

## Schedule 12: Service Requirements

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## Part 1 – General Provisions

### 1. General

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#### 1.1 Interpretation

- (a) The Contractor must:
  - (i) comply with all Service Requirements and all Delivery Proposals set out in Parts 2 to 4 of this Schedule 12; and
  - (ii) ensure the TG Project meets the Hand Back Requirements set out in Part 5 (Hand Back Requirements) of this Schedule 12 on the Expiry Date or Actual Termination Date.
- (b) Where there is an ambiguity, inconsistency, conflict of obligations or conflict in a standard, outcome or measure, between these Service Requirements, the Base Agreement, any other requirement in the Agreement or the Consent Conditions, the order of precedence set out in clause 3.3 of the Base Agreement will apply to the extent of any ambiguity, inconsistency or conflict.
- (c) In the case of any inconsistency, the requirement to comply with the relevant Service Requirements prevails over compliance with the Delivery Proposals.
- (d) For the avoidance of doubt, compliance with the Delivery Proposals but not with the Service Requirements constitutes a breach by the Contractor of the Service Requirements.
- (e) In relation to all Service Requirements, the Contractor must comply with the requirements of the following when satisfying the Service Requirements:
  - (i) the LTMA and all other Laws;
  - (ii) all applicable requirements of the Resource Management Act 1991 (including all associated designations, consents, plans, orders and conditions);
  - (iii) the Contractor's obligations under Schedule 6 (Resource Management Act Requirements) and shall use reasonable endeavours to assist compliance by the Transport Agency with its obligations under the Designation and under any Transport Agency Consents;
  - (iv) all applicable requirements of the New Zealand Building Code;
  - (v) all applicable Fire and Emergency New Zealand requirements; and
  - (vi) all applicable AS/NZS standards.
- (f) Except to the extent a Service Requirement directly conflicts (in which case the Service Requirement prevails), the Contractor must comply with the requirements of the following when satisfying each Service Requirement:
  - (i) the Manual of Traffic Signs and Markings;
  - (ii) the Traffic Control Devices Manual;

- (iii) the National Code of Practice for Utility Operator's Access to Transport Corridors (10 November 2011, as amended February 2013);
  - (iv) AS/NZS 1158 Road Lighting, with a minimum lighting category of V3;
  - (v) National Operating Policy for NZ Transport Agency - Variable Message Signs (1 July 2010);
  - (vi) National Operating Procedures for NZ Transport Agency - Variable Message Signs (1 July 2010);
  - (vii) CIMS; and
  - (viii) the State Highway Database Operations Manual.
- (g) The obligations in this Schedule 12 apply in respect of the TG Operating Site, the KiwiRail Land and the VMS Sites, except to the extent expressly provided otherwise or where the context requires otherwise.

## 1.2 Definitions

In addition to the definitions set out in clause 1 (Definitions) of the Base Agreement:

**Bridge Data System** means the Transport Agency database designed to assist with the effective management of bridge and culvert structures on the State Highway network;

**CIMS** means the New Zealand Coordinated Incident Management System [CIMS] (2005);

**Flood Event** means the accumulation or passage of water on any Paved Area that is not provided for in design, including surface water and ground water flooding, ponding (including any ponding in ruts), submerged surfaces or the flow of water over any surface;

**Highway Incident Management Protocol** means the highway incident management protocol - Memorandum of Understanding between Fire and Emergency New Zealand (then the New Zealand Fire Service and the National Rural Fire Authority), the Transport Agency, St John, Wellington Free Ambulance and the New Zealand Police (2012);

**LTR: Setting of Speed Limits** means the Land Transport Rule: Setting of Speed Limits 2003 (and subsequent amendments);

**Lighting** means any lighting within the TG Operating Site or the VMS Sites, including:

- (a) luminaries, including their internal control electronics and electrics (including the photocell if fitted) and lamp and reflector;
- (b) belisha beacons and vertical wig wag signs at school or animal crossings;
- (c) lighting columns, including attached accessories, base or, if on a structure, mounting bracket;
- (d) road traffic sign lighting, including lamp, luminaire, photocell, cables and ducting;
- (e) access lighting, including lighting on pedestrian walkways, cycle ways and subway lighting;
- (f) electrical and optical elements of tall mast lighting systems (20 metres or more in height) and catenary lighting systems;

- (g) associated electrical supplies, including ducting, chambers, cables and feeder pillars and all switch gear, control equipment (including the photocell if fitted), monitoring equipment and heaters;
- (h) alternate energy sources, including solar panels or wind turbines used for the purpose of road lighting or sign lighting;
- (i) energy saving equipment, including midnight switch off equipment and/or dimming equipment; and
- (j) any power distribution cables downstream of the distribution network operator connection point;

**NRM** means the National Association of Australian State Roading Authority (NAASRA) roughness meter in counts/km;

**Paved Area** means any paved area within the TG Project, including:

- (a) the Trafficked Area;
- (b) hard shoulders;
- (c) footways;
- (d) cycle tracks;
- (e) bridle ways;
- (f) paved pedestrian and cyclist areas;
- (g) hard-standing paved areas;
- (h) paved central reserves;
- (i) traffic islands and cross-overs;
- (j) covers;
- (k) gratings;
- (l) frames;
- (m) boxes;
- (n) kerbs;
- (o) edgings; and
- (p) preformed areas;

**RAMM Database** means the Transport Agency Road Asset and Maintenance Management database;

**Renew** means, in relation to pavement:

- (a) to rehabilitate the pavement by a structural or functional enhancement, which produces a substantial extension in service life by substantially improving pavement condition and ride quality; or
- (b) to reconstruct the pavement by removing and replacing all asphalt and concrete layers, base and subbase layers, in combination with remediation of the subgrade and drainage and any geometric changes,

with the level of Renewal to be determined by the assessment of the pavement;

**Road Event Information Management System** means the Transport Agency's road event information management system, as updated from time to time, and, as at the Execution Date, means the Traffic Road Event Information System (TREIS);

**Rolling Length** means a continuous length of the Trafficked Area in one direction:

- (a) offset by 20 metres between each 100 metre rolling length; and
- (b) offset by one kilometre between each five kilometre rolling length;

**Structure** means, when used in this Schedule 12, any civil construction within the TG Operating Site, the VMS Sites and KiwiRail Land, including:

- (a) bridges, including all overbridges, underbridges, stoke bridges, footbridges and cycle bridges;
- (b) subways;
- (c) retaining walls;
- (d) culverts;
- (e) buildings;
- (f) fences, wall, screens and environmental barriers;
- (g) gantries, signs, lighting columns or catenaries and CCTV masts;
- (h) cross carriageway ducts;
- (i) ducts through structures;
- (j) technology equipment cabinets; and
- (k) ancillary equipment including hoists, winches and covers,

but excluding any Utilities Infrastructure;

**Trafficked Area** means any paved area of the TG Roads used for the passage of vehicles, measured from seal edge to seal edge;

**Traffic Monitoring System** means the Transport Agency's database system used to store traffic data collected on the State Highway network; and

**Vegetation** means the semi-natural, improved, semi-improved and landscaped areas within the TG Operating Site and the VMS Sites, including the verge, any cultural heritage assets and hard landscaping assets.

## Part 2 – Proactive management

### 2. Asset management

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#### 2.1 Service Requirements

The Contractor must provide proactive asset management for the TG Project that:

- (a) implements a robust and reliable whole of life management solution for the construction, operation and maintenance of the TG Project to meet the Service Requirements;
- (b) ensures the TG Project's physical assets support the Operational Services at all times;
- (c) ensures that any Defects do not affect the safety of the Users or the integrity of the TG Project and that all faults are rectified in accordance with the Asset Management Plan;
- (d) delivers a planned approach for asset replacement and renewal throughout the Operating Term, taking into account the design working life of the TG Project, based on quantitative conditional assessment;
- (e) ensures that systems that enable optimal use of TG Project assets are utilised throughout the Operating Term;
- (f) allows for flexibility and changes in the provision of the Operational Services, the assets and the TG Project;
- (g) incorporates certification to quality standards equivalent to AS/NZS ISO 9001:2008, extending across the quality management system and associated field quality audit processes, including timely, efficient and safe management of Incidents and works on the TG Project;
- (h) ensures continuous improvement in asset management performance;
- (i) measures and provides an accurate account of asset lives (including pavement surfacing) by testing and refining asset deterioration models at least every three years, with modelled asset lives from the asset deterioration model to be within  $\pm 10$  per cent of achieved asset lives; and
- (j) provides the Transport Agency with access to asset information, systems and processes, performance results, as-built drawings, asset performance data, historical information, warranties, operations and maintenance manuals, energy usage data, installation and electrical supply and distribution details, delineation and details of monitoring compliance with Consents.

