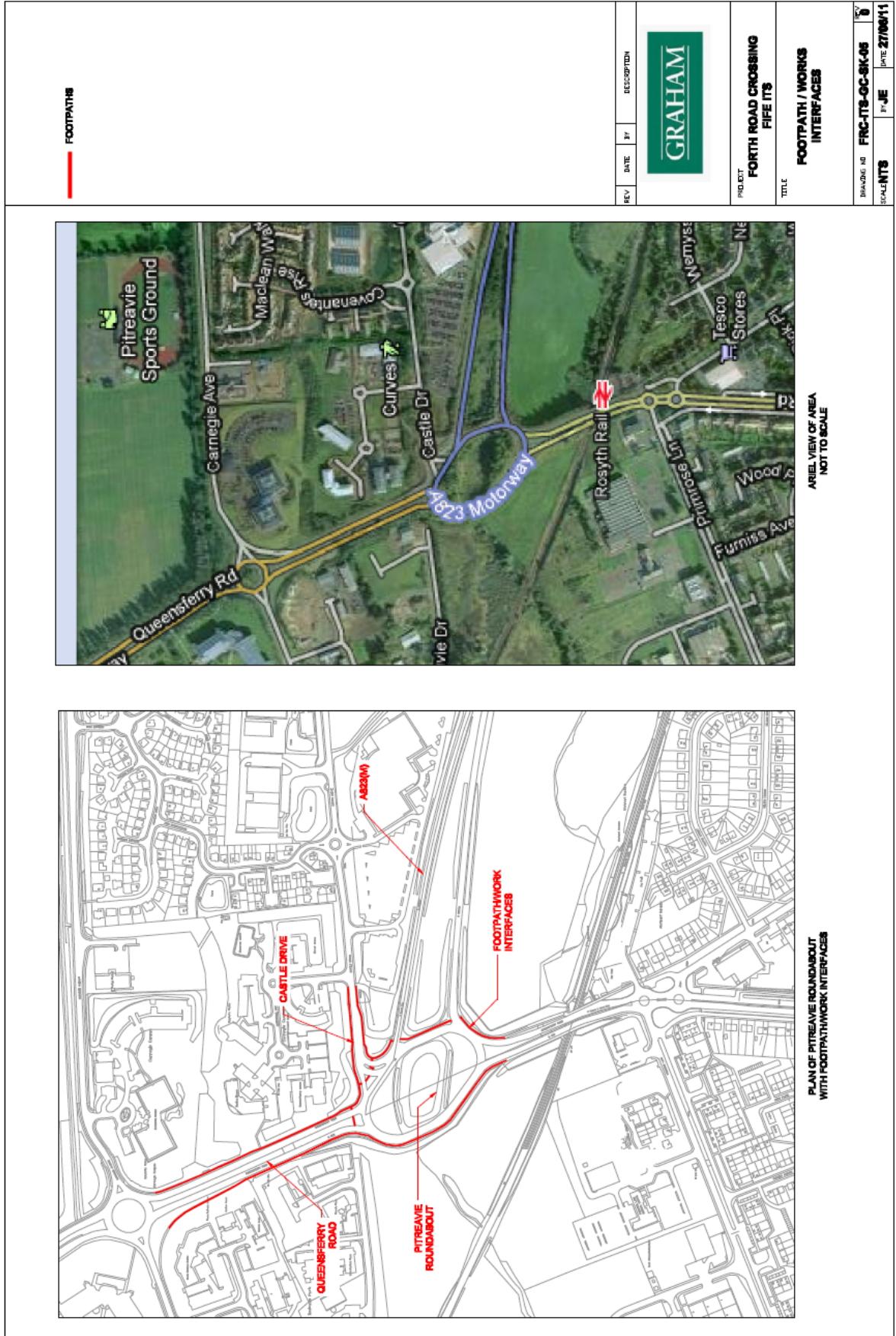
Use another sheet if necessary. **Classification of risk after control measures have been undertaken = .....Low...**  
 (Only "low" acceptable. If not "low" then further control measures must be applied.)

**CIRCULATION OF RISK ASSESSMENT**

Project Manager	<input checked="" type="checkbox"/>	Site Engineer	<input checked="" type="checkbox"/>	Employees	<input type="checkbox"/>	Client	<input checked="" type="checkbox"/>
Site Foreman	<input checked="" type="checkbox"/>	Sub-Contractor	<input checked="" type="checkbox"/>	Other occupiers of premises	<input type="checkbox"/>	Site Copy	<input checked="" type="checkbox"/>



20.0 Appendix F: Footpath / Works Interfaces



21.0 Appendix G: Traffic Monitoring Marker Post Locations

