Section I – X Best Practise Guide for TTM relating to Land Surveying

Inspections and other short-term activities carried out for Land Surveying purposes.

June 2020 - Version 4.0

Group Name:
Survey and Spatial New Zealand

Contributing Organisations:
Consulting Surveyors New Zealand and Land Information New Zealand

Endorsed on behalf of S+SNZ by Ashley Church, Chief Executive

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CoPTTM Submission

Section A - Introduction & General

Who are Survey and Spatial New Zealand

Survey and Spatial New Zealand (S+SNZ, legally incorporated as the New Zealand Institute of Surveyors) represents surveyors and spatial professionals. We are a stakeholder across a wide range of government policy areas and the sector including housing development, land subdivision, construction, infrastructure, spatial information, and resource management. Our members are professionals responsible for the preparation of Cadastral Survey Datasets in accordance with the Surveyor-General's Rules for Cadastral Survey 2010, (the Rules) established under section 49 of the Cadastral Survey Act 2002 (the Act).

Why are Surveyors access the Road Reserve and Road Corridor?

At its most basic, surveying is taking measurements to determine the position of a survey mark, or other feature. A significant proportion of all survey work is undertaken within the road corridor and there appears to be a general assumption that if a surveyor is working within the road corridor, it must be for some road construction activity. This is correct in a number of cases, as surveyors are called upon to define the legal extent of the road, as well as giving spatial certainty to the physical roads themselves and the other assets that occupy space within the corridor. However, overall, this type of survey is a very small proportion of a surveyor's work.

It is much more likely that a surveyor is accessing the survey network, a very important but inconspicuous layer of infrastructure. Part of this countrywide network of survey marks is contained within the LINZ Geodetic Database. This is the control layer and it comprises approximately 130,000 geodetic survey marks that are mostly contained within the road network. In addition to these marks, there are many more cadastral survey marks that are recorded on old cadastral survey plans.

Much of this network of survey marks is contained within the road reserve because it is an area that is currently publicly accessible, and it is likely to remain that way. Also, the clear space, and even grades necessary for public movement, permit longer sightlines than are generally possible on private land. So, a surveyor's primary purpose in accessing the road reserve is not to execute road works, but to access the survey network. The geodetic part of this network is owned by the NZ government, and it is maintained by an annual programme of geodetic surveys.

Cadastral Surveys
While there are many different types of survey, one that is common and is worth mentioning is the cadastral survey. These surveys are primarily concerned with establishing the position of existing legal boundaries and placing marks to delineate new and existing legal boundaries. The conduct of these surveys is controlled by legislation, mostly within the Cadastral Survey Act 2002 and its subsidiary regulations.

Our NZ cadastral system is based on the evidential proof of finding existing survey marks to confirm a survey fits within the verified framework. Therefore, a surveyor is required to locate and observe old survey marks to define the position of a boundary. The best available definition of the boundary is required and so the observations should be made to the nearest and most reliable of the existing survey marks that remain. Therefore, the search for old marks generally progresses outwards from those most relevant. Since it is not possible to predict whether a mark that was placed years earlier still remains, and is in its original position, it is also not possible to know where a search may lead in advance. Older survey marks were often buried in the berm and so to locate and observe to them it is necessary to dig a small hole with hand tools such as a spade or metal bar to expose the mark. Typically, these would be approximately 200mm deep, so they would be exposed, observed and covered over again within a few minutes.

When looking for marks from older surveys, in areas where the road has been upgraded, the search can be extensive often covering many kilometres of the road corridor. The movement over this distance can occur quite rapidly, as the search for one mark may only take a few minutes and marks many be hundreds of metres apart. With such a dynamic and highly unpredictable degree of movement, a cadastral survey is very different to the survey for a construction project. Experience shows that it is pure folly to attempt to plan all but the simplest cadastral surveys from the office. Similarly, dates can be unpredictable, as either the site conditions, or the weather can be unfavourable. Things as mundane as a vehicle parked in the wrong location, blocking sight lines or obstructing survey marks may affect the survey. Due to the unpredictable nature of cadastral surveying, it is imperative that surveyors can operate under a generic traffic management plan that can be adapted as required.

A Space for Surveyors

Surveyors have been undertaking these surveys in NZ, since its first exploration by Europeans. Over this time they have developed a fundamental background knowledge of how to operate safely within the road corridor. As a reaction to the invention and rise in the number of motor vehicles, surveyors have looked for safer locations to place new survey marks. Additionally, procedures have continued to evolve with the arrival of each new advance in technology, such as electromagnetic distance measurement (EDM) and GPS.

Surveyors consider the road to be their natural working environment, where they can mitigate the risks to work safely. In contrast, generally RCAs have little to no understanding of the nature of a surveyor's work. Consequently, they tend to require traffic management solutions that are appropriate to static construction sites, as opposed to the surveyor's short term, highly mobile operation. Since the set up and break down of sites are higher risk activities, this approach is likely to increase the risk and exposure to surveyors.

Over the years, with the increasing use of the road corridor for vehicles and more underground services, the available space for surveyors to operate has reduced. To avoid conflict with vehicles, services and pedestrians, surveyors have adapted to placing a number of marks in the concrete kerb or channel. Additionally, these areas are usually stable and often last longer than footpaths.

The one drawback of setting up a tripod over a mark in the kerb or channel is the need to place one or two tripod legs in the edge of the carriageway. This is often viewed as problematic from a

traffic management point of view because of the arbitrary view that the whole carriageway is for vehicle movement. However, on Low Volume and Level One roads with parking lanes or shoulders, this practice has proved to present minimal risk to normal traffic operations. Although, on busier roads, particularly where traffic lanes are close to the kerb, we identify this is not a safe option without lane closures, or similar measures.

While the kerb and channel is a favoured position, that avoids many of the conflicts, other positions are; within the footpath, vehicle crossings, berms, parking bays, the shoulder, traffic islands and within a live lane, although this is typically avoided unless absolutely necessary and provided the environment is safe to do so. In selecting the position of a new survey mark, surveyors must balance the safety aspects with the requirements of the survey. For example, survey marks are often placed to meet a specific need, such as line of sight to place a boundary mark or survey existing features. For GPS work, an unobstructed skyline is the optimal situation to gain non-compromised satellite signals to ensure that both survey accuracy and spatial certainty is achieved. The road environment is continually changing, and surveyors continue to evolve with it. A fairly recent example, particularly in and around central city areas, is the number of new cycle lanes that are being created within existing road corridors.

Typical Survey Equipment
Most survey equipment is either mounted on a surveyor's tripod or a pole, which is either hand-held or braced for a short period with small supporting legs. Usually this will be attended in order for it to be operated and if required it can be relocated at short notice. This description would include a non-robotic total station, a theodolite or a level on a tripod as well as a reflective prism or GPS rover on a pole.

However, some equipment is more automated, and it may be only partially attended after it has been set up. This would include equipment such as a robotic total station, a survey prism target, a laser scanner, or a GPS base station, which would all typically be mounted on a surveyor's tripod.

Modern equipment is light weight and while it is often expensive, it can be described as frangible. While surveyors prefer to remain separated from pedestrians, this is to prevent disturbance or damage to the equipment once it has been setup. In contrast to the majority of construction work, there is minimal danger to a pedestrian walking too close to survey equipment.

Proposal

I. Amend section D7.6 to include specific guidelines for land survey activities
II. Amend section F to include specific TMDs for land survey activities
Or
III. Include an addition to CoPTTM Section I to provide a guideline including TMDs for spactial survey activities

Submission breakdown

The current standard/guideline	Surveying industry feedback/remarks	Proposed Solution
The TC Inspector warrant; • designed for off road inspections with the added proviso that, • on lane inspections could be carried out "infrequently" (max of 4)	Cover all aspects required for inspectors to do both on and off lane inspection, without a limitation.	CoPTTM Training & Competency Model Specialist TTM Activities *Proposals as outlined in this document*
The TC Inspector must be briefed by an STMS	To date, most companies have had an 'in house STMS' to cover the required briefing by an STMS. New training pathway means huge cost implications in order to obtain a practising STMS warrant. Universal STMS covers all learning outcome associated with the role required.	CoPTTM Training & Competency Model Universal STMS delivers the briefing. *Proposals as outlined in this document*
There is one TMD in the code that illustrates an inspection activity	The current TMD does not cover all survey specific activities and is therefore not fit for intended purpose in this context. A specific guide for the industry would be well received to create consistencies.	Section 'handbook' or best practice guide created. *See proposed TMP and SOP*
	The need for a set of generic inspection TMDs that cover the scope of works that can be undertaken as an 'inspection and/or non-invasive' activity.	Addition to Section I of CoPTTM for approved generic inspection TMDs *See proposed TMP*
On-site record and GTMD checking process would need to be complete for each location visited.	The current forms are not fit for purpose if multiple short-term site visits are required over the duration of a normal work period.	Addition to FORMS section of NZTA – CoPTTM website with new form covering onsite monitoring for inspections *Please see proposed form*
State Highways Interim TMDs restricting the use of a Generic TMP.	Surveyors to apply a risk-based assessment of the road environment in order to still use generic TMP on State Highways when risk result permits the activity.	Robust risk assessment tool created for surveyors to assist in decision making for Generic TMPs on State Highway Networks.

Important elucidation

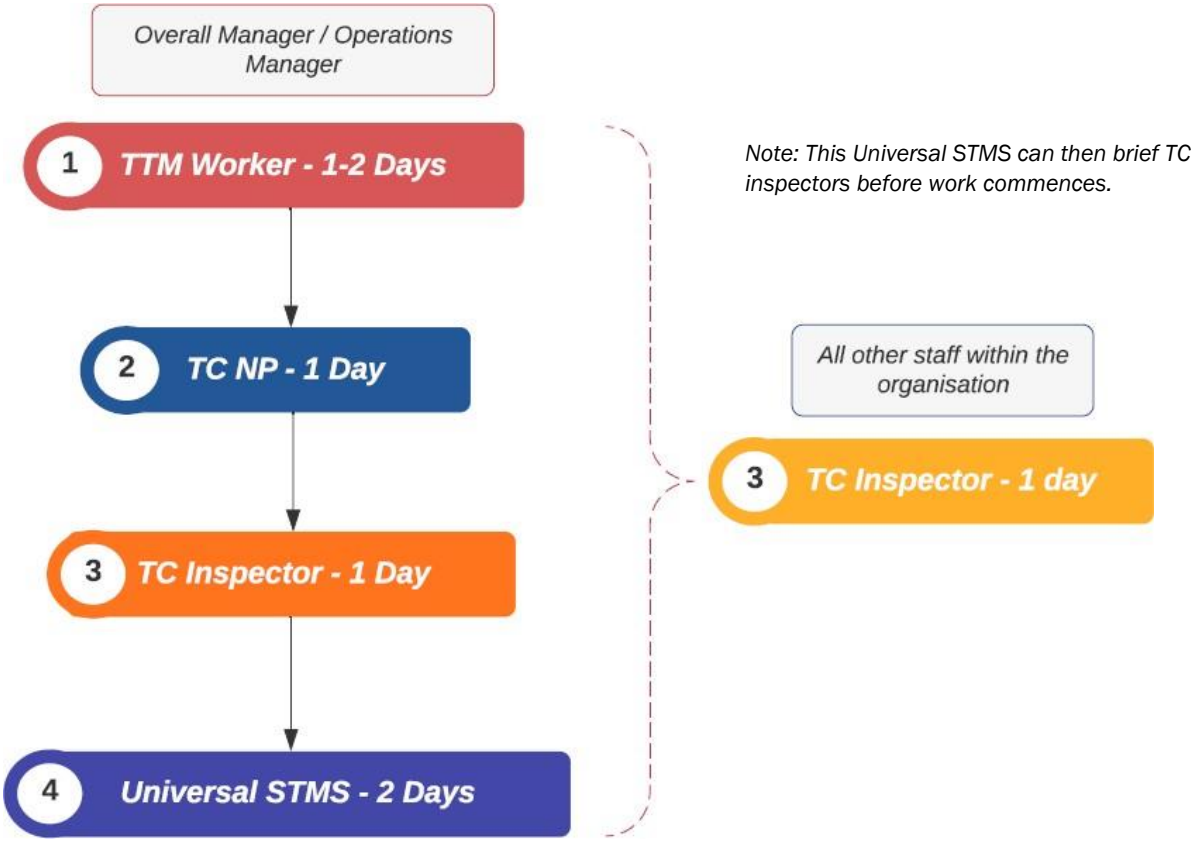
This submission is applying to still allow the TC inspector to conduct inspection activities on the level 3 (Category C) Roads (with minor adjustments outlined), however the generic TMP submission will not include level 3 (Category C) Roads or inspections on State Highways. These roads are to be treated with a site specific TMP in accordance with the RCA, NOC Representative or District Council RCA guidelines.