#### 2.2 Delivery Proposal

The Contractor will comply and will:

- (a) maintain and update an asset management system to ISO 55001 (Asset management - Management systems - Requirements), supported by ISO/IEC 15288 (Systems and software engineering - System life cycle processes) to ensure the integration and

optimisation of the design, construction, maintenance, operation and handback of the TG Project;

- (b) develop integrated information management systems:
  - (i) to ensure the capture, integration and provision of asset management information for planning purposes, across an asset's lifecycle;
  - (ii) to implement processes supporting management systems;
  - (iii) to manage data and ensure data used is relevant, current, of quality and complete; and
  - (iv) to ensure efficient asset management planning;
- (c) ensure the TG Project assets support the provision of the Operational Services at all times by undertaking inspections for condition rating, condition and performance monitoring to establish preventative measures;
- (d) undertake mobile CCTV recording of all network inspections to provide comprehensive and up-to-date data on the condition of the network;
- (e) record minimum asset condition and update the RAMM Database in accordance with the State Highway Database Operations Manual;
- (f) utilise a computerised maintenance management system for total maintenance (including planned and unplanned maintenance) and asset management of network assets, including:
  - (i) an information system for technical data on all assets and equipment;
  - (ii) a proactive and preventative inspection and maintenance work schedule;
  - (iii) links to all works procedures;
  - (iv) spare parts management;
  - (v) a work order generation and close out system in accordance with inspection frequencies, routine maintenance schedules and maintenance standards;
  - (vi) maintenance history, including asset data control, product identification and traceability, control of inspection, measuring and test equipment, inspection and test status and servicing requirements;
  - (vii) defects records and classification of defect levels, condition levels and levels of service;
  - (viii) condition history;
  - (ix) replacement and refurbishment schedules;
  - (x) estimation of residual life, in conjunction with the asset management system; and
  - (xi) determination of handover requirements, in conjunction with the asset management system;



- (g) utilise a computerised asset management system to forecast long-term asset, risk and budget management to facilitate the management of accurate life-cycle plans and maintenance works;
- (h) conduct field audits to validate the Asset Register and the outcomes of any Asset Surveys;
- (i) use failure modes, effects and criticality analysis and manufacturer's operational manuals to define and establish maintenance strategies (maintenance type, frequency, resources) required to ensure the asset systems remain fit for purpose;
- (j) use a pavement performance model that records and monitors key pavement performance parameters that are compatible with Transport Agency standard dTIMS pavement modelling parameters, and update the pavement performance model to incorporate data from Asset Surveys;
- (k) undertake asset management benchmarking and maturity evaluation:
  - (i) to identify the current status of the asset management system, relative to good asset management practice to achieve asset management compliance;
  - (ii) to identify improvement actions within the Asset Management Plan; and
  - (iii) to evaluate the current maturity level of asset management being practiced;
- (l) develop a system for defect management, including a defect management register, and reconcile such register with the Transport Agency RAMM Database;
- (m) develop a robust risk management based approach to minimise the occurrence of issues that cause disruption or impact on project quality, by conducting ongoing review and analysis of:
  - (i) capability;
  - (ii) risk approach;
  - (iii) risk planning;
  - (iv) risk identification;
  - (v) qualitative and quantitative analyses;
  - (vi) risk response planning; and
  - (vii) risk monitoring and control; and
- (n) provide priority to environmental considerations to ensure maintenance, enhancement, management and rehabilitation solutions are sustainable and optimised, including mitigating carbon levels from works and ensuring that there are no environmental breaches.

### 3. Residual life

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#### 3.1 Service Requirements

The Contractor must manage the TG Project:

- (a) to achieve a minimum 12-15 year residual life for the pavement within the Paved Areas at the Expiry Date, ensuring that:
  - (i) 30 per cent of the pavement has a minimum 12-13 year residual life;
  - (ii) 30 per cent of the pavement has a minimum 13-14 year residual life; and
  - (iii) 40 per cent of the pavement has a minimum 14-15 year residual life;
- (b) to achieve a minimum 3-6 year residual life for the pavement surfacing within the Paved Areas at the Expiry Date, ensuring that:
  - (i) 30 per cent of the pavement surfacing has a minimum 3-4 year residual life;
  - (ii) 30 per cent of the pavement surfacing has a minimum 4-5 year residual life; and
  - (iii) 40 per cent of the pavement surfacing has a minimum 5-6 year residual life;
- (c) to achieve a minimum residual life:
  - (i) of 75 per cent of the manufacturer's design life or of 75 years (whichever is the greater) at the Expiry Date for primary elements of bridges and culverts (such as piles, foundations, settlement slabs, piers, abutments, walls, beams, deck slabs, fixings for maintenance and service supports and cast in items);
  - (ii) of 50 per cent of the manufacturer's design life or of 25 years (whichever is the greater) at the Expiry Date for secondary elements of bridges and culverts (such as barriers, access supports, non-cast in items); and
  - (iii) of 50 per cent of the manufacturer's design life or of 15 years (whichever is the greater) at the Expiry Date for expansion joints, bearings, seismic restraints and base isolation hardware on structures;
- (d) to achieve a minimum residual life of 75 per cent of the manufacturer's design life or of 75 years (whichever is the greater) for all other Structures at the Expiry Date;
- (e) to achieve a minimum residual life of 75 per cent of the manufacturer's design life or of 75 years (whichever is the greater) for buildings at the Expiry Date;
- (f) to achieve a minimum residual life of 50 per cent of the manufacturer's design life or of 25 years (whichever is the greater) for Barriers at the Expiry Date;
- (g) to achieve a minimum residual life of two years for delineation raised pavement markers, delineation pavement symbols and water-borne line marking at the Expiry Date; and
- (h) to achieve a minimum residual life of 25 per cent of the manufacturer's design life or of five years (whichever is the greater) for the remaining assets (including ITS) within the TG Project at the Expiry Date.

### 3.2 Delivery Proposal

The Contractor will comply and will:

- (a) ensure that the Asset Management Plan supports the residual life requirements of the TG Project;

- (b) maintain a record of the current, historical and projected future condition of each asset within the TG Project, including detailed records of the repair or replacement of each asset (and asset sub-items) to assist in establishing the residual life of assets within the TG Project;
- (c) in order to meet the residual life requirements in respect of pavement that has not been Renewed in the five years prior to the Expiry Date:
- (i) use a pavement design and construction specification that meets or exceeds the required residual life in accordance with Austroads 2004 and the NZ Supplement and, if required by the Transport Agency (and at the Transport Agency's cost), provide a PS1 from an independent registered engineer;
  - (ii) provide all construction and testing records (including quality assurance records) for pavement rehabilitation and, if required by the Transport Agency (and at the Transport Agency's cost), a producer statement from an independent registered engineer to confirm that construction was conducted in accordance with the relevant pavement design and construction specification;
  - (iii) calculate pavement residual life in accordance with the pavement deterioration model, as calibrated in accordance with paragraph 2.1(i) using actual data measured to the Expiry Date;
  - (iv) ensure that:
    - actual average rut depth (per 100m Rolling Length) +  
(actual deterioration rate x required residual life (years)) ≤ 15mm
    - with all actual values to be measured as at the Expiry Date;
- (d) in order to meet the residual life requirements in respect of pavement that has been Renewed during the five years prior to the Expiry Date:
- (i) use a pavement design and construction specification that meets or exceeds the required residual life in accordance with Austroads 2004 and the NZ Supplement and, if required by the Transport Agency (and at the Transport Agency's cost), provide a PS1 from an independent registered engineer;
  - (ii) provide all construction and testing records (including quality assurance records) for pavement rehabilitation and, if required by the Transport Agency (and at the Transport Agency's cost), a producer statement from an independent registered engineer to confirm that construction was conducted in accordance with the relevant pavement design and construction specification;
  - (iii) ensure that:
    - (A) the mean wheelpath rut depth per 100m section per lane is not greater than 10mm; and
    - (B) the average increase in mean wheelpath rut depth per 100m section per lane is less than 0.3mm per annum;
  - (iv) ensure that:
    - (A) the mean NRM value per 100m section is at least 15% less than the requirement set out in paragraph 19 (Paved Areas);

- (B) the NRM value increase per annum is less than 3 counts/km per 100m section per lane; and
- (C) (actual NRM value + (modelled deterioration rate x required residual life (years)))  $\geq$  the required NRM value,

with all actual values to be measured as at the Expiry Date;

(e) in order to meet the residual life requirements in respect of pavement surfacing:

- (i) use a pavement surfacing design and construction specification that meets or exceeds the required residual life in accordance with Austroads 2004 and the NZ Supplement and, if required by the Transport Agency (and at the Transport Agency's cost), provide a PS1 from an independent registered engineer;
- (ii) provide all construction and testing records (including quality assurance records) for pavement resurfacing during the Operating Term and, if required by the Transport Agency (and at the Transport Agency's cost), a producer statement from an independent registered engineer to confirm that construction was conducted in accordance with the relevant pavement surfacing design and construction specification;
- (iii) ensure that, in respect of chip seal surfacing:
  - (A) the chip is an aggregate with an in-service skid performance (microtexture) history that meets the required residual life with a 95% confidence level;
  - (B) the actual macro texture is at least 1.0mm greater than required under the pavement surfacing requirements set out in Appendix C (Pavement Surfacing Requirements); and
  - (C) where the pavement surfacing occurred at least two years prior to the Expiry Date, the trend line demonstrates that the texture will comply with the pavement surfacing requirements set out in Appendix C at the end of the required residual life,

with all actual values to be measured as at the Expiry Date; and

- (iv) ensure that, in respect of asphalt surfacing:
  - (A) the asphalt concrete has an aggregate with an in-service skid performance (microtexture) history that meets the required residual life with a 95% confidence level;
  - (B) the actual macro texture is at least 0.2mm greater than required under the pavement surfacing requirements set out in Appendix C (Pavement Surfacing Requirements);
  - (C) where the pavement surfacing occurred at least two years prior to the Expiry Date, the trend line demonstrates that the macro texture will comply with the pavement surfacing requirements set out in Appendix C at the end of the required residual life; and
  - (D) falling weight deflectometer test results provide a 95 percentile  $D_0$  deflection of less than 1.0mm and  $D_0$ - $D_{200}$  of less than 0.15mm,

with all actual values to be measured as at the Expiry Date;

- (f) in order to meet the residual life requirements in respect of Structures, ensure that all Structures meet the minimum acceptable asset condition in the Asset Condition Register;
- (g) in order to meet the residual life requirements in respect of all other assets, ensure that:

$$\text{residual life} \geq (\text{expected service life} \times \text{life adjustment}) - \text{age of asset}$$

where life adjustment means the adjustment to the expected service life to account for the actual condition of the asset and the historic performance of the asset or asset element; and

- (h) calculate residual life assuming that the Transport Agency will carry out routine maintenance only, provided that for the purpose of calculating residual life of pavement, the Contractor may assume that the Transport Agency will carry out resurfacing at the end of the relevant calculated pavement surfacing residual life.

## 4. Records and data management

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### 4.1 Service Requirements

The Contractor must:

- (a) manage and store in a central repository all of the TG Project plans (including as-built drawings), plant manuals and performance records, in a manner that conforms with the requirements of the Public Records Act 2005;
- (b) administer TG Project plans (including as-built drawings) to capture physical changes occurring on the TG Operating Site, the KiwiRail Land and the VMS Sites, including new builds, refurbishments, additions, bridge structural data, re-designs, asset commissions and decommissions and electrical works and provide the Transport Agency with copies of all updated TG Project plans as the plans are updated;
- (c) maintain common standards of layering, symbols and measurement and condition rating that are compatible with Transport Agency systems;
- (d) ensure suitable document management practices are in place, including maintaining operations and maintenance manuals, manufacturers' handbooks, warranty information and any other information relevant to asset management;
- (e) maintain and make available at all times for the Transport Agency all asset and property data relating to the TG Project, the TG Operating Site, the KiwiRail Land or the VMS Sites;
- (f) update the RAMM Database at least monthly, and in accordance with the State Highway Database Operations Manual, and must:
  - (i) carry out the functions of the RAMM manager in relation to the TG Project;
  - (ii) take ultimate responsibility for all RAMM data relating to the TG Project; and
  - (iii) provide, as a minimum, the information required by Appendix A (RAMM Tables);
- (g) operate and maintain the traffic monitoring stations and update the Traffic Monitoring System with all captured data in accordance with the Traffic Monitoring Method; and

- (h) provide required information in relation to bridges and culverts to allow the Transport Agency to maintain and update the Bridge Data System in accordance with the Bridge Data System Structural Guide (October 2009).

## 4.2 Delivery Proposal

The Contractor will comply and will:

- (a) ensure works and supporting quality assurance processes are carried out in a competent and professional manner to ensure delivery of quality outcomes;
- (b) conduct validation, verification and auditing processes to ensure that data collected is fit for its intended purpose, is compatible with Transport Agency standard data and in accordance with AS/NZS ISO 9001:2008;
- (c) provide high levels of data accuracy by using proven asset inspection methods performed by qualified and experienced staff;
- (d) operate a fully redundant system to ensure business continuity;
- (e) utilise a computerised asset change management system to manage asset changes to configured baselines, control the impacts of proposed changes to assets on physical and functional performance, and manage and control as-built drawings and as-built changes;
- (f) update the RAMM Database with all required data in accordance with the State Highway Database Operations Manual, including asset register, road names, road and section definitions, inventory data, forward works programmes, high speed data, all traffic data, falling weight deflectometer data, maintenance accomplishment data and condition data;
- (g) monitor route performance by operating and maintaining the 24/7 traffic counting and speed telemetry system along the full length of the TG Roads and functional in all weather conditions, to identify:
  - (i) the number and classes of vehicle in each lane and ramp;
  - (ii) vehicle counts on a 15 minute basis; and
  - (iii) a summary of data for each 24 hour period,with all data to be provided to the Transport Agency with 24 hours of each 24 hour period, and uploaded to the Traffic Monitoring System in accordance with the Traffic Monitoring Method; and
- (h) regularly supply bridge asset data to the Transport Agency for inclusion in the Bridge Data System in accordance with the Bridge Data System Structural Guide (October 2009).

## 5. Severe weather and winter maintenance

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### 5.1 Service Requirements

The Contractor must:

- (a) proactively manage and maintain the TG Project in relation to all Severe Weather Events to ensure the safety of Users and the integrity of the TG Project; and
- (b) proactively prepare the TG Project in advance of impending Severe Weather Events as soon as practicable, and in any event within 12 hours of the time the Contractor became aware, or should have become aware, of the event.

### 5.2 Delivery Proposal

The Contractor will comply and will:

- (a) develop and implement severe weather and winter maintenance processes and response plans to ensure the safety of Users and the integrity of the TG Project for events that could affect User capabilities, including visibility impairment, precipitation, high wind, temperature extremes or snow;
- (b) continuously monitor weather and road conditions to prepare the TG Roads ahead of any Severe Weather Event;
- (c) utilise forecast tools and other available weather forecast data to determine weather event likelihood and facilitate proactive treatment as required;
- (d) ensure real-time data linkage between the weather station, Visibility Sensors and ITS infrastructure to enable the Contractor to make informed traffic management decisions and provide weather-related information to Users, including warnings as required;
- (e) conduct asset safety and hazard inspections prior to Severe Weather Events;
- (f) monitor Visibility Sensors for the purpose of determining implementation of visibility impairment processes and response plans;
- (g) where an event affecting visibility occurs or is forecast, implement visibility impairment processes and response plans with actions including as required, implementing temporary speed restrictions, updating Users and the Wellington Traffic Operations Centre in accordance with paragraphs 8 (Incidents) and 11 (Intelligent transport), updating the Road Event Information Management System and conducting routine road patrols of the TG Roads;
- (h) carry out preventive treatments as required to limit hazards to Users, including ice gritting, chemical application, removal of windblown debris, and clearance of the Drainage System;
- (i) clear any accumulated snow, ice or debris, and prevent any formation of an ice base, on the TG Roads;
- (j) ensure there is no accumulation of grit or fine aggregate on Paved Areas and remove any grit or fine aggregate from the Trafficked Areas prior to a return to full vehicle operating speeds;
- (k) following the occurrence of a Severe Weather Event, conduct a physical asset inspection to determine any damage to the TG Project;

- (l) arrange for prompt removal of any stranded vehicles from the TG Roads;
- (m) subject to paragraphs 8 and 11, prior to, during, and after Severe Weather Events, maintain links with relevant Emergency Services and support agencies, including civil defence authorities, relevant Local Authorities and heavy haulage groups;
- (n) provide sufficient labour, plant and material resources to respond to any Severe Weather Event; and
- (o) conduct pre and post winter season meetings with relevant Contractor Personnel as a refresher for all parties involved in winter maintenance covering all aspects of the winter maintenance operational procedures and including other stakeholders as appropriate.

## 6. Safety

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### 6.1 Service Requirements

The Contractor must:

- (a) manage the TG Project to foster a safe environment, including:
  - (i) managing traffic safely;
  - (ii) providing Users with realistic perceptions of danger;
  - (iii) providing a consistent, safe and forgiving road environment, with 'no surprises' for Users; and
  - (iv) providing a safe working environment for maintenance and construction activities;
- (b) establish, maintain and implement a safety management strategy, which must include detail of the scope and frequency of safety inspections and demonstrate compliance and outcomes resulting from the safety management strategy;
- (c) embed the Safe System approach in all aspects of planning, maintenance, operation and communication;
- (d) manage and maintain the TG Roads to ensure not less than a four star KiwiRAP rating;
- (e) conduct a Road Safety Audit five years following Service Commencement, and at five yearly intervals thereafter, in accordance with the Road Safety Audit Procedures;
- (f) ensure that health and safety is a key focus, adopting a zero-harm approach to health and safety management during provision of the Operational Services; and
- (g) maintain all health and safety information relating to the TG Project on the SafeStat website.



## 6.2 Delivery Proposal

The Contractor will comply and will:

- (a) embed the following protocols in all aspects of planning, maintenance, operation and communication in relation to the TG Project:
  - (i) providing roads and roadsides that are of a condition that makes them predictable, promotes safe behaviour and are forgiving of human error;
  - (ii) facilitating safe speeds that suit the function and level of safety of the road, the skill of typical drivers and the safety of typical vehicles;
  - (iii) ensuring safe management of traffic, including where the network is disrupted, congested or partially closed;
  - (iv) providing clear notification of danger to Users;
  - (v) providing a safe working environment for all construction and maintenance activities; and
  - (vi) fostering an environment of safety within the Contractor and all Contractor Personnel;
- (b) develop, implement, review and update a safety management strategy:
  - (i) describing the actions and methodologies required to achieve the following objectives:
    - (A) to identify all inspections and provide pro-forma reporting requirements for inspections;
    - (B) to retain information on all known and accumulating sites in the TG Project where safety issues have occurred or are likely to occur;
    - (C) to provide detailed guidance and instruction on intervention options and requirements with decisions made on the gathered network information;
    - (D) to provide guidance on the identification of safety issues;
    - (E) to provide and record solutions to safety issues, including descriptions of how to eliminate or mitigate issues and responsibility for such decisions; and
    - (F) to detail how the Contractor will optimise performance in providing the Operational Services under a Safe System approach;
  - (ii) including the following key functions:
    - (A) training, intervention levels, communications and requirements for Contractor Personnel and Sub-contractors;
    - (B) how safety issues, concerns and deficiencies are to be identified and recorded;
    - (C) management of, and reporting in relation to, the safety deficiency database and safety hazard registers;

- (D) network safety inspections (day and night) and Road Safety Audits;
  - (E) network safety deficiency analysis, including crash reviews, analysis and reporting, fatal and serious crash reporting, crash reduction and prevention studies, black spot studies and grey spot studies;
  - (F) safety issue prioritisation (based on risk analysis and risk profiling); and
  - (G) programming of proposed safety treatments; and
- (iii) in accordance with ISO 39001:2012 (Road traffic safety (RTS) management systems - Requirements with guidance for use);
- (c) embed the Transport Agency Safe System approach with systems for health, safety and environmental management and all aspects of planning, maintenance, operation and communication;
  - (d) develop and maintain a safety deficiency database as part of the safety management strategy to record all safety deficiencies to identify routine maintenance issues, safety maintenance improvements and non-maintenance issues for inclusion in the Forward Works Plan;
  - (e) ensure Contractor Personnel are appropriately trained and suitably qualified in all safety matters, including the conduct of safety inspections;
  - (f) provide safe maintenance access points at regular intervals along the TG Main Alignment;
  - (g) conduct safety inspections to ensure that Users are receiving the correct messages from the road, and compile all data into a central system to facilitate effective work programming and implementation, including identification of routine maintenance issues, safety maintenance improvements and non-maintenance identified issues;
  - (h) operate mobile speed advisory signage proximity detection for all mobile plant and workers to provide a high standard of safety to Users; and
  - (i) provide the highest levels of risk mitigation for injury or harm to Users and Contractor Personnel.