Training & Competency – Submission proposal

Proposed Training pathway

The group would like to propose that a Universal STMS can conduct the briefing to TC inspectors. The Competency objectives and knowledge for a Universal STMS aligns very well with the role they will assume when briefing a TC Inspector before undertaking works, to list a few;

- Health and safety processes relevant for the role
- Knowledge of their role and responsibility
- Lead and give direction to their crew and visitors
- Understanding the TMP
- Understanding the principles of TMP implementation
- Understand contingency plans
- Ability to assess risk (decide what it is and severity)
- Basic Leadership (anticipation, planning, maintaining standards, delegation, safety for the team and others, supervision)
- Understand the minimum requirements of a site safety briefing/induction



Inspector Profile – Proposed

Block of Learning:	Inspector	Who it is for?	A person carrying out an inspection activity, left of the edgeline or inferred edgeline including footpaths and berms and/or accessing the live lane for less than 5mins, once briefed by a Universal STMS.
Prerequisite:	No prerequisite		
Competency Objective	This qualification enables the holder to undertake inspection activities once briefed my an Universal STMS		

Knowledge of basic CoPTTM elements covered	Assessment method	Pass criteria	Misc.
• Health and safety processes relevant for the role • Knowledge of basic CoPTTM for TC Inspector role • Follow, read TMP (including contingency) • Complete paperwork • Hazard ID & Basic understanding of risk assessment and treatment • Take corrective actions (to make site safe) • Working with staff (e.g. providing direction, reinforcing performance) • Site access / Briefing visitors • Preserving safety zones (No go zones) • Understanding of inspection activity and the different kinds of operations that can be conducted under this definition. • Maintain pedestrian/cyclist facilities • How to utilise vehicles, equipment, and PPE to increase safety and road user awareness • Acting as a spotter for person on the lane	Knowledge tests during training Scenario dealing with common inspection situations – can complete multiple times if required	100% pass	Workshop delivered by: NZTA approved Trainer Refresher • No refresher workshop • Refreshed by briefing from an STMS • 3-year reassessment of practical Time • 1 day theory/ knowledge • Plus on-site practical Related unit standards
Identify / recognise correct PPE	Visual check onsite – TTM assessor HiVis worn correctly	Correctly wearing all PPE as per site requirements	
On Job Practical – Skills Element to be covered	**Assessment method**	**Pass criteria**	**Misc.**
Competent at installing TTM equipment on foot • Shoulder closure, berm or footpath control Undertake 2 inspection activities: 1. One on a category A Road (LV, L1 or L2 under 65kph) and 2. One a category B road (LV, L1 or L2 over 65kph)	Observed by TTM Trainer or TTM Assessor • Must undertake 1 inspection activity (including paperwork) for category A and B road environments • TTM Trainer or TTM Assessor determines if the candidate is competent	100% to standard	

Summary of operation and personnel

<table>
<tr><th>Type of Road</th><th>On Shoulder, berm, or footpath – no time limit</th><th>On live lane – up to 5mins</th><th>Over 5mins</th></tr>
<tr><td>Low Volume (Any speed)</td><td rowspan="5">Spotter Optional – can be a one-person operation:
Working under an approved TMP
Briefed by a Universal STMS
Holds a current practising qualification as a TC inspector, TC, or STMS</td><td>Spotter Optional – can be a one-person operation:
Working under an approved TMP
Briefed by a Universal STMS
Holds a current practising qualification as a TC inspector, TC, or STMS</td><td rowspan="5">Inspection not permitted.

Must use a higher level of TTM with appropriately warranted staff</td></tr>
<tr><td>Level 1</td><td rowspan="2">Spotter Required – Minimum two-person operation:
Working under an approved TMP
Briefed by a Universal STMS
Holds a current practising qualification as a TC inspector, TC, or STMS</td></tr>
<tr><td>Level 2 – Low speed</td></tr>
<tr><td>Level 2 – High speed</td><td>Inspection must only be carried out with RCA approval and may be subject to RCA conditions (eg locations, times).
Spotter required – minimum two person activity:
Working under the approved TMP, following the STMS' briefing
Onsite control must be by an STMS L2/3 or an STMS-NP(CAT B or C)</td></tr>
<tr><td>Level 3 (Any speed)</td><td>Inspection not permitted.

Must use a higher level of TTM with appropriately warranted staff</td></tr>
</table>

Important elucidation

* Inspector will not be qualified to design or submit traffic management plans

This submission is applying to still allow the TC inspector to conduct inspection activities on the level 3 (Category C) Roads (with minor adjustments outlined), however the generic TMP submission will not include level 3 (Category C) Roads or inspections on State Highways. These roads are to be treated with a site specific TMP in accordance with the RCA, NOC Representative or District Council RCA guidelines.

Appendix

Sample Standard Operating Procedure: Survey and Inspection for TTM Engagement-Approvals and Implementation.

Sample Survey and Inspection Generic Proforma

Sample Engineering Exception Decision: Surveying within the carriageway on Level LV and Level 1 Roads

Sample Survey and Inspection Traffic Management Diagrams

Sample Survey and Inspection Checking Process for Generic Checking Process for Generic TMPs Incorporating Onsite Record Form

A GUIDE TO STANDARD OPERATING PROCEDURE

ROADSIDE SURVEYS & INSPECTIONS

Description of Activity
Carryout surveying and inspections in the legal road corridor.

Task	Date from activity	Operating procedure	Person Responsible
1	Monthly	Monthly toolbox type briefing my qualified person to update the works on any additional requirement, industry updates or to teach new employees how to correctly use the TMP and onsite paperwork	Qualified Manager/ *STMS*
2	25 - 15 working days before *(regional dependent)*	Standard Operating Procedure for Surveys and Inspections Document (this document) referenced and implemented. The manager of activities or operation manager who holds a STMS qualification should check all survey sites against the *Proposed GTMP* and its associated TMDs to determine: 1. That the site to be surveyed is covered under the approved Generic TMP and associated diagrams or, 2. the level of TTM required can be carried out inhouse by *TCi* or, 3. The site TTM is too complex and requires outsourcing to a TTM company or, 4. The site setup is not covered under the Generic TMP and requires a Site Specific TMP to be created and approved by the RCA. *Details on getting site specific TMP drafted and approved will not be included in this document.*	Designated site supervisor
3	48 hrs before	Each RCA have their own requirements around notification of generic TMPs. This is often completed retrospectively at month end. Methods of notification: Notify work start date via https://www.submitica.co.nz/ or Deploy the worksite in www.myworksites.co.nz	Designated site supervisor
4	On the day pre-site visit	The person in control of the site (either STMS, TC or TCi) needs to check that; 1. the TMP has been approved 2. the dates and times 3. the TMDs are fit for intended purpose	Designated site supervisor

		4. all PPE requirements are met 5. all TTM apparatus required is available and in working order and acceptable condition	
5	On the day before arriving or on the site	If reasonable and practical a drive-by of the site should be performed to ascertain the approx. location of work for the day. The designated site supervisor should carry-out a site induction briefing to cover: 1. If TTM diagrams are fit for purpose. 2. Site hazards 3. Hazard mitigations 4. Parking requirements at each site 5. Entry and exiting procedures if applicable 6. Safety zones and no-go areas 7. PPE requirements 8. Unacceptable behaviors IF SITE REQUIREMENTS ARE NOT COVERED UNDER THE APPROVED TMP THE SURVEY ACTIVITY SHOULD BE CANCELLED AND REASSESSED	Designated site supervisor
6	On the day onsite	Onsite requirements 1. The designated site supervisor implements the static, mobile or inspection requirements to establish the designated TTM on site. 2. Surveyors or other visitors are migrated safely onto site. 3. The survey/Inspection is then carried out. 4. Surveyors or other visitors are migrated off site safely. 5. The designated site supervisor implements the static, mobile or inspection requirements to dis-establish the designated TTM on site. 6. All paperwork including the inspections site checking form is completed for thesite. 7. The site is vacated safely. 8. If this is the last site go to SOP No#7 9. If another site needs to be visited go to SOP No# 5 until all sites are completed. 10. Once all sites are completed return to office	Designated site supervisor
7	On the day post site visit	Return to office and complete any paperwork. TMP and onsite record forms will need to be archived for 12 months. Work completion notification for GTMPs vary depending on the RCA. Please check with your local RCA what their preference is. Notify work completed date via https://www.submitica.co.nz/ Closure out the worksite in www.myworksites.co.nz	Manager/*STMS*

Section I – X Guidelines for Standard TMP for Land Surveying

Inspections and other short-term activities carried out for Land Surveying purposes.

June 2020

Group Name:
Survey and Spatial New Zealand

Contributing Organisations:
Consulting Surveyors New Zealand and Land Information New Zealand

Standard TMP for Land Surveying

Introduction

This standard TMP for the Surveying Industry has been developed by Survey + Spatial New Zealand in conjunction with Consulting Surveyors New Zealand and Land Information New Zealand

It covers the various types of activities undertaken by surveyors and provides guidance around what CoPTTM measures to apply when working within the road corridor.

Using this Standard TMP

Take the following steps to use this standard plan:

- download the standard TMP
- complete the content with pertinent particulars where indicated by orange writing with (add relevant dates for the year of operation)
- submit the TMP to the road controlling authority for approval (resubmit every year for approval)
- Use the information in the proforma and appendix of this document to ensure that the operation is covered by the TMP
- carry the approved TMP while completing the work
- Complete the inspection on-site record
- retain approved TMP and onsite paperwork for one year after expiry

Updates to this Standard TMP

GTMP, EED and TMP documents associated with this proposal will be subject to updates based on:

I. Legislative and regulatory changes,
II. Adapting industry based best practise
III. Annual health and safety reviews undertaken by the principle

WAKA KOTAHI NZ TRANSPORT AGENCY	**RCA consent (eg CAR/WAP) and/or RCA contract reference**	***Add RCA consent reference, for example the corridor access request (CAR) or work access permit (WAP) and/or any RCA contract reference.***

TRAFFIC MANAGEMENT PLAN (TMP) – FULL FORM

Use this form for complex activities. Refer to the NZ Transport Agency's Traffic control devices manual, part 8 Code of practice for temporary traffic management (CoPTTM), section E, appendix A for a guide on how to complete each field.

<table>
<tr><td rowspan="2">Organisations /TMP reference</td><td rowspan="2">TMP reference:
Add the RCA's and contractor's reference number</td><td>Contractor (Working space):
State the name of the contractor responsible for the working space</td><td colspan="3">Principal (Client):
State the name of the principal or client for this project (eg NZTA or Chorus)</td></tr>
<tr><td>Contractor (TTM):
State the name of the contractor responsible for the TTM</td><td colspan="3">RCA:
State the name of the RCA who controls the road that the worksite will be on.
Note: There can be more than one RCA.</td></tr>
<tr><td rowspan="3">Location details and road characteristics</td><td colspan="2">Road names and suburb</td><td>House no./RPs
(from and to)</td><td>Road level</td><td>Permanent speed</td></tr>
<tr><td colspan="2">Include the road name/s and any affected intersections. Also include the suburb</td><td>Enter house numbers, route positions or power pole numbers where applicable</td><td>Enter RCA designation</td><td>Enter highest permanent limit</td></tr>
<tr><td colspan="2">Keep adding rows below for any roads that will be visited as sites under this approval</td><td>As above</td><td>As above</td><td>As above</td></tr>
<tr><td>Traffic details (main route)</td><td colspan="2">AADT
Include AADT where available.
The RCA or engineer must provide this information if available.</td><td colspan="3">Peak flows
Include peak hour and heavy vehicle counts where available.
The RCA or engineer must provide this information if available.</td></tr>
</table>

RCA consent (eg CAR/WAP) and/or RCA contract reference	*Add RCA consent reference, for example the corridor access request (CAR) or work access permit (WAP) and/or any RCA contract reference.*

Description of work activity

Exclusions:

- Work within the boundary of a state-highway or any Level 3-road corridor is not covered by this TMP. Many RCAs, NOC Representatives or District Council RCAs require site specific TMPs for inspections on a State Highway.
- Work which blocks driveways, restricted parking, loading zones, taxi stands, closures that require footpath diversions towards live lane or cycle lane closures/diversions.
- Setups not covered by the generic TMDs attached

Surveying operations summary

Includes land, location-based spatial information, construction, resource management and housing, cadastral, engineering, hydrographic, geodetic surveying, land development and urban design.

The two main categories of survey process are:

- either measuring to something that already exists, such as an existing survey mark, or a feature, or
- setting out the position of something, such as a boundary mark, or something to be constructed.

Work Activity Period:
30 secs to a maximum of 6 hours.