## Part 3 – Operation

### 7. Speed and traffic management

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#### 7.1 Service Requirements

The Contractor:

- (a) must manage traffic flow on the TG Roads to facilitate the safe and efficient movement of traffic on the TG Roads and on adjoining roading networks;
- (b) may review or set temporary speed limits in accordance with the LTR: Setting of Speed Limits and the Code of Practice of Temporary Traffic Management as though the Contractor is the Road Controlling Authority for the TG Roads;
- (c) may not review or set any other speed limits under the LTR: Setting of Speed Limits or any other Law;

- (d) must comply with any variable speed limit approved by the Transport Agency, subject to any conditions specified by the Transport Agency and in accordance with its obligations under this Agreement;
- (e) subject to this paragraph 7, must comply with the LTR: Setting of Speed Limits as though the Contractor is the Road Controlling Authority in respect of the TG Roads;
- (f) subject to this paragraph 7, must comply with the Code of Practice for Temporary Traffic Management in accordance with Appendix B (Code of Practice for Temporary Traffic Management);
- (g) must obtain and implement an approved traffic management plan from the relevant Road Controlling Authority, in accordance with the Code of Practice for Temporary Traffic Management, where any activity will impact on roads adjoining the TG Roads; and
- (h) must not carry out any scheduled maintenance that requires temporary traffic management:
  - (i) during, and one day either side of, a public holiday or a public holiday weekend; or
  - (ii) during any period where traffic volumes are expected to be higher than usual.

## 7.2 Delivery Proposal

The Contractor will comply and will:

- (a) integrate operation and asset whole of life activities through preventive maintenance, planned asset upgrades and reduce reactive maintenance tasks to maximise lane availability and minimise travel time disruption on the TG Roads;
- (b) minimise interruption to day-to-day operations by scheduling asset maintenance, upgrades and replacements appropriately; and
- (c) develop and maintain a database of speed limits along the TG Roads, including all temporary speed limits currently operating.

## 8. Incidents

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### 8.1 Service Requirements

The Contractor must:

- (a) establish and maintain a robust Incident intelligence system to provide for the prompt detection and notification of all Incidents;
- (b) provide 24 hour, seven days a week, Incident response capability;
- (c) manage all Incidents, including providing required temporary traffic management, and support and provide assistance to Emergency Services:
  - (i) to facilitate the safe and efficient movement of traffic on the TG Roads and on adjoining roading networks; and
  - (ii) in accordance with the Highway Incident Management Protocol and CIMS;

- (d) ensure the safety of the Users and the integrity of the TG Project following the occurrence of any Incident;
- (e) promptly rectify or repair any damage to the TG Project following an Incident;
- (f) where seismic activity, rainfall, rockfall or other such event blocks access to and through the TG Roads (or any part of the TG Roads), restore access for Emergency Services and Users as soon as reasonably practicable;
- (g) clean up and manage any spills, discharges or other contamination following an Incident in accordance with the relevant Consents, the Designation and applicable Laws;
- (h) implement a monitoring and improvement system for the identification of trends relating to Incidents and providing for the targeted improvement of the TG Project in relation to such Incidents, including in response to any reports or recommendations issued by third parties (for example, a Coronial Finding); and
- (i) interface with the Wellington Traffic Operations Centre and Emergency Services in relation to the detection, notification and management of all Incidents.

## 8.2 Delivery Proposal

The Contractor will comply and will:

- (a) utilise an automatic incident detection system to ensure visibility of traffic flows and conditions;
- (b) utilise an early warning detection system (accelerometers) along the TG Roads at strategic points to capture seismic data and monitor the TG Roads and determine which areas of the TG Project may have been affected following a seismic event and to allow the Contractor to be immediately aware of impending danger and seismic events and to allow swift decisions to protect the health and wellbeing of Users;
- (c) actively monitor CCTV cameras and radar data to identify unusual occurrences and Incidents on the TG Roads on 24/7 shift basis and coordinate the necessary response;
- (d) provide highly skilled, competent and experienced incident response personnel, to be available 24 hour coverage, 365 days per year;
- (e) adopt a proactive approach to the management of Incidents in accordance with CIMS and relevant Operative Documents;
- (f) provide the response to all Incidents and assist Emergency Services in response to all Incidents, including setup of cordons in accordance with CIMS and the provision of refreshment resources during long time period events;
- (g) follow all directions of any external Incident controller or incident management team appointed in accordance with CIMS;
- (h) ensure that all external communications in relation to an Incident are, as appropriate, channelled via the CIMS controller to facilitate accurate and targeted public information management;
- (i) following the occurrence of an Incident, conduct a physical asset inspection to determine any damage to the TG Project;

- (j) provide appropriate and sufficient resources, including vehicles and equipment, to undertake urgent repair of damage from any Incident and to assist the appropriate Emergency Services in response to Incidents;
- (k) equip incident response vehicles with closed circuit trunked radio telephone systems to facilitate coverage with crews in low cellular coverage areas;
- (l) install temporary traffic management devices in accordance with the Traffic Control Devices Manual for each Incident;
- (m) ensure there is no accumulation of grit or fine aggregate on Paved Areas and remove any application of grit or fine aggregate from the Trafficked Areas prior to a return to full vehicle operating speeds;
- (n) communicate, coordinate and cooperate with the WTOC in relation to the operation of the TG Roads and ensure the WTOC is informed at all times of operating conditions on the TG Roads, including any matter which is likely to affect, or is affecting, the free flow of traffic;
- (o) take all required measures to restore the free flow of traffic as soon as possible;
- (p) ensure that initial action to any Incident is taken within two minutes of notification or detection of the Incident, including notification to Emergency Services or other relevant authorities and the dispatch of an incident response crew;
- (q) advise Users of traffic conditions or other information during and after any Incident;
- (r) provide minor maintenance services to Users, in the case of out of fuel or water, flat tyre or minor electrical faults;
- (s) arrange for prompt removal of any stranded vehicles from the TG Roads;
- (t) ensure disabled vehicles and other obstructions are cleared from the TG Roads to a safe location, and provide response vehicles capable of towing a disabled vehicle of up to three tonnes gross vehicle mass;
- (u) ensure prompt removal of all debris and material from the TG Roads and clean-up of the site;
- (v) establish and maintain an incident database:
  - (i) to record the following information for each Incident:
    - (A) Incident time, date, controller, weather, type of incident, location, duration, extent, description and cause;
    - (B) recoverable costs incurred during Incident response;
    - (C) any responsible agency and supporting agency attending the Incident;
    - (D) services provided by the Contractor;
    - (E) response times and elapsed time prior to signoff of the incident management plan;
    - (F) summary of traffic impact on the TG Roads and other impacts;

- (G) notes on the efficiency and effectiveness of the incident response plan;
  - (H) identification of incident response plan improvements for consideration; and
  - (I) responsible agency and supporting agency issues and comments for consideration;
- (ii) to provide a basis for performance review of specific measures to improve operating effectiveness and efficiency;
  - (iii) to determine and analyse trends to improve safety;
  - (iv) to perform auditing and monitoring to maintain and improve performance; and
  - (v) to report for statistical and operational purposes; and
- (w) conduct a debrief of the response to all Incidents, including any recommended strategies for improving traffic management and incident response procedures.

## 9. Emergency management

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### 9.1 Service Requirements

The Contractor must:

- (a) assist the Transport Agency and be proactive in the development, update and implementation of civil defence emergency management plans with the Wellington Region Civil Defence Emergency Management Group and relevant Local Authorities, as required; and
- (b) support and provide assistance to the Transport Agency, the Wellington Traffic Operations Centre, adjoining Road Controlling Authorities and Emergency Services in relation to civil defence emergency management and planning, including participation in any emergency field exercise events.

### 9.2 Delivery Proposal

The Contractor will comply and will:

- (a) conduct emergency exercise events for the TG Roads in accordance with CIMS at least once every two years, to test the effectiveness of incident management and response plans, gauge levels of knowledge, understanding and appreciation in the key areas of emergency management planning and to enable liaison with outside agencies, Emergency Services and Contractor Personnel;
- (b) ensure senior Contractor operations staff are trained to CIMS certification level (or equivalent);
- (c) develop, maintain and implement an emergency management escalation processes and response level system within the Emergency Procedures and Business Continuity Manual;
- (d) assist as required in the development, update and implementation of intra-agency emergency management plans and procedures;

- (e) develop, implement and maintain information handover procedures as part of the Emergency Procedures and Business Continuity Manual to ensure accurate transfer of Incident information during any staff changeover;
- (f) subject to paragraphs 8 (Incidents) and 11 (Intelligent transport), during and after Incidents, maintain links with the incident management team, appointed controller, relevant Emergency Services and support agencies including civil defence authorities, relevant Local Authorities, heavy haulage groups and other community groups as required; and
- (g) conduct post-Incident meetings with relevant Contractor Personnel as a refresher for all parties involved in Incident management covering all aspects of the operational procedures and including other stakeholders as appropriate.

## 10. Special Events

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### 10.1 Service Requirements

The Contractor must:

- (a) establish and maintain a robust system to ensure that the Contractor is aware of any Special Events and undertakes sufficient preparation in relation to the management of all Special Events;
- (b) notify the Transport Agency and the Wellington Traffic Operations Centre as soon as it becomes aware of any Special Events;
- (c) implement a system for processing traffic management applications in relation to Special Events, under which the Contractor must:
  - (i) provide a user-friendly application process, including appropriate guidance for applicants in relation to required approvals, advertising and appropriate traffic management plans;
  - (ii) approve any Special Event that constitutes a Required Closure Instruction (in accordance with Schedule 13 (Performance Regime));
  - (iii) acting reasonably, promptly approve or decline applications for other Special Events and notify the Transport Agency and the applicant of the decision (with reasons); and
  - (iv) provide assistance to applicants in relation to the management of approved Special Events;
- (d) proactively manage all Special Events and comply with any directions issued by the Transport Agency to facilitate the safe and efficient movement of traffic on the TG Roads, regardless of whether the Contractor approved the Special Event; and
- (e) interface with Emergency Services, adjoining Road Controlling Authorities and other relevant authorities in relation to the management of all Special Events.

### 10.2 Delivery Proposal

The Contractor will comply and will:

- (a) prepare and regularly update a user guide for applicants in relation to Special Events;

- (b) review Special Event application and provide feedback to assist applicants, and respond to applicants within five Business Days;
- (c) manage the TG Project during any Special Events to facilitate safe and efficient traffic movements, and comply with any directions issued by the Transport Agency;
- (d) develop procedures for the management of Special Events;
- (e) ensure a high degree of coordination with the WTOC, the Special Event organiser, Emergency Services and the Transport Agency in relation to the management of Special Events, including in relation to:
  - (i) implementation of traffic management in relation to the Special Event; and
  - (ii) coordination of traffic management to minimise the impact on the TG Roads and the wider network;
- (f) train Contractor Personnel in Special Events management; and
- (g) prepare and distribute to Emergency Services and adjoining Road Controlling Authorities a weekly bulletin giving outline (including date, time, location, duration) of any planned Special Events.

## 11. Intelligent transport

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### 11.1 Service Requirements

The Contractor must:

- (a) provide information to the Transport Agency as required:
  - (i) to ensure that accurate, timely and relevant information that may influence travel behaviours of Users and inform User decision-making is delivered to Users, stakeholders and the local community in an efficient and effective manner; and
  - (ii) in accordance with the Road Event Information Management System;
- (b) notify the Transport Agency and the Wellington Traffic Operations Centre immediately following the occurrence of:
  - (i) any Incident involving a Fatality or Serious Injury;
  - (ii) any Incident that will disrupt traffic flow on the TG Roads or adjoining roading networks;
  - (iii) any Incident that will disrupt the provision of the Operational Services;
  - (iv) any Incident or event that may affect the structural integrity of the TG Project;
  - (v) any Severe Weather Event or natural disaster that has disrupted traffic flow on the TG Roads; or
  - (vi) any other Incident that is likely to attract media attention,



and provide regular updates to the Transport Agency and the Wellington Traffic Operations Centre on the status of the Incident and any action being taken by the Contractor or other parties in relation to the Incident;

- (c) work collaboratively with the Transport Agency to develop practices to reduce delays and inconvenience to Users;
- (d) operate and maintain an ITS solution to ensure the efficient and safe operation of the TG Project, which must be capable of being remotely operated by the Transport Agency's traffic operations centres via the Wellington Traffic Operations Centre;
- (e) operate VMS in accordance with:
  - (i) the National Operating Policy for NZ Transport Agency - Variable Message Signs (1 July 2010); and
  - (ii) the National Operating Procedures for NZ Transport Agency - Variable Message Signs (1 July 2010);
- (f) comply with any directions given by the Transport Agency in relation to the use of VMS, including displaying any messages required by the Transport Agency for the required time period;
- (g) ensure that a continuous live connection of the CCTV monitoring video feed of the TG Roads, particularly in relation to interchanges, is available to the Wellington Traffic Operations Centre;
- (h) provide all digital information obtained from the Accelerometers to the Wellington Traffic Operations Centre on a real-time basis and, on request, to the Transport Agency;
- (i) ensure the interface between the Contractor and the Wellington Traffic Operations Centre (including the link between the Contractor's ITS Solution and the WTOC's ICT System) enables the WTOC to provide timely and accurate road and traffic information and manage traffic flows across the state highway network in the lower half of the North Island; and
- (j) establish and maintain operating protocols with the Wellington Traffic Operations Centre to ensure effective management and operation of the state highway network at TG Project interfaces, including with respect to communication, integration with the wider Wellington roading network, interface with Emergency Services and contingency and business continuity arrangements.

## 11.2 Delivery Proposal

The Contractor will comply and will:

- (a) operate the Contractor's ITS Solution for real-time incident response and management to provide both accurate and real time travel time data collection and incident detection across the TG Project, using a mix of proven systems, including full radar monitoring, CCTV, weather monitoring, Visibility Sensors, Accelerometers, GPS tracking of response vehicles, VMS and emergency services interaction through the Wellington Traffic Operations Centre;
- (b) access and use:
  - (i) the Contractor's Interim ITS Solution for the Interim Period; and

- (ii) the WTOC's ICT System from Final Works Completion, including:
  - (A) ensuring that the Contractor's ITS Equipment is fully compatible with the WTOC's ICT System;
  - (B) configuring the WTOC's ICT System to enable the operation of the Contractor's ITS Equipment and Contractor's Network Communications and the associated workflow and algorithm based incident response plans and user interfaces, as required for the performance of the Operational Services;
  - (C) supporting and maintaining the Contractor's ITS Equipment and its Configuration within the WTOC's ICT System;
  - (D) supporting and maintaining the Contractor's Network Communications required to link the Contractor's ITS Equipment with the WTOC's ICT System;
  - (E) complying with the WTOC's ICT System maintenance, change and upgrade plans as required; and
  - (F) maintaining battery back-up systems for VMS and access switches.

and in accordance with Schedule 24 (WTOC Arrangements) and the Service Level Agreement (as applicable);

- (c) broadcast real-time travel time and incident information to key decision points via VMS network;
- (d) develop and agree communication protocols with the Wellington Traffic Operations Centre;
- (e) conduct safety inspections of ITS installations;
- (f) capture and upload to the Traffic Monitoring System data from the traffic monitoring stations to facilitate User decision making, such data to include AADT, travel time, VKT, flow density, special event information and ramp performance data;
- (g) ensure that a continuous live connection of the CCTV monitoring video feed and radar surveillance coverage over the TG Roads is available to the Wellington Traffic Operations Centre;
- (h) work collaboratively with the Transport Agency to develop practices to reduce delay and inconvenience to Users, including attendance at regional forums and the supply of relevant data to the Transport Agency;
- (i) operate and maintain VMS in accordance with:
  - (i) the National Operating Policy for NZ Transport Agency - Variable Message Signs (1 July 2010); and
  - (ii) the National Operating Procedures for NZ Transport Agency - Variable Message Signs (1 July 2010);
- (j) where the Wellington Traffic Operations Centre is unavailable for use by Contractor Personnel (but the WTOC's ICT System is operational), operate the Contractor's ITS Solution via remote means; and

- (k) where the WTOC's ICT System is unavailable for use, continue the operation of the TG Roads, including (as a minimum):
  - (i) continuing to collect all required travel time and ramp performance data, by ensuring such data is stored by the relevant Monitoring Equipment (with sufficient capacity within the equipment to store data for a minimum of five days);
  - (ii) operating the VMS via remote means to continue to display road user messaging as required; and
  - (iii) conducting additional monitoring as required to monitor traffic flow and identify Incidents on the TG Roads on 24/7 shift basis,

and in accordance with the Emergency Procedures and Business Continuity Manual.

## 12. Users

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### 12.1 Service Requirements

The Contractor must:

- (a) operate a customer relationship management (CRM) system to facilitate, resolve and respond to requests, enquiries and complaints from Users, stakeholders and the general public, or that have been forwarded to it, in a timely, professional and responsive manner and within five Business Days of receipt of the request, enquiry or complaint;
- (b) ensure that its CRM system interfaces with the Transport Agency's CRM system (web-browser based SAP software platform) in order to satisfy the data and functional needs of the Transport Agency's CRM system;
- (c) refer User requests, enquiries or complaints otherwise outside the scope of the Services, or the Contractor's knowledge or expertise, to the Transport Agency (or the appropriate authority) and ensure that such requests, enquiries and complaints are satisfactorily resolved; and
- (d) conduct the User Satisfaction Survey each May and November to measure User satisfaction in relation to the TG Roads, to be designed, conducted and analysed in accordance with the User Survey Plan.

### 12.2 Delivery Proposal

The Contractor will comply and will:

- (a) operate a dedicated customer relations management system in the form of a GIS-based database, and log every interaction with affected and interested parties in relation to the TG Project in the CRM system;
- (b) provide a range of communication methods for Users to contact the Contractor in relation to the TG Project, including a freephone number, email address, website, postal address and other modern communication methods in general public use (for example, text messaging);
- (c) develop procedures and regularly update the Transport Agency CRM system with captured data;

- (d) respond to all User requests, enquiries, complaints or other communication within one Business Day of receipt of the communication;
- (e) conduct a review exercise following the results of each User Satisfaction survey and address any survey trends through alteration of maintenance and operations programmes; and
- (f) proactively seek User feedback to continually develop and improve service.

## 13. Overweight and overdimension permits

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### 13.1 Service Requirements

The Contractor must:

- (a) provide sufficient information to the Transport Agency to enable the processing of permits in relation to overweight or overdimension motor vehicles; and
- (b) provide required assistance for overweight or overdimension motor vehicles on the TG Roads.

### 13.2 Delivery Proposal

The Contractor will comply and will develop and regularly update an overweight and overdimension permit management database system.

## 14. Utilities

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### 14.1 Service Requirements

The Contractor must:

- (a) manage and maintain all utilities and associated infrastructure that form part of the TG Project to be Fit for the Intended Purposes;
- (b) comply with the requirements set out in the Network Utility Agreements;
- (c) coordinate, review and manage utility works as the corridor manager for the TG Roads, in accordance with the National Code of Practice for Utility Operators' Access to Transport Corridors (10 November 2011, as amended February 2013), including:
  - (i) receiving and evaluating corridor access requests (CAR) (using the web-based CAR system) and advising applicants of incomplete CAR;
  - (ii) preparing and issuing the works access permit (WAP) or deed of grant (including any appropriate and reasonable conditions for the works);
  - (iii) monitoring the activities of utility operators, and of any contractor carrying out works relating to utilities infrastructure, on the TG Roads to ensure that all works comply with the National Code of Practice for Utility Operators' Access to Transport Corridors;
  - (iv) issuing non-conformance notices and stop work orders;

- (v) assessing works completion and assessing works during the maintenance period, including inspecting completed works to identify whether:
  - (A) there are any issues with the quality of the road corridor and the standard of reinstatement; or
  - (B) there are any additional actions required to ensure the completed works are of the required standard and comply with the WAP;
- (vi) returning works completion notices and completion of maintenance notices;
- (vii) facilitating any approved location or relocation of utilities infrastructure, including Land Information New Zealand (LINZ) survey marks, affected by the works; and
- (viii) attending and participating in liaison meetings as required by the Transport Agency;
- (d) comply with any reasonable and local conditions mandated by the Transport Agency under the National Code of Practice for Utility Operators' Access to Transport Corridors; and
- (e) provide to the Transport Agency sufficient information, support and assistance to enable the Transport Agency to comply with its obligations under the National Code of Practice for Utility Operators' Access to Transport Corridors, including performing all obligations in sufficient time to enable the Transport Agency to comply with all timeframes under that code.