Working Space Dimensions not including safety zones:
3m²

Plant, equipment, and personnel required:
Plant:
One utility vehicle (Light Car, Ute or Van)

Equipment:
Light weight, frangible surveying equipment which is generally either:

- on tripod legs, such as a GPS base station, a total station, or a scanner
- on a pole, such as a GPS rover, or a reflective prism for use with a total station
- handheld, such as a tape measure, a handheld GPS or a mobile scanner

Personnel:
1 to 2 persons

RCA consent (eg CAR/WAP) and/or RCA contract reference	*Add RCA consent reference, for example the corridor access request (CAR) or work access permit (WAP) and/or any RCA contract reference.*

Types of operations covered in this TMP

Activity required	Access to live lane required?	Level of Road	TMD
Working on Footpaths and Berms *(No time restriction)*	Locating or observing mark or feature outside of carriage way NOT ENTERING THE LIVE LANE *(No time restriction)*	Low Volume Level 1 Level 2 Level 3 roads not covered in this TMP	Sheet 1
	Locating or observing mark or feature in the live lane ENTERING THE LIVE LANE *(Up to 5min in the lane)*	Low Volume Level 1 Level 2 Not permitted on Level 3 roads	Sheet 2
Working in a marked/inferred shoulder or in a parking lane. **Including Tripod Straddling the kerb and Channel**	Locating or observing mark or feature outside of carriage way NOT ENTERING THE LIVE LANE *(No time restriction)*	Low Volume Level 1 Level 2LS Not permitted on Level 3 roads	Sheet 3 Sheet 4
	Locating or observing mark or feature in the live lane ENTERING THE LIVE LANE *(Up to 5min in the lane)*		Sheet 5 Sheet 6
Working where there is no edge line or inferred edge line. **Including Tripod Straddling the kerb and Channel** **Overtaking vehicles not crossing centreline or entering flush median**	Locating or observing mark or feature outside of carriage way NOT ENTERING THE LIVE LANE *(No time restriction)*	Low Volume Level 1 Level 2LS Not permitted on Level 3 roads	Sheet 7 Sheet 8
	Locating or observing mark or feature in the live lane ENTERING THE LIVE LANE *(Up to 5min in the lane)*		Sheet 9 Sheet 10
Working in the lane on a short no exit road – over 10mins	ENTERING THE LIVE LANE *(No time restriction)*	Low Volume only	Sheet 11
Working in the lane	ENTERING THE LIVE LANE *(Up to 10min in the lane)*	Low Volume Level 1	Sheet 12
Pedestrian detour away from the carriageway	Locating or observing mark or feature Blocking the footpath	Low Volume Level 1 Level 2	Sheet 13
Pedestrian Detour in to the front berm			Sheet 14

Planned work programme							
Start date	*Enter earliest date activity may start*	**Time**	*Enter earliest time activity may start*	**End date**	*Enter latest date activity may finish allowing for unforeseen issues*	**Time**	*Enter latest time activity may finish allowing for unforeseen issues*

Consider significant stages, for example:

1. road closures
2. detours
3. no activity periods.

Working hours

Road level	Operation	Working window
Low Volume	No restrictions for Low Volume roads	
Level 1 & 2	Surveyor does not need to enter the carriageway	No restrictions
Level 1 & 2	Surveyor needs to enter the carriage way	0700 – 1900

RCA consent (eg CAR/WAP) and/or RCA contract reference	***Add RCA consent reference, for example the corridor access request (CAR) or work access permit (WAP) and/or any RCA contract reference.***

Preliminary Procedures

It is assumed that the designated site supervisor will have followed the steps in the SOP guide attached to select the correct level of TTM required for the location as well as the correct diagram for the activity.

Either before arrival to site or on site, the Site Supervisor will carry out the following:

- A toolbox briefing to identify existing and potential hazards,
- Revisit TTM requirements and approved TMD
- inspect all TTM apparatus including vehicle mounted beacons, mobile mounted and static sign systems to ensure all are in acceptable condition, in working order and is the correct equipment for the intended set-up,

Significant Stages

The following is the order of establishment of working spaces located in the road corridor including berm, shoulder, median, traffic islands and lane for surveying activities.

1. Arrive at the site and park at appropriate location (in driveway if allowed, in public parking if available) If the area where the vehicle will be parking is not usually used for parking or vehicles do not often pull off the live lane into this area, then the following but be abided by:
    1a. Prior to arriving at site and in a nearby safe location, install the vehicle mounted signage required for your operation as well as an amber flashing beacon, if not already fixed to the vehicle.
2. Locate the positions of the survey marks that are needed for the survey. Typically, they will be in the kerb, footpath, or berm of roads.
3. If marks are under seal or dug into the berm, expose the survey marks by digging out with spade or chisel and hammer. If the marks are in the live lane and are under seal a Mobile closure will be required with the appropriate TTM vehicles
4. Set up and cone off the Tripod on the exposed mark. May have spotter next to the total station. This space is typically less than 3m².
5. Place survey marks for where the total station will need to be moved next.
6. Observe all necessary survey marks i.e. walk to those points with a pole and prism and record the distance and bearing (typically taking no longer than 30 seconds).
7. Observe all the features required to complete the survey (for example kerb lines, edge of seal, footpath, face of buildings, manholes). This requires walking to those points with a pole and prism and record the distance and bearing (typically taking no longer than 30 seconds). If spots are inaccessible (e.g. building ridges, centrelines of roads, and gutters) measure distances and bearings via reflectorless means.
8. Once all features are observed and recorded, the Tri-pod is moved to the next survey mark. The process then repeats from point 5-7. The average total station set up is roughly 20 minutes to 30 minutes.
9. This process is repeated until the survey is complete. This can range from 1 - 50 set ups. Typically, 8 set ups per day and can cover various roads.
10. All gear is packed up and the survey is complete. Work Activity Period 30 secs to 30 minutes.
11. Vehicle mounted signs to be removed before leaving site or if 1a. was followed - Once the vehicle has left site, the vehicle mounted signs and amber flashing beacon can be removed in a nearby safe stopping area.

Alternative dates if activity delayed	

Road aspects affected *(delete either Yes or No to show which aspects are affected)*

Pedestrians affected?	Yes	**Property access affected?**	No	**Traffic lanes affected?**	No
Cyclists affected?	No	**Restricted parking affected?**	No	**Delays or queuing likely?**	No

Proposed traffic management methods

Installation
(includes parking of plant and materials storage)

Installation procedures

When there is **no static TTM equipment required** within the carriageway

1. Drive past the site location for an initial site check
2. Arrive at the site and park at appropriate location (in driveway if allowed, in public parking if available)
3. If the area where the vehicle will be parking is not usually used for parking or vehicles do not often pull off the live lane into this area, then the following but be abided by:

   3a. Prior to arriving at site and in a nearby safe location, install the vehicle mounted signage required for your operation as well as an amber flashing beacon, if not already fixed to the vehicle.The following table sets out the best practice to stop at the intended inspection site when following 3a.

	When you approach to stop at the intended inspection site
ALWAYS	• Enter to the left
BEACON	• Turn the beacon on when approaching the site
INDICATE	• Indicate your intentions for minimum of 3 seconds, check traffic behaviour behind you, slow down and drive into the site
PARK SAFELY	• When in the site ensure the vehicle is parked at least 2 metres away from the live traffic lanes, in a legal parking space or as per instruction below in PARKING REQUIREMENTS • leave your beacon on
EXITING VEHICLE	• Check your mirrors for approaching traffic and ensure it is safe to exit the vehicle before opening your door • Make sure you are wearing your high visibility clothing. Keep an eye on approaching vehicles at all times

When **static TTM equipment is required** with in the carriageway

- Work vehicle to provide protection when installing static signage and delineation devices within the carriage way, then It can be moved in to position within the working space if required.
- An amber flashing beacon, visible from all angles, must be on during installation, maintenance and removal.
- Access equipment from the non-traffic side of the vehicle
- When working in the carriageway, surveyor must work in front of their vehicle. Their work vehicle will provide advanced warning and protection.
- Any Static signage that needs to be install must be installed via the footpath and walked out.
- If there is no footpath then the work vehicle must be parked 10m in advance of the surveyor while they install the sign on foot in front of the work vehicle. Vehicle must have vehicle mounted sign and amber flashing beacons during this procedure and following the steps below;
  1. The first sign installed must be the advanced warning sign on the side where the work will be carried out and then end of works signage installed on same side of road including any side streets,
  2. vehicle completes a loop on a single direction carriageway or performs a safe turn on a bidirectional road to install advanced warning, direction and protection and end of works signs on opposite side of the road,
  3. once all signs have been installed, delineation devices that form the taper or lateral exclusion zones may be installed.

Drive through and site check procedures

Prior to personnel, vehicle, equipment set-up on site, a drive through check must be performed by the **Site Supervisor** to ensure the site has been set up as per the selected TMDs, this should include the checking of worksite layout distances as per CoPTTM dimension tables attached to this TMP.

The Onsite Record form should be completed to record the establishment details for the site.

Parking Requirements

Vehicles shall be parked in any space that is ordinarily allowed with in the carriageway (including, a kerb line absent of broken yellow lines, shoulders, parking lanes, marked car parking spaces and side roads).

Where this is not reasonably practical, a work vehicle (necessary for the carrying out of the non-invasive work) may be parked on the berm provided the berm is not damaged in doing this and where parking is not specifically prohibited by signs / formal resolution.

It is not permitted to park in any marked cycle lane, with or without broken yellow lines.

Footpath requirements

Location	Minimum width	Comments
Residential/Rural /Suburban centre	1.2m	An existing footpath width may be used when it is narrower than the minimums shown. Where the length of the temporary footpath exceeds 20m a pedestrian passing bay may be required.
Central business district (CBD) and commercial zones. Commercial zones include shops, schools, aged persons homes or facilities, hospitals, tourist attractions, bus stops, libraries.	2.0m	

Where the activity impacts a footpath and minimum footpath widths cannot be maintained, alternative routes with a firm smooth surface and no trip hazards are to be provided in the following order of preference:

1. onside of road reserve away from the carriageway

2. between the working space and carriageway (but not into the live lane)

Other options under CoPTTM are not available in this TMP a higher level of TTM and Qualification are required.

Cycle Lane Requirements

Type of lane	Speed	Minimum Width (m)
Single direction cycle lane	Speed limit does not exceed 50km/h	1.0m *
Single direction cycle lane	Speed limit exceeds 50km/h	1.5m
Two-way cycle lane	Any speed	2.0m
Shared footpath and cycle way	Any speed	2.2m #

***Note:** A minimum lane width of 1.5m is required if the temporary cycle lane is uphill as riders tend to pump their cycles from side to side as they climb the hill.

It is not permitted to park in any marked cycle lane, with or without broken yellow lines.

Attended (day)

Working space population

- If work vehicle is parked in a regular parking space as detailed above and the inspector is not accessing the live lane, beacon and hazards may be turned off.
- Amber flashing beacons shall be utilized on all vehicles entering the worksite along with vehicle indicators. Once inside a static working space all beacons shell be turned off and vehicle hazard lights initiated
- Tripods placed on the footpath, kerb, shoulder, parking space need to have cones to delineate each leg

Instructions for Inspection Activities when Entering the Live Lane

1. Surveyors **must move from live lanes to avoid traffic**. They must not expect traffic to drive slowly or drive around them

	2. On level LV, level 1 & 2 roads, the person completing the inspection cannot be on a live lane for more than 5 minutes 3. Unless otherwise approved by the RCA, **all inspections on the live lane of level 1 & 2 roads require a spotter**. The RCA may provide a list of roads, times and/or activities suitable for inspection by a single inspector 4. There must be **CSD to the surveyor when on the live lane**. If this cannot be achieved, a spotter must be placed in a position where CSD can be attained and verbal instructions be given to the **surveyor**. If this is not possible, a static or mobile operation is required. **5.** A **spotter is not required** for inspections on level LV roads or **working off the live lane of a level 1 & 2 road** **6. An unaccompanied inspector may walk across a level LV, level 1 & 2 road** 7. A vehicle is not required on a level LV or level 1 road with a permanent speed of less than 65km/h if the inspector remains on a footpath All site checks and or changes to be recorded on the "on site record"
Attended (night)	No Inspection will be undertaken at night under this TMP
Unattended (day) / (night)	No Inspection will be undertaken as unattended sites under this TMP
Detour route	No is required with the operation required under this TMP
Removal	**Pre-removal procedures** • Identify any site-specific issues to be addressed regarding disestablishment of the site, document them and make notes on the GTMP if required, • Confirm that the closure area/working space has been safely cleared of all non TTM personnel and, equipment. When **no static TTM equipment was required** with in the carriageway 1. And the work vehicle is parked in a regular parking space as detailed above, simply obey the road code rules for re-joining traffic flow from the side of the road. 1a. Otherwise, initiate the process below to rejoin traffic.

	When you are leaving the inspection site
BEACON	• Leave the beacon on
INDICATE	• Indicate your intentions for minimum of 3 seconds
MIRRORS	• Check your mirrors for a safe gap in the traffic
ACCELERATE	• Accelerate and merge safely into the traffic lane. Keep an eye on traffic behavior at all times
BEACON	• Turn the beacon and indicator off when you have reached normal operating speed

When **static TTM equipment was required** with in the carriageway (TMDs XX – XX)

Removal procedure

Operations to remove TTM signs and devices to disestablish a static site shall be performed in this order:

1. Remove all delineation devices and pedestrian management signs first, be that on the footpath or in the shoulder. This should be with the work vehicle parked 10m in advance of the surveyor collecting the delineation devices.
2. end of works signage shall be removed from each side of the road including any side streets, all advanced warning signage will be left in place and collected last
3. a drive through check shall be performed by the STMS or delegated TC or TCI to ensure the site has been completely disestablished
4. One the vehicle has left site, the vehicle mounted signs and amber flashing beacon can be removed in a nearby safe stopping area.