## 14.2 Delivery Proposal

The Contractor will comply and will:

- (a) develop and regularly update a utilities management database system; and
- (b) conduct safety and compliance inspections for third party utility works.

## Part 4 – Maintenance

### 15. Drainage

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#### 15.1 Service Requirements

The Contractor must:

- (a) manage and maintain the Drainage System:
  - (i) to prevent Flood Events;
  - (ii) to enhance the longevity of the Paved Area and to ensure the safety of the Users and the integrity of the TG Project;
  - (iii) to be Fit for the Intended Purposes;
  - (iv) to ensure that the Drainage System does not adversely impact the TG Roads, the TG Operating Site, the KiwiRail Land or the VMS Sites; and
  - (v) to prevent flooding on Adjoining Properties, except across agreed flowpaths; and
- (b) ensure that receiving water courses are maintained in accordance with the Designation, the Consents, the requirements of Local Authorities and all other applicable Laws.

#### 15.2 Delivery Proposal

The Contractor will comply and will:

- (a) conduct proactive and scheduled routine maintenance of the Drainage System, including:
  - (i) cleansing operations such as catch gully emptying, jetting of subsoil drainage, minor structural repairs such as the replacement of short sections of pipe, rebuilding of chambers/gullies as required; and
  - (ii) routine cleansing as part of a low flow / pre winter cleansing regime and treatment of all gullies as required;
- (b) conduct visual safety inspections of the Drainage System including the Paved Area, storage trench areas, cross culverts and Adjoining Properties;
- (c) identify areas of the TG Project at high risk from flooding and implement a targeted maintenance regime under the Asset Management Plan and Forward Works Plan to eliminate the risk and impact of flooding; and
- (d) review and monitor water course discharge into receiving environments in accordance with the Designation, the Consents, the requirements of Local Authorities and other applicable Laws and rectify any issues immediately.

## 16. Fences, screens and environmental barriers

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### 16.1 Service Requirements

The Contractor must maintain all fences, screens and environmental barriers within the TG Operating Site, the KiwiRail Land and the VMS Sites, including all walls, stock proofing, rock fences, wildlife fences, pedestrian barriers, noise and pedestrian fences and fences required under the Third Party Property Agreements:

- (a) to be safe and stable;
- (b) to be free from rust and vegetation; and
- (c) to be Fit for the Intended Purposes.

### 16.2 Delivery Proposal

The Contractor will comply and will:

- (a) conduct inspections and routine maintenance of all fences, screens and environmental barriers, including cleaning and vegetation control;
- (b) identify service critical areas of fences, screens and environmental barriers, and proactively conduct maintenance activities on identified areas; and
- (c) conduct condition monitoring inspection of all fences (capturing rust, tension, stability and vegetation), and replace each fence at the end of its service life (but prior to the fence becoming unsafe).

## 17. Geotechnical Elements

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### 17.1 Service Requirements

The Contractor must maintain all Geotechnical Elements:

- (a) to ensure the safety of the Users and the integrity of the TG Project; and
- (b) to be Fit for the Intended Purposes.

### 17.2 Delivery Proposal

The Contractor will comply and will:

- (a) ensure all Geotechnical Elements are stable, support the TG Project and maintain designed vertical alignment and profile;
- (b) conduct visual routine inspections, at least every fortnight and following heavy rain or seismic events, of geotechnical slopes, embankment areas and all Geotechnical Elements to ensure the safety and integrity of the assets, and to check for any indication of defects, including slips, incipient slippage of embankment or cutting slopes, subsidence or defective drainage;
- (c) conduct inspections and maintenance to ensure:

- (i) that debris deposited against rockfall barriers, catch fences and in other drainage paths is cleared regularly, particularly after heavy rain events; and
- (ii) combined drainage / catch drains at toe of cuts are regularly maintained and cleared so that capacity is not compromised;
- (d) inspect and maintain vegetation to support the integrity of geotechnical slopes and embankment areas;
- (e) conduct annual inspections of geotechnical slopes, embankment areas and all Geotechnical Elements, using an inspector with sufficient geotechnical training and experience to identify defects or potential defects;
- (f) develop, implement and maintain a Geotechnical Elements register for the purpose of monitoring condition, risk assessment and management, and guiding preventive and/or corrective maintenance activities, with such register to include all geotechnical defects or potential geotechnical features and hazards identified as a result of routine maintenance activities (including routine and safety inspections) or other reports or complaints;
- (g) where Geotechnical Elements form part of Structures, conduct inspections in a manner consistent with the Transport Agency's Bridges and Other Highway Structures Inspection Policy (NZTA S6: 2014);
- (h) operate, maintain, calibrate and monitor all accelerometers in accordance with applicable manufacturer's specifications and recommendations, and the Accelerometer Plan (where applicable);
- (i) undertake a proactive preventive geotechnical maintenance regime;
- (j) maintain embankment and cut slope angles to minimise required maintenance interventions; and
- (k) maintain and calibrate as required all installed or constructed Geotechnical Elements in accordance with Good Industry Practice, applicable manufacturer's specifications and recommendations.

## 18. Lighting

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### 18.1 Service Requirements

The Contractor must:

- (a) ensure that the Lighting operates as an effective crash reduction tool;
- (b) ensure that the Lighting does not present a hazard to Users, road workers or third parties;
- (c) ensure that the Lighting of all channelised intersections and interchanges complies with AS/NZS 1158 Road Lighting, with a minimum Lighting Category of V3;
- (d) ensure that not less than 95 per cent of the Lighting across the TG Project is fully functional at all times;
- (e) ensure that no more than one light at any one interchange is not fully functional at any one time; and



- (f) maintain the Lighting to be Fit for the Intended Purposes.

## 18.2 Delivery Proposal

The Contractor will comply and will:

- (a) conduct inspections and maintenance to ensure that not less than 95 per cent of the Lighting across the TG Project is fully functional at all times;
- (b) conduct routine maintenance of the Lighting to ensure form and function, including cleaning, visual inspection, adjustment, lubrication, or repair (as applicable) of the luminaries and base component electrical and mechanical components, wiring, and protective coatings; and
- (c) conduct carriageway lighting maintenance and reactive maintenance, including replacing lamps that have expired between bulk lamp changes as well as repairing damage to columns and other components detected through safety inspections.

## 19. Paved Areas

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### 19.1 Service Requirements

The Contractor must manage and maintain the Paved Area:

- (a) to provide a safe, smooth and even surface for Users at the design speed limit;
- (b) to be Fit for the Intended Purposes;
- (c) to maintain the riding quality of the Paved Area and to ensure there are no trip hazards in any pedestrian area;
- (d) to ensure that any pothole is made safe within 45 minutes and is repaired within 12 hours of the time the Contractor became aware, or should have become aware, of the pothole;
- (e) to ensure that there is no accumulation of detritus, aggregate or grit on the Paved Area;
- (f) to ensure that, as a minimum:
  - (i) the Trafficked Area meets the pavement surfacing requirements set out in Appendix C (Pavement Surfacing Requirements);
  - (ii) potholes exceeding 50mm in depth do not occur;
  - (iii) there is no more than 500 metres of low or high shoulder greater than 50mm over a minimum of 10 metre length in any five kilometre Rolling Length;
  - (iv) there are no pavement heaves or shoves with height or depth greater than 30mm within the Paved Area (when measured from peak to trough);
  - (v) the average rut depth in any 100 metre Rolling Length is no more than 15mm in any lane or wheeltrack (when measured from peak to trough);
  - (vi) there is an average NRM value of 70 for asphalt concrete and an average NRM value of 90 for chipseal, in any 100 metre Rolling Length; and

- (vii) there is no more than 100 metres of edgebreak, or continuous 10 metres of edgebreak, in any five kilometre Rolling Length; and
- (g) to ensure that, at any time during the five years prior to the Expiry Date:
  - (i) where the total area of completed repairs to, and identified defects of, the Trafficked Areas comprises 8 per cent or more of the Trafficked Area in any 100m Rolling Length, that length of the Trafficked Area will be Renewed to a minimum 15 year design working life over the full width of the length; and
  - (ii) where the total area of completed repairs to, and identified defects of, any other Paved Area comprises 10 per cent or more of that Paved Area, that area will be Renewed to a minimum 15 year design working life over the full width of the length.

## 19.2 Delivery Proposal

The Contractor will comply and will:

- (a) conduct daily inspections of the Paved Area;
- (b) programme maintenance interventions that will ensure pavement roughness levels continually deliver high ride quality and maintain desired vehicle speeds and safety; and
- (c) provide to the Transport Agency a register of the Paved Area five years prior to the Expiry Date, showing all pavement repairs and maintenance and update such register annually.

## 20. Pavement markings and raised pavement markers

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### 20.1 Service Requirements

The Contractor must manage and maintain pavement markings and raised pavement markers on all Paved Areas:

- (a) to enhance the safety of the TG Roads at the design speed limit and to supplement the Signage;
- (b) to enhance speed management and traffic flow;
- (c) to ensure that there are not more than two consecutive defective or missing raised pavement markers;
- (d) to ensure the width of edgelines and centrelines within the Trafficked Areas are not less than 150mm;
- (e) to ensure that at least 98 per cent of the total pavement marking within any five kilometre Rolling Length, and 100 per cent of pavement markings on curves, stop and give way pavement markings and pedestrian crossing pavement markings, is compliant with:
  - (i) the Land Transport Rule: Traffic Control Devices 2004 and subsequent amendments;
  - (ii) the Traffic Control Devices Manual; and

(iii) the Manual of Traffic Signs and Markings; and

(f) to be Fit for the Intended Purposes,

provided that where the Contractor cannot immediately replace audio tactile profiled roadmarkings for technical reasons (in accordance with Good Industry Practice), the Contractor must take such additional measures as are required to ensure the safety of Users until the markings can be replaced (in accordance with Good Industry Practice).

## 20.2 Delivery Proposal

The Contractor will comply and will:

- (a) undertake routine maintenance of pavement markings and raised pavement markers, including replacing all markings and raised pavement markers in conjunction with the resurfacing programme, using long-life, high-performance audio tactile markings;
- (b) undertake proactive maintenance to mitigate the premature failure of raised pavement markers;
- (c) conduct reactive maintenance as required; and
- (d) conduct daily inspections and night time inspections of pavement markings and raised pavement markers.

## 21. Barriers

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### 21.1 Service Requirements

The Contractor must:

- (a) manage and maintain all Barriers to be Fit for the Intended Purposes;
- (b) ensure the performance level of all Barriers is a minimum Test Level 4; and
- (c) manage and maintain all Barriers in accordance with applicable manufacturer's specifications and to a level necessary to preserve crash worthiness.

### 21.2 Delivery Proposal

The Contractor will comply and will:

- (a) maintain all vehicle safety barriers in a sound structural condition to serve their intended purpose at all time; and
- (b) conduct condition monitoring inspection of all Barriers (capturing rust, tension, stability and vegetation), and replace each Barrier at the end of its service life (but prior to the Barrier becoming unsafe).

## 22. Signage

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### 22.1 Service Requirements

The Contractor must:

- (a) ensure that the TG Project is managed and maintained to provide Users with safe and effective continuous guidance throughout the TG Project in accordance with:
  - (i) the Land Transport Rule: Traffic Control Devices 2004 and subsequent amendments;
  - (ii) the Traffic Control Devices Manual; and
  - (iii) the Manual of Traffic Signs and Markings,
 as if the Contractor were the Road Controlling Authority;
- (b) manage and maintain all Signage to ensure all Signage is safe, clean, clearly visible and legible and Fit for the Intended Purposes;
- (c) manage and maintain all Signage in accordance with applicable manufacturer's specifications;
- (d) ensure that at least 98 per cent of Signage, and 100 per cent of regulatory traffic signage, is compliant with:
  - (i) the Land Transport Rule: Traffic Control Devices 2004 and subsequent amendments;
  - (ii) the Traffic Control Devices Manual; and
  - (iii) the Manual of Traffic Signs and Markings,
 (including in relation to visibility and reflectivity requirements) and, where any Signage is defective, damaged, lost, missing or otherwise non-compliant, the Contractor must:
  - (iv) with respect to regulatory traffic signage, immediately replace such Signage; and
  - (v) with respect to any other Signage, replace such Signage as soon as reasonably practicable and without delay;
- (e) ensure that there are no substantiated User complaints in relation to the visibility of Signage;
- (f) install, manage and maintain any signage required by the Transport Agency, including signage relating to road safety campaigns or roadside memorials (for example, white crosses);
- (g) not allow any other signage, advertising or promotional material within the TG Operating Site, the KiwiRail Land or the VMS Sites, other than signage authorised or required by the Transport Agency or required by Law; and
- (h) remove all unauthorised signage within 24 hours of the time the Contractor became aware, or should have become aware, of such signage.

## 22.2 Delivery Proposal

The Contractor will comply and will:

- (a) keep all traffic signs relating to road use and traffic speeds legible, visible and effective at all times;
- (b) conduct reactive maintenance of Signage;
- (c) conduct routine maintenance of Signage, including cleaning and replacement as required, due to deterioration or damage;
- (d) conduct programmed maintenance for electronic and non-electronic Signage, including replacement programmes following specialist inspections to determine degradation of colour, retro reflectivity and surface luminance; and
- (e) remove unauthorised signage, and store any such signage for seven days to allow owner collection.

## 23. Vegetation

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### 23.1 Service Requirements

The Contractor must:

- (a) manage and maintain all Vegetation to ensure the safety of Users and the integrity of the TG Project;
- (b) manage and maintain all Vegetation to be tidy, presentable and to enhance the public's appreciation of the environment;
- (c) manage and maintain all Vegetation to be Fit for the Intended Purposes;
- (d) manage and maintain all Vegetation to ensure the integrity, stability and operation of the TG Project, including ensuring that there is no plant life on any Paved Area, within one metre of any Barrier, or affecting the visibility of the Barriers;
- (e) ensure that the Vegetation does not obstruct the sightlines or the Signage;
- (f) ensure that the Vegetation does not pose a fire risk;
- (g) ensure that the Vegetation enhances the public's perception of safety;
- (h) ensure the TG Operating Site and the VMS Sites are consistent, or blend, with the surrounding landscapes;
- (i) manage and maintain all Vegetation to protect designated and protected habitats, species;
- (j) maintain the Ecological Protection Areas and the Landscaping Areas in accordance with the Consent Conditions;
- (k) manage and remove all pest plants and noxious plants as required by Local Authorities; and

- (l) manage and maintain all Vegetation in accordance with the Consent Conditions, the Third Party Property Agreements and the requirements of Local Authorities.

## 23.2 Delivery Proposal

The Contractor will comply and will:

- (a) provide integrated roadside vegetation management to integrate the use of native vegetation with appropriate management techniques to produce an environmentally sound management alternative for roadside weed and erosion control;
- (b) manage vegetation by dividing the TG Operating Site into vegetation management zones to accommodate the natural characteristics and vegetation types that exist within similar areas of the TG Operating Site;
- (c) adopt management practices as required for each vegetation management zone to control noxious weed species and pest plants;
- (d) plan and perform all roadside maintenance activities in a manner that discourages or eliminates unwanted vegetation and promotes desirable vegetation and to ensure vegetative growth does not interfere with highway operational and maintenance objectives;
- (e) undertake regular cyclical inspections of vegetation areas and vegetation control performance;
- (f) apply herbicides in vegetation-free pavement edge zone shoulder zones to ensure that any vegetative growth does not interfere with the form or function of guardrail safety installations;
- (g) routinely mow all vegetated pavement edge zone shoulder sections to preserve sight distance, visibility of guardrail delineators, and to prevent vegetation encroachment onto sealed shoulder areas;
- (h) conduct regular mowing in areas that are not required to be vegetation-free;
- (i) ensure there are no surface drainage problems resulting from vegetative build-up, particularly at pavement edges;
- (j) conduct routine trimming of vegetation to preserve sight distance, maintenance areas and Signage;
- (k) conduct herbicide treatments as necessary during summer months to control noxious weed species and pest plants; and
- (l) regularly monitor the presence of potentially hazardous trees and remove such trees as necessary.

## 24. Structures

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### 24.1 Service Requirements

The Contractor must:

- (a) manage and maintain all Structures to ensure the safety of Users and the integrity of the TG Project;

- (b) manage and maintain all Structures to be Fit for the Intended Purposes; and
- (c) carry out inspections of all Structures in a manner consistent with the Transport Agency's Bridges and Other Highway Structures Inspection Policy (NZTA S6: 2014).

## 24.2 Delivery Proposal

The Contractor will comply and will:

- (a) conduct a comprehensive inspection programme, including visual assessments of structural foundations to assess any:
  - (i) visible differential movement of Structures;
  - (ii) visible sliding of Structures;
  - (iii) visible rotation of Structures; and
  - (iv) visible settlement of Structures,and undertake mitigation measures to rectify such issues and ensure the integrity of the Structure is not compromised;
- (b) undertake a proactive preventative maintenance regime; and
- (c) minimise the need for large maintenance schemes for Structures through:
  - (i) timely replacement of expansion joints, and the use of more durable materials to reduce future maintenance work to bearings and concrete elements; and
  - (ii) employing long life treatments to optimise maintenance works and minimise future maintenance activities.

## 25. Maintenance Accessways and Public Access Track

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### 25.1 Service Requirements

The Contractor must:

- (a) manage and maintain the Maintenance Accessways and the Public Access Track:
  - (i) to be Fit for the Intended Purposes; and
  - (ii) to maintain the riding quality;
- (b) manage and maintain any other access tracks within the TG Operating Site; and
- (c) liaise with the utility operators in relation to the maintenance of maintenance access tracks.

### 25.2 Delivery Proposal

The Contractor will comply and will:

- (a) conduct regular inspections of maintenance and public access tracks; and

- (b) hold regular liaison meetings with utility operators and relevant User groups to determine maintenance needs relating to access tracks.

## 26. Third Party Property Agreements

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### 26.1 Service Requirements

The Contractor must comply with all maintenance obligations the Transport Agency has agreed under each of the Third Party Property Agreements in accordance with requirements of the relevant Third Party Property Agreement, including as to timing, scheduling and materials.

### 26.2 Delivery Proposal

The Contractor will comply and will:

- (a) conduct regular inspections of areas subject to maintenance obligations under the Third Party Property Agreements to ensure compliance with all obligations; and
- (b) conduct regular meetings with landowners to discuss compliance with Third Party Property Agreements.