The Onsite Record form should be completed to record the disestablishment details for the site.

RCA consent (eg CAR/WAP) and/or RCA contract reference	*Add RCA consent reference, for example the corridor access request (CAR) or work access permit (WAP) and/or any RCA contract reference.*

Proposed TSLs *(see TSL decision matrix for guidance)*				
	TSL details as required Approval of Temporary Speed Limits (TSL) are in terms of Section 6 of Land Transport Rule: Setting of Speed Limits 2017, Rule 54001/2017 *(List speed, length and location)*	**Times** *(From and to)*	**Dates** *(Start and finish)*	**Diagram ref. no.s** *(Layout drawings or traffic management diagrams)*
Attended day/night	TSL are not included and are not authorised under this TMP			
Unattended day/night	TSL are not included and are not authorised under this TMP			
TSL duration	Will the TSL be required for longer than 12 months? ***If yes**, attach the completed checklist from section I-18: Guidance on TMP Monitoring Processes for TSLs to this TMP.*			No

Positive traffic management measures
TCi Site Supervisor will maintain footpath widths, cycle lane widths and park legally at all times. As there are no TMDs that incorporate TSLs as part of this approved GTMP document the use of positive traffic management is not applicable.

Contingency plans		
Generic contingencies for: • major incidents • incidents • pre planed detours.	**Major Incident** A major incident is described as: • Fatality or notifiable injury - real or potential • Significant property damage, or • Emergency services (police, fire, etc) require access or control of the site.	• **Actions** • The TCi site supervisor must immediately conduct the following: • stop all activity • secure the site to prevent (further) injury or damage • contact the appropriate emergency authorities • render first aid if competent and able to do so • notify the RCA representative and / or the engineer • under the guidance of the officer in charge of the site, reduce effects of TTM on the road or remove the activity if safe to do so • re-establish TTM when advised by emergency authorities that it is safe to do so • Comply with any obligation to notify WorkSafe.

RCA consent (eg CAR/WAP) and/or RCA contract reference	*Add RCA consent reference, for example the corridor access request (CAR) or work access permit (WAP) and/or any RCA contract reference.*

	Incident An incident is described as: • minor or non-inquiry accident that has the potential to affect traffic flow • structural failure of the road.	**Actions** The TCi site supervisor must immediately conduct the following: • stop all activity and traffic movement if required • secure the site to prevent the prospect of injury or further damage • notify the RCA representative and / or the engineer • TCi site supervisor to implement a plan to safely remove TTM and to establish normal traffic flow if safe to do so • re-establish TTM and traffic movements when it is safe to do so and when traffic volumes have reduced.
	Detour Detour not applicable for operations covered by this TMP	**Actions** Detour not applicable for operations covered by this TMP
	Note also the requirements for no interference at an accident scene: In the event of an accident involving serious harm the STMS must ensure that nothing, including TTM equipment, is removed or disturbed and any wreckage article or thing must not be disturbed or interfered with, except to: 4. save a life of, prevent harm to or relieve the suffering of any person, or 5. make the site safe or to minimise the risk of a further accident; or 6. maintain the access of the general public to an essential service or utility, or 7. prevent serious damage to or serious loss of property, or 8. follow the direction of a constable acting in his or her duties or act with the permission of an inspector.	
Other contingencies to be identified by the applicant *(i.e. steel plates to quickly cover excavations)*	The TCi Site Supervisor will assess, order work to stop and vacate equipment and personnel from the working space safely, followed by the disestablishment of the closure and associated traffic management under the following circumstances. 1. The work cannot be carried out safely ensuring safety to all stake holders including workers and road users. (HSAW Act) **There is a condition that would require the use of a higher level of TTM (e.g. access the live lane for more than 5mins)**	

Authorisations				
Parking restriction(s) alteration authority	**Will controlled street parking be affected?**	No	**Has approval been granted?**	N/R
	Any planned work: 1. *which requires the reservation of parking spaces,* 2. *which affects a paid parking, disability, reserved, loading or any other servicezone,* **will require additional authorization from the RCA to be arranged by the TC I Site Supervisor in charge. The authorization process and duration may be waived subject the need to immediately eliminate**			

RCA consent (eg CAR/WAP) and/or RCA contract reference	*Add RCA consent reference, for example the corridor access request (CAR) or work access permit (WAP) and/or any RCA contract reference.*

	hazards onsite.			
Authorisation to work at permanent traffic signal sites	**Will portable traffic signals be used or permanent traffic signals be changed?**	No	**Has approval been granted?**	N/R
Road closure authorisation(s)	**Will full carriageway closure continue for more than 5 minutes (or other RCA stipulated time)?**	No	**Has approval been granted?**	N/R
Bus stop relocation(s) – closure(s)	**Will bus stop(s) be obstructed by the activity?**	No	**Has approval been granted?**	N/R
Authorisation to use portable traffic signals	**Make, model and description/number**	Not Required		
	NZTA compliant?	Not Required		

EED			
Is an EED applicable?	Yes	**EED attached?**	Yes

Delay calculations/trial plan to determine potential extent of delays
No delay calculation required as no operation under this TMP reduce traffic capacity

Public notification plan	
Public notification requirements to be set out by each RCA if required for this TMP	
Public notification plan attached?	No

On-site monitoring plan	
Attended *(day)*	If static equipment is installed for longer than 2 hours, this will be visually checked at least every 2 hours and recorded on the onsite record by the site supervisor.
Unattended *(day and/or night)*	Not included in this TMP

Method for recording daily site TTM activity *(eg CoPTTM on-site record)*

A custom on-site monitoring record has been designed to cover aspects of both the NZTA CoPTTM On-site record as well as the Generic TMD checking form.

As these sites are often be visited for such a short period of time the standard form for full static closure was not fit for purpose.

An inspection shall be made after TTM installation and recorded in 2 hourly site checks on the CoPTTM onsite record form.

Additional site details may also be recorded on:

- Custom Onsite record form
- Site supervisor's Diary
- SCR Form
- Induction/Toolbox forms

Site safety measures

PPE requirements are as per RCA minimum requirements and the individual companies internal Policies as listed below:

CoPTTM minimum requirement:

- CoPTTM compliant Hi-Viz vest (compulsory),

Additional company policies or risk assessed PPE requirements can be and are not limited to:

- Safety Foot ware

- Safety eye wear
- Hard Hat
- Gloves

Temporary safety barrier system	**Will a temporary safety barrier system be used at this worksite?**	No	**If yes, has the temporary safety barrier system been designed by an installation designer and independently reviewed as being fit for purpose?**	No
	Statement from temporary safety barrier installation designer attached		Not required	

Other information

Any planned work: which requires the reservation of parking spaces, which obscures or affects a paid parking, disability, reserved, loading or any other service zone or which requires the relocation of a bus- stop, will require additional authorization from the RCA and TMC to be arranged by the Site Supervisor in charge before the work proceeds, the authorization process and duration may be subject to the need to eliminate hazards onsite.

- All vehicles will be equipped with amber flashing lights
- TCi, TC or STMS onsite is to write up a hazard ID and brief and staff onsite prior to work starting.
- STMS will always wear a compliant TTMCW yellow hi-vis vest/clothing clearly marked with STMS and TCi or TC are to wear Orange Hi-Vis vest.
- All staff/contractors are to comply with the principal clients' health and safety procedures and/or the contractors' health and safety procedures.

Approved vehicle mounted signs that surveyors can use under this TMP

Sign Name	Sign Reference	Illustration	Requirements for use
ROAD INSPECTION	TV3		This sign must be used in conjunction with vehicle-mounted flashing amber beacons and must be mounted on the rear of any vehicle conducting road inspections. Surveyor will use this sign when their vehicle is acting as the advanced warning for their operation (e.g. there is no static advance warning sign erected).
PASS WITH CARE	TV4 AND RD6L		This sign advises road users to take care whilst passing. It is mounted on the rear of shadow and work vehicles involved in temporary mobile operations. The RD6L or RD6R sign may be omitted when the vehicle is fitted with an arrow board. Where a vehicle in a mobile operation is constantly changing position in the lane and it is impractical to frequently change the RD6L/R sign, this component may be omitted. Surveyors will use this when their vehicle is providing protections for their operation (e.g. There is a static advanced warning erected)
	TV4 AND RD6R		
	TV4		

Approved static signs that surveyors can use under this TMP

Sign Name	Sign Reference	Illustration	Requirements for use

Road works LevelsLV and 1	T1A		This sign is erected at all attended worksites. The sign is also used at unattended worksites where there are hazards within 5m of the edgeline. An authorised supplementary sign may be used.
Road works SURVEYING	T139		This supplementary plate must be displayed when a survey party is on the roadway or within 5m of the edgeline. It can be used in conjunction with a T1A advance warning sign.
WORKS END	TG2		This sign is used to indicate the end of a worksite that has T1 type advance warning signs.
PEDESTRIAN DIRECTION	TU31		These signs are used to guide pedestrians to a temporary route or formal crossing point, and indicate the alignment of the temporary route, when the normal facility is not useable due to road works or some other temporary activity
	TU32		
	TU33		
	TU34		
	TU35		
	TU36		

Guidelines for Level 2LS Roads – full guidelines can be found at https://www.nzta.govt.nz/assets/resources/code-temp-traffic-management/docs/Technical-note-Level-2-low-speed-2LS-roads.pdf

Key Notes in relation to this TMP

Level	AADT Guidelines	Comments
Level 2 low speed	>15,000vpd	<65km/h May have a central median division with at grade access

1.2. The numbers on this table are indicative and not compulsory. RCAs may retain the road at the existing level.

1.4. RCAs may allow the use of level 1 signs on 2LS roads.

- Two-way two-lane roads Gated signs not required

4. Working on berm or shoulder

4.1. Allow exemption in C8.1.2.2 Shoulder closures on level LV and level 1 roads to be used on 2LS roads including parking/special use lanes.

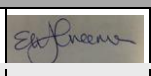
6. Vehicles used to set up, maintain, modify or remove TTM

6.1. Only the work vehicle will be required when TTM set out is outside the edgeline. No shadow vehicle will be required when the work vehicle can park legally.

6.2. Once the signs/cones for the worksite have been unloaded to the side of the road and the advance warning sign has been installed the work vehicle may act as a shadow vehicle while the taper is being installed.

Site specific layout diagrams	
Number	**Title**
Enter applicant diagram number. *Also consider whether a layout diagram is required for set-up /removal of the worksite.*	*Enter name of attached diagram*
As above	*As above - Enter all TMD they need to be used or might be needed as a contingency*
As above	*As above*
As above	*As above*

Contact details					
	Name	**24/7 contact number**	**CoPTTM ID**	**Qualification**	**Expiry date**
Principal	*Organisation named on permit*	*24/7 contact number*	*Optional*	*Optional*	*Optional*
TMC	*Name*	*24/7 contact number*	*Optional*	*Optional*	*Optional*
Engineers' representative	*Detail optional - Independent person employed by engineer whose responsibilities include TTM*	*24/7 contact number*	*Optional*	*Optional*	*Optional*
Contractor	*State name of the contracting company and the name of their contact person*	*24/7 contact number*	*Optional*	*Optional*	*Optional*
STMS	*Name* *Where multiple names are included in the TMP, the name of the STMS in charge must be written on the On-site record*	*24/7 contact number*	*CoPTTM ID number*	*Level of qualification*	*Date of expiry*
TC	*Name*	*24/7 contact number*	*CoPTTM ID number*	*Level of qualification*	*Date of expiry*
Others as required	*Name*	*24/7 contact number*	*Optional*	*Optional*	*Optional*

TMP preparation						
Preparation	Elise Freeman	22/05/2020		60475	2-3 STMS P	09/04/2021
	Name (STMS qualified)	*Date*	*Signature*	*ID no.*	*Qualification*	*Expiry date*
This TMP meets CoPTTM requirements				**Number of diagrams attached**		
TMP returned for correction *(if required)*						
	Name	*Date*	*Signature*	*ID no.*	*Qualification*	*Expiry date*

WAKA KOTAHI NZ TRANSPORT AGENCY	**RCA consent (eg CAR/WAP) and/or RCA contract reference**	*Add RCA consent reference, for example the corridor access request (CAR) or work access permit (WAP) and/or any RCA contract reference.*

Engineer/TMC to complete following section when approval or acceptance required						
Temporary safety barrier system	**The attached temporary road safety barrier design has been independently reviewed as being fit for purpose**				Not required	
TMP Approved						
	Name	*Date*	*Signature*	*ID no.*	*Qualification*	*Expiry date*
Acceptance by TMC *(only required if TMP approved by engineer)*						
	Name	*Date*	*Signature*	*ID no.*	*Qualification*	*Expiry date*

Qualifier for engineer or TMC approval

Approval of this TMP authorises the use of any regulatory signs included in the TMP or attached traffic management diagrams.

This TMP is approved on the following basis:

1. To the best of the approving engineer's/TMC's judgment this TMP conforms to the requirements of CoPTTM.
2. This plan is approved on the basis that the activity, the location and the road environment have been correctly represented by the applicant. Any inaccuracy in the portrayal of this information is the responsibility of the applicant.
3. The TMP provides so far as is reasonably practicable, a safe and fit for purpose TTM system.
4. The STMS for the activity is reminded that it is the STMS's duty to postpone, cancel or modify operations due to the adverse traffic, weather or other conditions that affect the safety of this site.

Notification to TMC prior to occupying worksite/Notification completed

Type of notification to TMC required	*Describe the notification procedure to be used*	**Notification completed**	Date *Record date notification was completed* Time *Record time notification was completed*

TMP or generic plan reference	

ENGINEERING EXCEPTION DECISION			
Name of RCA	State the RCA NOC Representative or District Council RCA	**EED No**	001
Basic description of the activity associated with EED	Occupation of a shoulder area when there is no edge-line or inferred edge-line without the need to remove equipment or personnel from the carriageway on the approach of a vehicle or when the work activity exceeds 5 minutes		

Location detail and scheduled dates			
Location	This EED relates to TTM activities at: State the NZTA NOC or District Council Region	**Dates**:	From: 01/05/2020 To: 30/04/2021

It is proposed to vary the requirements of CoPTTM.

WHAT the problem is: (a) describe the road environment constraint, (b) state CoPTTM requirements for the proposed activity.

a. The road environment constraint	Due to survey points located in the kerb and channel area of the carriageway, survey activities require the laser level survey tripod to be mounted straddling the kerb and channel with one leg positioned in the carriageway.
b. CoPTTM requirements for the proposed activity	All equipment and personnel must vacate the carriageway on the approach of a vehicle All equipment and personnel must vacate the carriageway so as not to exceed the maximum 5-minute period approved for work on the live lane

WHY CoPTTM compliant TTM should not/cannot be installed.

Where there is no edge-line or inferred edge-line, the surveyor is obliged to move off the carriageway with their equipment in the presence of an approaching vehicle or after 5 minutes duration. The activity is constrained by CoPTTM requirements that are unreasonable and not fit for purpose for this type of activity in this region of the carriageway. The contractor is forced to apply TTM treatments that often take longer to setup than the duration of the work and are impracticable based on the mobile nature of the work activity.

HOW will safety be ensured?

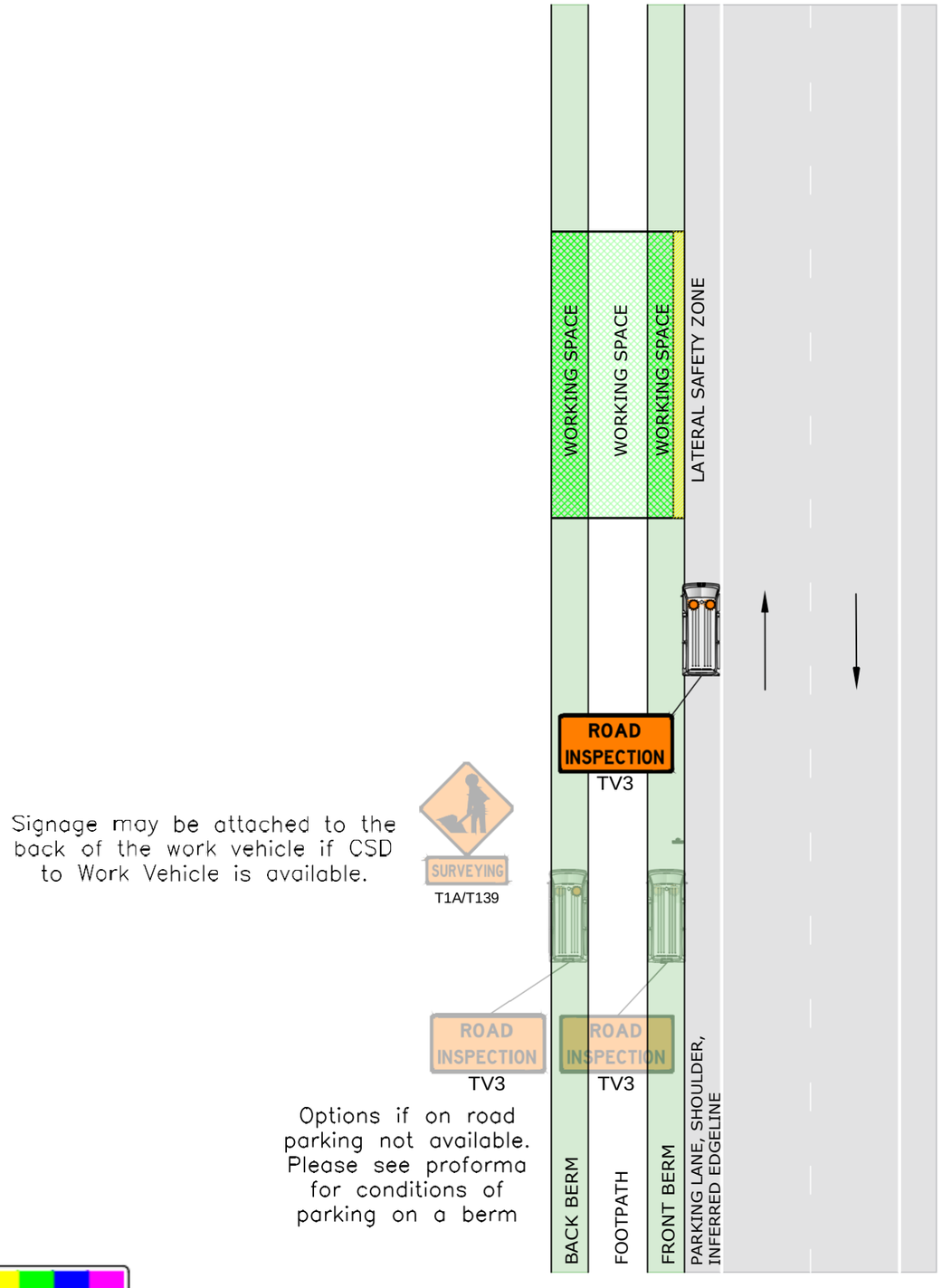
Where there is no edge-line or inferred edge-line and there is a legal parking area preceding the work activity, a work vehicle with TV4/T139 signage will be parked 10m behind the work area. The vehicle will be parked on the lane or straddling the lane and the berm area to ensure that the minimum lane width requirements based on the permanent/posted speed are adhered to.

This EED must be attached to the TMP. Any generic EEDs must be forwarded to the NZ Transport Agency.

EED – Proposal				
Signed for and behalf of:	Parallaxx Ltd			
	Insert contractor's name			
Signed by:	Elise Freeman	Consultant	60475	09/04/2021
	Name	*Designation*	*ID number*	*Expiry date*
			16/03/2020	
	Signature		*Date*	

EED – Approved by				
Signed for and behalf of:				
	Insert RCA name			
Signed by:				
	Name	*Designation*	*ID number*	*Expiry date*
	Signature		*Date*	

OPERATION 1 - LR/LV, LOW VOLUME, LEVEL 1, & LEVEL 2 ROADS
FOOTPATHS AND BERMS (NOT ENTERING THE LIVE LANE)



CONDITIONS FOR LV AND LEVEL 1 ROADS:

Total operation can be contained to the berm and/or footpath

- Always direct pedestrians away from the carriageway, onto a back berm if available.
- If the footpath is completely block by your equipment and no back berm available, the front berm can be used keeping pedestrians 1m away from the live lane.

TIME RESTRICTIONS:

- None (avoid peak hours before and after school starts).

PERSONNEL REQUIRED:

- Once briefed by an STMS – TC inspector or TC or STMS can carry out this operation – no spotter required.

VEHICLE (ADVANCED WARNING):

- Vehicle must always be legally parked with beacons on and a vehicle mounted sign while undertaking the operation. sign selection to be an advanced warning sign TV3 "ROAD INSPECTION."

ORIGINAL IN COLOUR

Rev	Description	By	Chkd	Date
1	INITIAL DRAWING	A.G.	D.L.	22/05/20

DRAWING ORIGINATOR:

PARALLAXX

Parallaxx Limited
PO Box 302473
North Harbour 0751

Telephone: 0800 333 772
Web: www.parallaxx.co.nz
Email: info@parallaxx.co.nz

ORIGINAL SCALE: N.T.S

DRAWN & CHECKED BY:

Antonette Galang (Level 2/3 NP, #129806, 10/01/2022)

Diana Lising (Level 2/3 NP, #110586, 20/08/2022)

PREPARED FOR CLIENT / CONTRACTOR / PROJECT / CONTRACT:

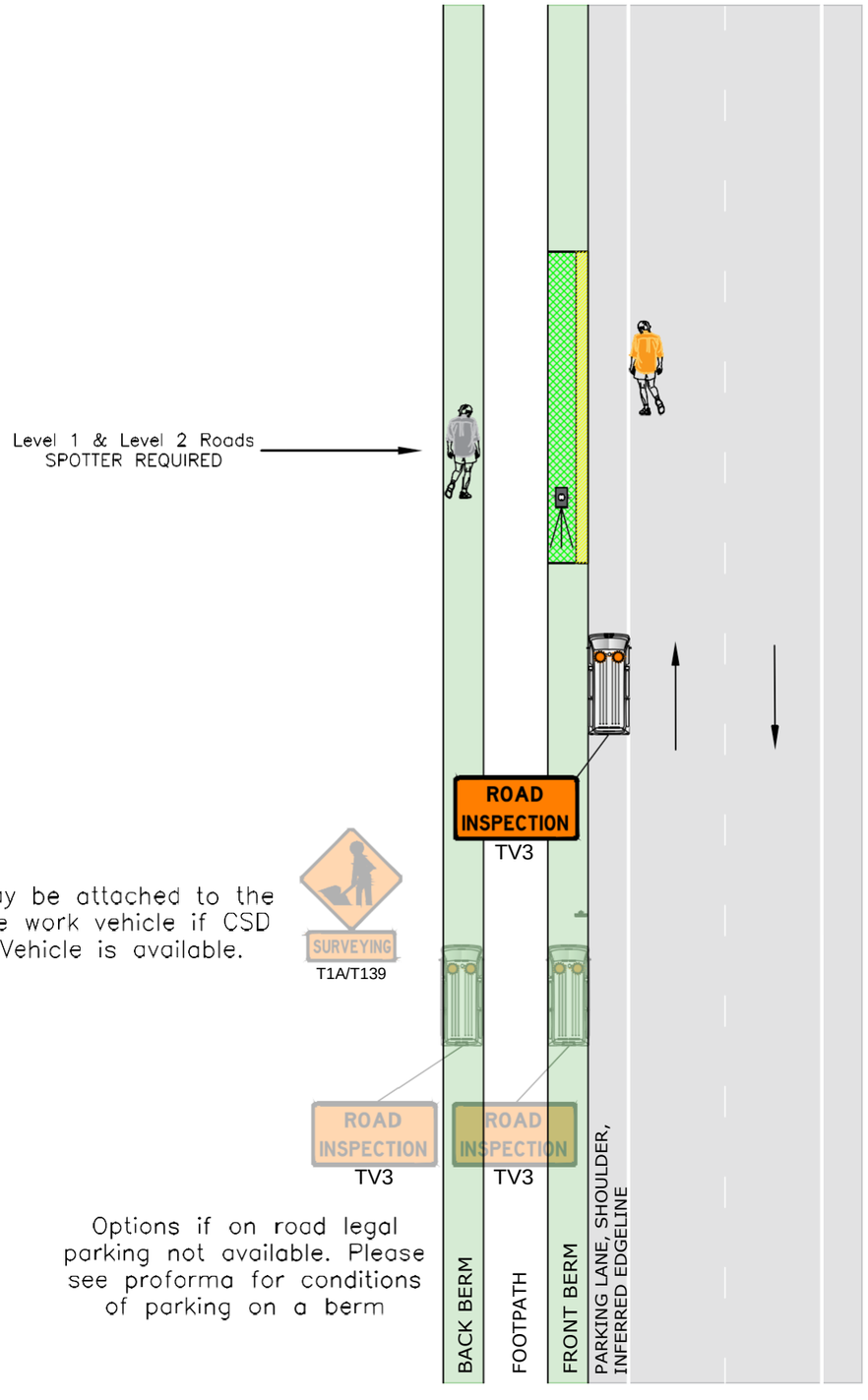
CONSULTING SURVEYORS NEW ZEALAND

DRAWING TITLE:

LR/LV/L1/L2 SURVEYING GENERICS
OPERATION 1 – FOOTPATHS AND BERMS
(NOT ENTERING THE LIVE LANE)

DRAWING TITLE: PXJ-9410

SHEET NO: Sheet 1 of 14



OPERATION 2 - LR/LV, LOW VOLUME, LEVEL 1, & LEVEL 2 ROADS
FOOTPATHS AND BERMS (ENTERING THE LIVE LANE)

CONDITIONS FOR LV ROADS:

- Surveyor can access the live lane for a maximum of 5 min. with rover pole or other light handheld equipment (excludes tripod).
- Multiple entries to the lane permitted throughout the day, avoid peak hour traffic.
- Once surveyor steps into the lane CSD must be available to them for approaching road users. If csd can not be achieved a spotter will be required.
- Surveyor must leave the road when traffic is approaching, they must not expect traffic to slow down or avoid them.