## 27. Amenity

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### 27.1 Service Requirements

The Contractor must:

- (a) remove any litter, refuse, debris, detritus, animals and animal remains from the TG Roads;
- (b) remove all offensive graffiti within 12 hours, where Contractor Personnel can access the treatment site, whether by foot or mechanical means, safely without material risk of danger or injury;
- (c) remove all offensive graffiti within 24 hours, where additional measures are required for Contractor Personnel to access the treatment site safely without material risk of danger or injury;
- (d) remove any graffiti visible to Users within 24 hours, and all other forms of graffiti within seven days, of the time the Contractor became aware, or should have become aware, of the graffiti;
- (e) ensure the use, appearance, safety, stability, integrity and operation of the TG Project is not affected by graffiti, litter, refuse, debris, detritus or animal remains;
- (f) ensure that Users are satisfied with the appearance of the TG Project and that there are no substantiated User complaints in relation to the appearance of the TG Operating Site or the VMS Sites (including in relation to graffiti, litter, refuse, debris, detritus or animal remains);
- (g) ensure that the appearance of the TG Project enhances the public's perception of safety;



- (h) ensure that the Adjoining Properties are not affected by graffiti, litter, refuse, debris, detritus or animal remains emanating from the TG Operating Site or the VMS Sites;
- (i) implement and maintain the detailed mitigation options, as required by the Consent Conditions; and
- (j) ensure that there are no substantiated User complaints in relation to noise or vibration emanating from the TG Project.

## 27.2 Delivery Proposal

The Contractor will comply and will:

- (a) conduct routine litter inspections and collection;
- (b) proactively remove graffiti on the TG Project as it occurs;
- (c) maintain all landscaped areas as originally designed and constructed (using original plant species or equivalent); and
- (d) proactively maintain the perimeter fence to ensure form and function, and to ensure that stock breaches onto the TG Project do not occur.

## 28. Not used

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## Part 5 – Hand Back Requirements

### 29. Hand Back Requirements

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The Hand Back Requirements are as follows:

- (a) the TG Project meets the residual life requirements set out in paragraph 3 (Residual life) of this Schedule 12;
- (b) the TG Project meets the required standard for the relevant element of the TG Project, as specified in:
  - (i) the Asset Condition Register;
  - (ii) the Forward Works Plan;
  - (iii) the Asset Management Plan;
  - (iv) this Schedule 12 (Service Requirements); and
  - (v) Schedule 19 (Disengagement);
- (c) the Contractor's ITS Solution is able to be operated from the Transport Agency's operations centre, if required by the Transport Agency;
- (d) the TG Project is clean, tidy and free from rubbish; and
- (e) safety Barriers have anti-graffiti coatings on all accessible surfaces.

## Appendix A: RAMM Tables

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RAMM Table Name
Carriageway
Carriageway Surfacing
Drainage
Features
Footpaths
Forward Works Programme
ITS
Maintenance Costs
Markings
Structures
Pavement Layer
Pavement Test Pits
Railings
Retaining Walls
Signs
Streetlights
Surface Water Channel
All condition related tables
Traffic and Loading

## Appendix B: Code of Practice for Temporary Traffic Management

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### 1. General

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#### 1.1 Contractor responsibility

The Contractor is responsible for ensuring that all temporary traffic management measures within the TG Project are in accordance with the Code of Practice for Temporary Traffic Management.

#### 1.2 Road Controlling Authority powers

During the Operating Term, the Contractor is responsible for the following powers and responsibilities of a Road Controlling Authority under the Code of Practice for Temporary Traffic Management:

- (a) ensuring that all temporary traffic management measures are in accordance with COPTTM;
- (b) ensuring that any unsatisfactory work is rectified immediately and that any contractual arrangements allow for immediate rectification;
- (c) specifically, under Section A - Introduction and general:
  - (i) notifying a contractor or those responsible for the temporary traffic management as to the level of traffic management to be used for various sections of the TG Roads;
  - (ii) appointing a Traffic Management Coordinator and notifying the contact details;
  - (iii) providing traffic volume data, upon request and where available, to assist traffic management planning;
  - (iv) authorising temporary speed and parking restrictions and the use of other regulatory signs;
  - (v) subject to paragraphs 7 (Speed and traffic management) and 14 (Utilities) of this Schedule 12, authorising and setting conditions for work and other activities on the TG Roads;
  - (vi) approving traffic management plans in accordance with COPTTM (but, for the avoidance of doubt, not including approving engineering exception decisions);
  - (vii) ensuring there is adequate monitoring and audit of all traffic management within the Road Controlling Authority's network by monitoring documentation and worksite activities to ensure compliance with COPTTM;
  - (viii) identifying (or requiring a contractor/consultant to identify) the scope of disruption likely to be caused to road users by the proposed works;
  - (ix) showing (or requiring a contractor/consultant to show) that it is possible to construct the proposed design, including any required temporary traffic measures; and

- (x) entering into service agreements with organisations working regularly within the road reserve;
- (d) specifically, under Section B - Equipment:
  - (i) approving an alternative RD6L twin disc (RG-17.1) where an RD6L (RG-17) sign on the centre line of a two-way two-lane road is likely to pose a hazard due to insufficient lane widths;
  - (ii) approving or requiring a “Works End / Thank You” sign combination;
  - (iii) approving the use of portable traffic signals; and
  - (iv) approving manual control of approaches; and
- (e) specifically, under Section C - Static operations:
  - (i) approving the altering, covering or replacement of signs;
  - (ii) authorising the setting of a temporary speed limit for a worksite;
  - (iii) authorising the approval of a working space that exceeds one kilometre in length for shoulder and lane closures;
  - (iv) authorising the lane(s) to be closed on roads with three or more lanes in one direction;
  - (v) authorising trimming of vegetation and movement of traffic signs to ensure adequate visibility where a shoulder is used as a temporary lane;
  - (vi) authorising a reduction in the 600 metre requirement for passing lane / passing bay closure principles;
  - (vii) authorising an exemption from the requirement to use manual traffic controllers or portable traffic signals to manage traffic on a two-way two-lane road reduced to one lane;
  - (viii) authorising the parking of plant where it is not possible to park at least five metres outside the edgeline and on the same side of the road as the working space; and
  - (ix) managing traffic queues, including determining the appropriate action where delays of more than 15 minutes are likely.

### 1.3 Public notification

Notwithstanding any delegation of powers or any rights available under the Code of Practice for Temporary Traffic Management, any public notification of temporary traffic management relating to the TG Roads must be approved by the Transport Agency in accordance with Schedule 20 (Communication).

## 2. Delegation

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### 2.1 Contractor delegation

- (a) The Contractor may, with the prior approval of the Transport Agency, delegate any of its powers under this Appendix B (in accordance with the Code of Practice for Temporary Traffic Management).
- (b) The Contractor shall provide to the Transport Agency a full and accurate record of any delegation and shall notify the Transport Agency when the record is updated.
- (c) Notwithstanding any delegation under this paragraph 2, the Contractor is responsible for the actions and omissions of any person acting under such delegation and remains responsible for ensuring that all temporary traffic management measures are in accordance with the Code of Practice for Temporary Traffic Management.

### 2.2 Retention of powers and responsibilities

Any power or responsibility of a Road Controlling Authority under the Code of Practice of Temporary Traffic Management that has not been delegated to the Contractor under this Schedule 12 or otherwise in accordance with this Agreement (including any Confirmed Change) will remain with the Transport Agency, to be exercised at its discretion.

## 3. Compliance

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### 3.1 Transport Agency monitoring

Notwithstanding any delegation of powers, the Transport Agency may monitor the Contractor's compliance with the Code of Practice for Temporary Traffic Management in accordance with clause 20 (Monitoring of Operational Services) of the Base Agreement or the Code of Practice for Temporary Traffic Management.

### 3.2 Issue of stop work notice

- (a) The Contractor must issue a stop work notice to any organisation or individual who causes, or allows an activity to occur on a road that does not comply with the principles of COPTTM.
- (b) Notwithstanding paragraph 3.2(a), the Transport Agency may also issue a stop work notice to any organisation or individual who causes, or allows an activity to occur on a road that does not comply with the principles of COPTTM.
- (c) In the event that the activity was in fact in compliance with an approved traffic management plan or an agreed variation to that plan, any payment for losses arising out of a stop work notice required under COPTTM will be the responsibility of the Contractor.

## 4. Lane closures

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Notwithstanding any authority delegated to the Contractor under this Appendix B relating to closures, any relief for closures will be determined in accordance with Schedule 13 (Performance Regime).

## Appendix C: Pavement Surfacing Requirements

Table 1 Skid resistance minimum levels

Site category	Skid site description	Minimum level, units ESC					
		0.25	0.30	0.35	0.40	0.45	0.50
1	Approaches to: Railway level crossings Traffic signals Pedestrian crossings Stop and give way controlled intersections (where state highway traffic is required to stop or give way) Roundabouts. One lane bridges: Approaches and bridge deck.						
2	Urban curves <250m radius						
	Rural curves <250m radius			L	M	H	
	Rural curves 250-400m radius		L	L	M	H	
	Down gradients >10% On ramps with ramp metering						
3	State highway approach to a local road junction Down gradients 5-10% Motorway junction area including on/off ramps Roundabouts, circular section only						
4	Undivided carriageways (event-free).						
5	Divided carriageways (event-free).						

**Notes to Table 1:**

- the curve risk rating on rural curves with radii 0-400m is shown as H, M or L (high, medium or low-risk curves) in the appropriate greyed minimum level band under site categories 2b and 2c. Two options are available for rural low-risk sites with radii between 250m and 400m. Urban curves with a radius less than 250m are site category 2a.
- the units for minimum level in table 1 are equilibrium SCRIM coefficient (ESC), being the average of the left and right wheelpaths. Where seasonally corrected data is not available, SCRIM coefficient (SC) may

be used as an approximation to ESC with further checks undertaken when seasonal corrections are available.

- the threshold level for the skid resistance (TL) is the appropriate value detailed in Table 1 or 0.30, whichever is higher.

**Table 2 Minimum macrotexture requirements**

Minimum macrotexture - mean profile depth (MPD mm)		
Permanent speed limit	Chipseal	Asphaltic concrete
	Minimum level	Minimum level
50km/h and less	0.7	0.5
Less than or equal to 70km/h but >50km/h	0.7	0.5
Greater than 70km/h	0.7	0.7



## Appendix D: Asset Condition Register

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