TIME RESTRICTIONS:

- Maximum 5 mins. once surveyor enters the lane (avoid peak hours before and after school starts as well as peak traffic flows)

PERSONNEL REQUIRED:

- Once briefed by an STMS – TC Inspector or TC or STMS can carry out this operation – no spotter required

VEHICLE (ADVANCED WARNING):

- Vehicle must always be legally parked with beacons on and a vehicle mounted sign while undertaking the operation. sign selection to be an advanced warning sign TV3 "ROAD INSPECTION."

CONDITIONS FOR LEVEL 1 ROADS:

- Apply all other notes above.

PERSONNEL REQUIRED:

- Once briefed by an STMS – TC Inspector OR TC or STMS can carry out this operation – Spotter required when entering the live lane.

ORIGINAL IN COLOUR

Rev	Description	By	Chkd	Date
1	INITIAL DRAWING	A.G.	D.L.	22/05/20

DRAWING ORIGINATOR:
PARALLAXX
Parallaxx Limited
PO Box 302473
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ORIGINAL SCALE: N.T.S

DRAWN & CHECKED BY:
Antonette Galang (Level 2/3 NP, #129806, 10/01/2022)
Diana Lising (Level 2/3 NP, #110586, 20/08/2022)

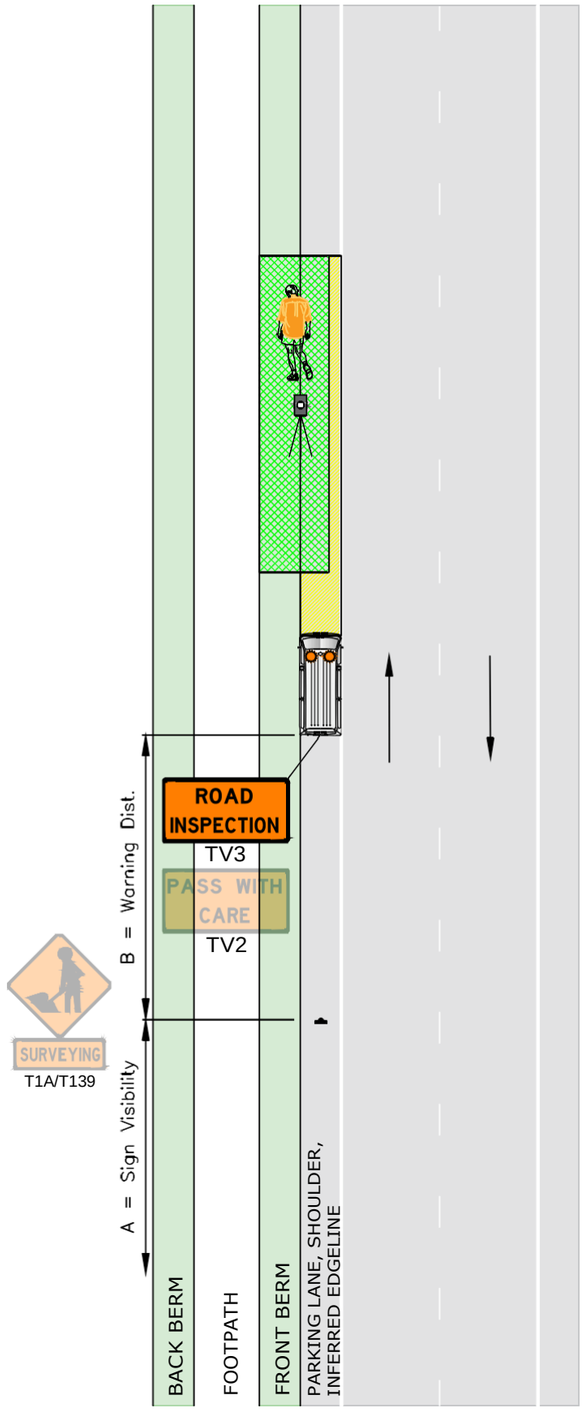
PREPARED FOR CLIENT / CONTRACTOR / PROJECT / CONTRACT:
CONSULTING SURVEYORS NEW ZEALAND

DRAWING TITLE:
LR/LV/L1/L2 SURVEYING GENERICS
OPERATION 2 – FOOTPATHS AND BERMS
(ENTERING THE LIVE LANE)

DRAWING TITLE:
PXJ-9410

SHEET NO:
Sheet 2 of 14

OPERATION 3 - LR/LV, & LOW VOLUME ROADS
WORKING IN A SHOULDER OR PARKING LANE
(NOT ENTERING THE LIVE LANE)



Substitute surveying with TV4 – Pass With Care if static sign are being installed.

Signage may be attached to the back of the work vehicle if CSD to Work Vehicle is available.

CONDITIONS FOR LV ROADS:

- Surveyor can access the Parking lane/Shoulder, keeping a 1m lateral safety zone at all times.
- Work vehicle is not included in the working space; Surveyor must work in front of work vehicle.
- Signage may be attached to the back of the work vehicle if CSD to Work vehicle is available otherwise static signage must be installed while vehicle is legally parked.

TIME RESTRICTIONS:

- No time restrictions (avoid peak hours where possible).

PERSONNEL REQUIRED:

- Once briefed by an STMS – TC Inspector or TC or STMS can carry out this operation – no spotter required

VEHICLE (ADVANCED WARNING OR DIRECTION AND PROTECTION):

- Vehicle must always be legally parked with beacons on and a vehicle mounted sign while undertaking the operation. If there is CSD to the work vehicle then select the Advanced Warning sign TV3 "ROAD INSPECTION." If static signs are being installed, then please select TV2 "Pass With Care" for the back of the work vehicles.

ORIGINAL IN COLOUR

Rev	Description	By	Chkd	Date
1	INITIAL DRAWING	A.G.	D.L.	22/05/20

DRAWING ORIGINATOR:

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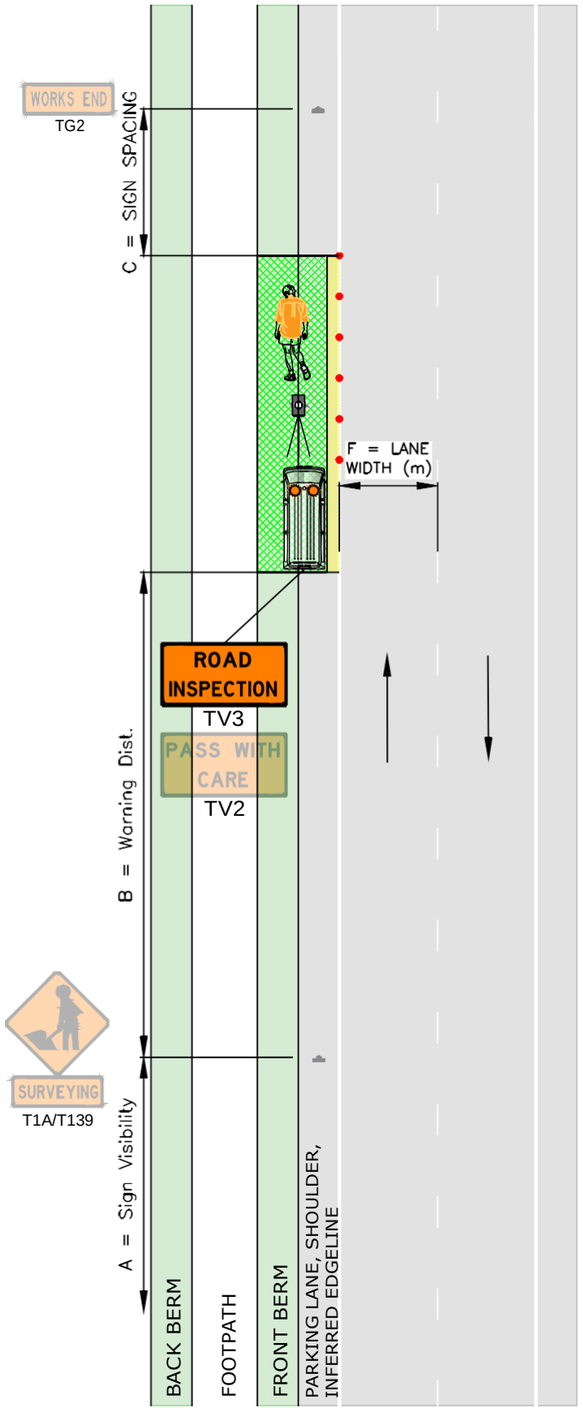
PREPARED FOR CLIENT / CONTRACTOR / PROJECT / CONTRACT:
CONSULTING SURVEYORS NEW ZEALAND

DRAWING TITLE:
LR/LV SURVEYING GENERICS
OPERATION 3 – SHOULDER OR PARKING LANE
(NOT ENTERING THE LIVE LANE)

DRAWING TITLE:
PXJ-9410

SHEET NO:
Sheet 3 of 14

cxj-9410 - option submission for the surveying industry_tmd.dwg



Substitute surveying with TV4 – Pass With Care if static sign are being installed.

Signage may be attached to the back of the work vehicle if CSD to Work Vehicle is available.

T1A/T139

OPERATION 4 - LEVEL 1 & LEVEL 2LS ROADS WORKING IN A SHOULDER OR PARKING LANE (NOT ENTERING THE LIVE LANE)

CONDITIONS FOR L2LS ROADS:

- There must be CSD to the work vehicle on Level 2LS roads.
- Special RCA approval can be obtained to use Level 1 static signage on Level 2LS roads if CSD is not achievable.

CONDITIONS FOR L1 ROADS:

- Surveyor can access the Parking lane/Shoulder, keeping a 1m lateral safety zone at all times.
- Work vehicle is not included in the working space; Surveyor must work in front of work vehicle.
- Signage may be attached to the back of the work vehicle if CSD to Work vehicle is available otherwise static signage must be installed while vehicle is legally parked.

TIME RESTRICTIONS:

- No time restrictions (avoid peak hours where possible).

PERSONNEL REQUIRED:

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VEHICLE (ADVANCED WARNING OR DIRECTION AND PROTECTION):

- Vehicle must always be legally parked with beacons on and a vehicle mounted sign while undertaking the operation. If there is CSD to the work vehicle then select the Advanced Warning sign TV3 "ROAD INSPECTION." If static signs are being installed, then please select TV2 "Pass With Care" for the back of the work vehicles.

EXTRA SAFETY DEVICES:

- A 10m taper must be installed, with a longitudinal safety zone as per distance layout table attached, the work vehicle MUST be included in the working space and a 1m lateral safety zone maintained around the working space, cones to delineate the length of the working space. Apply all other notes above.

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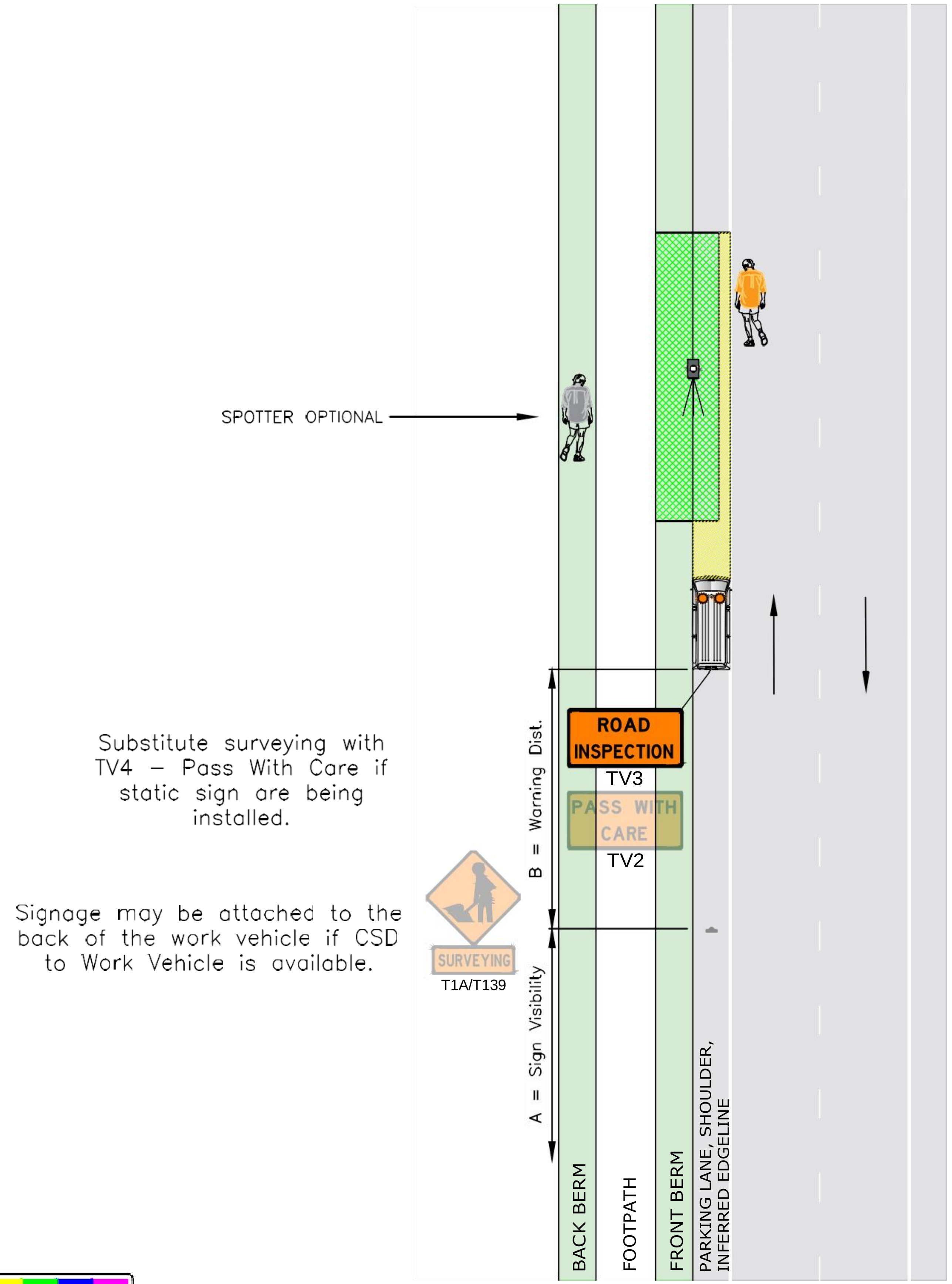
PREPARED FOR CLIENT / CONTRACTOR / PROJECT / CONTRACT:
CONSULTING SURVEYORS NEW ZEALAND

DRAWING TITLE:
L1 & L2LS SURVEYING GENERICS
OPERATION 4 – SHOULDER OR PARKING LANE
(NOT ENTERING THE LIVE LANE)

DRAWING TITLE:
PXJ-9410

SHEET NO:
Sheet 4 of 14

pxj-9410 - option submission for the surveying industry_tmd.dwg



OPERATION 5 - LR/LV, & LOW VOLUME ROADS WORKING IN A SHOULDER OR PARKING LANE (ENTERING THE LIVE LANE)

CONDITIONS FOR LV ROADS:

- Surveyor can access the Parking lane/Shoulder, keeping a 1m lateral safety zone at all times.
- Work vehicle is not included in the working space; Surveyor must work in front of work vehicle.
- Signage may be attached to the back of the work vehicle if CSD to Work vehicle is available otherwise static signage must be installed while vehicle is legally parked.

TIME RESTRICTIONS:

- No time restrictions (avoid peak hours where possible).

PERSONNEL REQUIRED:

- Once briefed by an STMS – TC Inspector or TC or STMS can carry out this operation – no spotter required

VEHICLE (ADVANCED WARNING OR DIRECTION AND PROTECTION):

- Vehicle must always be legally parked with beacons on and a vehicle mounted sign while undertaking the operation. If there is CSD to the work vehicle then select the Advanced Warning sign TV3 "ROAD INSPECTION." If static signs are being installed, then please select TV2 "Pass With Care" for the back of the work vehicles.

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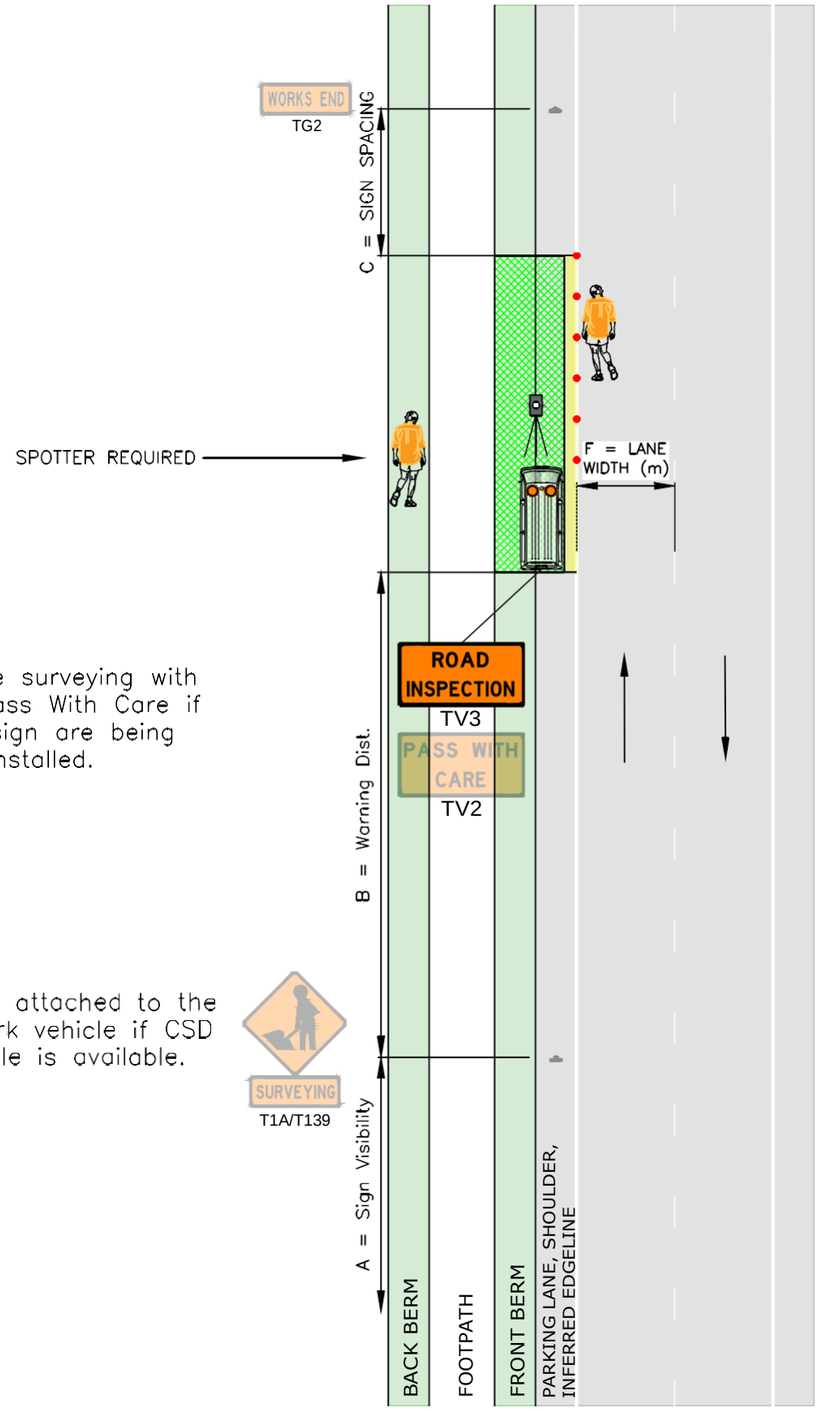
PREPARED FOR CLIENT / CONTRACTOR / PROJECT / CONTRACT:
CONSULTING SURVEYORS NEW ZEALAND

DRAWING TITLE:
LR/LV SURVEYING GENERICS
OPERATION 5 – SHOULDER OR PARKING LANE
(ENTERING THE LIVE LANE)

DRAWING TITLE: PXJ-9410

SHEET NO: Sheet 5 of 14

pxj-9410 – option submission for the surveying industry_tmd.dwg



Substitute surveying with TV4 – Pass With Care if static sign are being installed.

Signage may be attached to the back of the work vehicle if CSD to Work Vehicle is available.

T1A/T139

ORIGINAL IN COLOUR

OPERATION 6 - LEVEL 1 & LEVEL 2LS ROADS WORKING IN A SHOULDER OR PARKING LANE (ENTERING THE LIVE LANE)

CONDITIONS FOR L2LS ROADS:

- There must be CSD to the work vehicle on Level 2LS roads.
- Special RCA approval can be obtained to use Level 1 static signage on Level 2LS roads if CSD is not achievable.

CONDITIONS FOR L1 ROADS:

- Surveyor can access the Parking lane/Shoulder, keeping a 1m lateral safety zone at all times.
- Work vehicle is not included in the working space; Surveyor must work in front of work vehicle.
- Signage may be attached to the back of the work vehicle if CSD to Work vehicle is available otherwise static signage must be installed while vehicle is legally parked.

TIME RESTRICTIONS:

- No time restrictions (avoid peak hours where possible).

PERSONNEL REQUIRED:

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VEHICLE (ADVANCED WARNING OR DIRECTION AND PROTECTION):

- Vehicle must always be legally parked with beacons on and a vehicle mounted sign while undertaking the operation. If there is CSD to the work vehicle then select the Advanced Warning sign TV3 "ROAD INSPECTION." If static signs are being installed, then please select TV2 "Pass With Care" for the back of the work vehicles.

EXTRA SAFETY DEVICES:

- A 10m taper must be installed, with a longitudinal safety zone as per distance layout table attached, the work vehicle MUST be included in the working space and a 1m lateral safety zone maintained around the working space, cones to delineate the length of the working space. Apply all other notes above.

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PREPARED FOR CLIENT / CONTRACTOR / PROJECT / CONTRACT:
CONSULTING SURVEYORS NEW ZEALAND

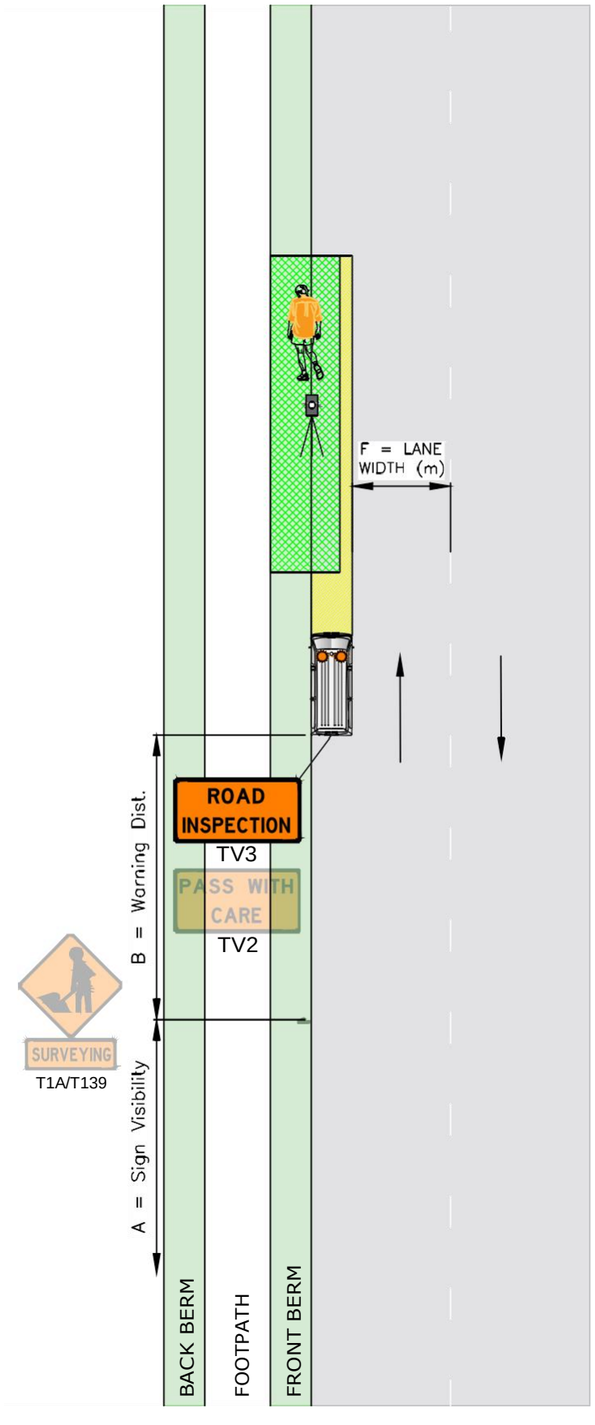
DRAWING TITLE:
L1/L2LS SURVEYING GENERICS
OPERATION 6 – SHOULDER OR PARKING LANE
(ENTERING THE LIVE LANE)

DRAWING TITLE:
PXJ-9410

SHEET NO:
Sheet 6 of 14

cxi-9410 - option submission for the surveying industry_tmd.dwg

OPERATION 7 - LR/LV, & LOW VOLUME ROADS
WORKING WHERE THERE IS NO EDGE LINE OR INFERRED EDGE LINE
TRIPOD STRADDLING THE KERB & CHANNEL
OVERTAKING VEHICLES NOT CROSSING CENTRELINE
OR ENTERING THE FLUSH MEDIAN
(NOT ENTERING THE LIVE LANE)



Substitute surveying with TV4 – Pass With Care if static sign are being installed.

Signage may be attached to the back of the work vehicle if CSD to Work Vehicle is available.

CONDITIONS FOR LV ROADS:

- Surveyor can access the Parking lane/Shoulder, keeping a 1m lateral safety zone at all times.
- Work vehicle is not included in the working space; Surveyor must work in front of work vehicle.
- Signage may be attached tc the back of the work vehicle if CSD to Work vehicle is available otherwise static signage must be installed while vehicle is legally parked.

TIME RESTRICTIONS:

- No time restrictions (avoid peak hours where possible).

PERSONNEL REQUIRED:

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VEHICLE (ADVANCED WARNING OR DIRECTION AND PROTECTION):

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ORIGINAL IN COLOUR

Rev	Description	By	Chkd	Date
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ORIGINAL SCALE: N.T.S

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Diana Lising (Level 2/3 NP, #110586, 20/08/2022)

PREPARED FOR CLIENT / CONTRACTOR / PROJECT / CONTRACT:

CONSULTING SURVEYORS NEW ZEALAND

DRAWING TITLE:

LR/LV SURVEYING GENERICS
OPERATION 7 – NO EDGE LINE OR INFERRED EDGE LINE
(NOT ENTERING THE LIVE LANE)

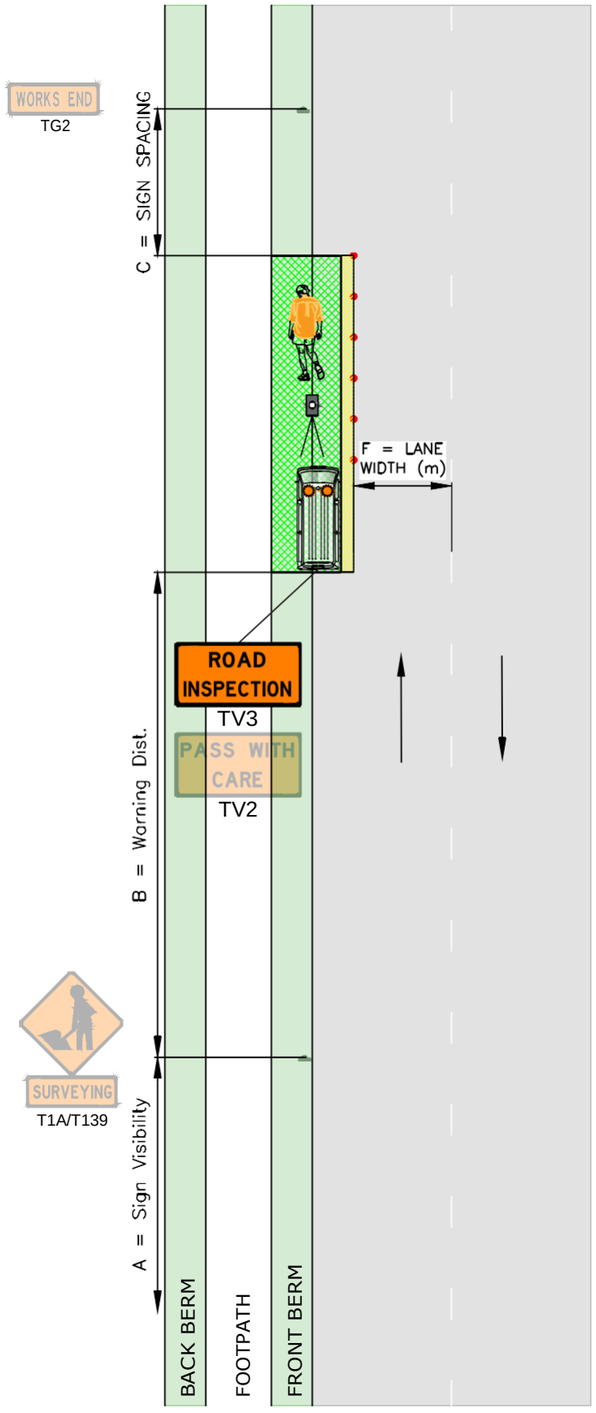
DRAWING TITLE: PXJ-9410

SHEET NO: Sheet 7 of 14

cxi-9410 – ccntr submissicn for the surveying industry_tmd.dwg

OPERATION 8 - LEVEL 1 AND LEVEL 2LS ROADS
WORKING WHERE THERE IS NO EDGE LINE OR INFERRED EDGE LINE
TRIPOD STRADDLING THE KERB & CHANNEL
OVERTAKING VEHICLES NOT CROSSING CENTRELINE
OR ENTERING THE FLUSH MEDIAN
(NOT ENTERING THE LIVE LANE)

Substitute surveying with TV4 – Pass With Care if static sign are being installed.



Signage may be attached to the back of the work vehicle if CSD to Work Vehicle is available.

T1A/T139

CONDITIONS FOR L2LS ROADS:

- There must be CSD to the work vehicle on level 2LS roads.
- Special RCA approval can be obtained to use Level 1 static signage on Level 2ls roads if CSD is not achievable.

CONDITIONS FOR L1 ROADS:

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- Work vehicle is not included in the working space; Surveyor must work in front of work vehicle.
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VEHICLE (ADVANCED WARNING OR DIRECTION AND PROTECTION):

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EXTRA SAFETY DEVICES:

- a 10m taper must be installed, with a longitudinal safety zone as per distance layout table attached, the work vehicle MUST be included in the working space and a 1m lateral safety zone maintained around the working space, cones to delineate the length of the working space. Apply all other notes above.

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PREPARED FOR CLIENT / CONTRACTOR / PROJECT / CONTRACT:
CONSULTING SURVEYORS NEW ZEALAND

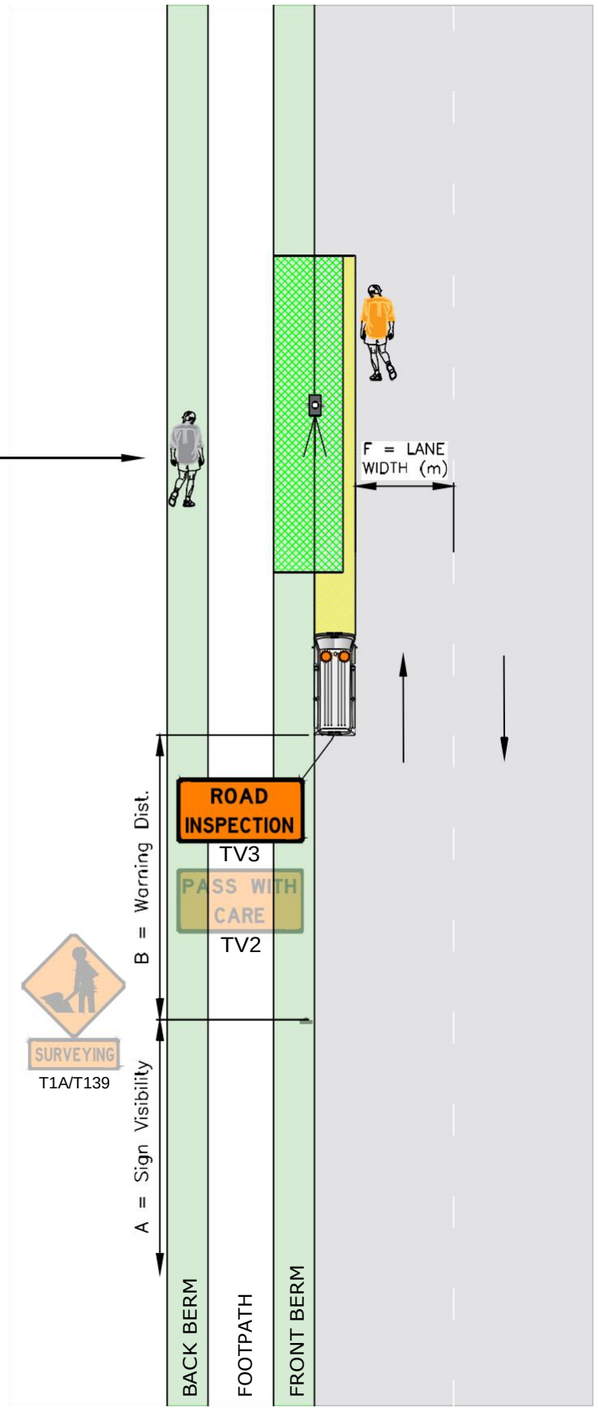
DRAWING TITLE:
L1/L2LS SURVEYING GENERICS
OPERATION 8 – NO EDGE LINE OR INFERRED EDGE LINE
(NOT ENTERING THE LIVE LANE)

DRAWING TITLE:
PXJ-9410

SHEET NO:
Sheet 8 of 14

cxi-9410 - contr submission for the surveying industry_tmd.dwg

OPERATION 9 - LR/LV AND LOW VOLUME ROADS
WORKING WHERE THERE IS NO EDGE LINE OR INFERRED EDGE LINE
TRIPOD STRADDLING THE KERB & CHANNEL
OVERTAKING VEHICLES NOT CROSSING CENTRELINE
OR ENTERING THE FLUSH MEDIAN
(ENTERING THE LIVE LANE)



Substitute surveying with TV4 – Pass With Care if static sign are being installed.

Signage may be attached to the back of the work vehicle if CSD to Work Vehicle is available.

CONDITIONS FOR LV ROADS:

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PREPARED FOR CLIENT / CONTRACTOR / PROJECT / CONTRACT:
CONSULTING SURVEYORS NEW ZEALAND

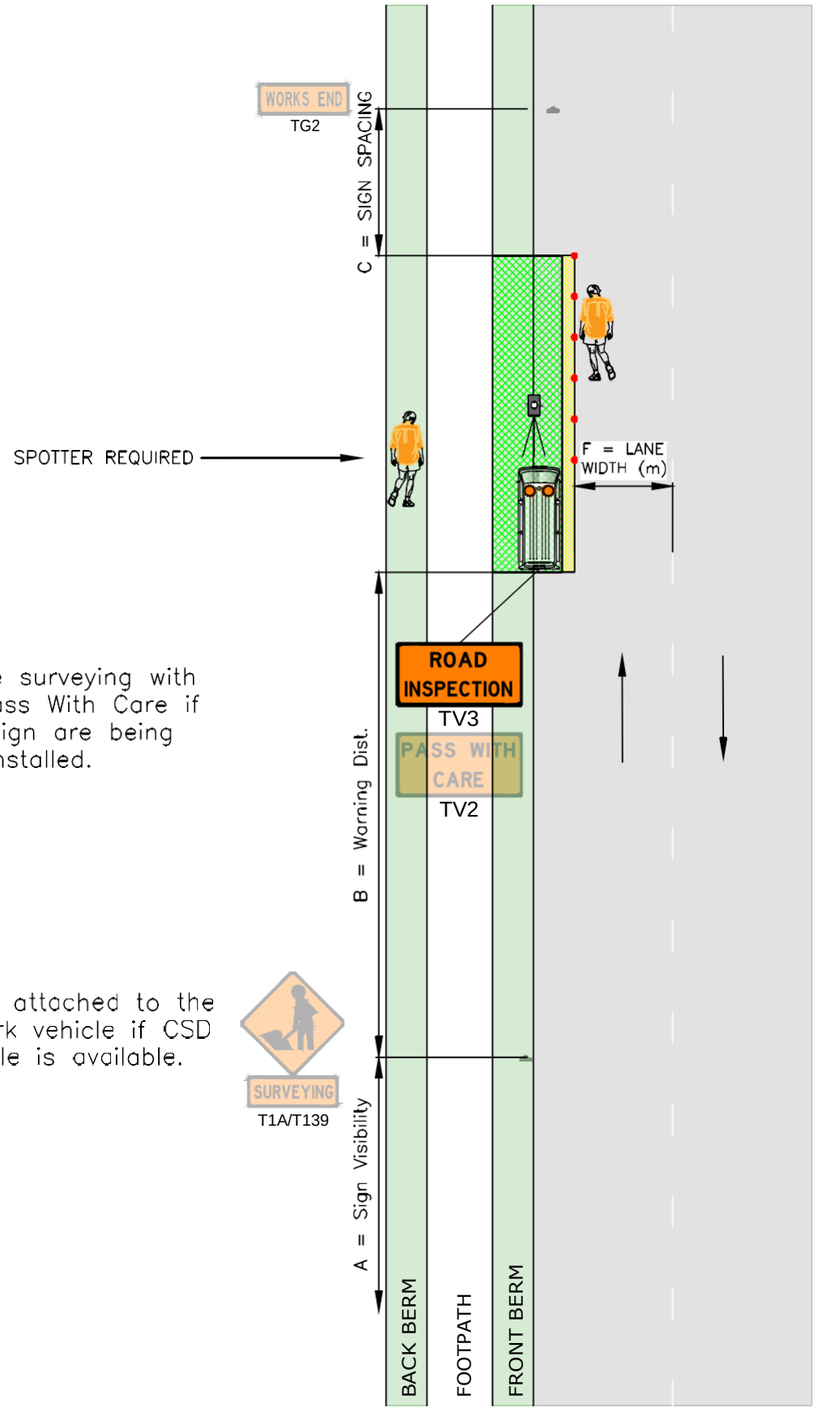
DRAWING TITLE:
LR/LV SURVEYING GENERICS
OPERATION 9 – NO EDGE LINE OR INFERRED EDGE LINE
(ENTERING THE LIVE LANE)

DRAWING TITLE:
PXJ-9410

SHEET NO:
Sheet 9 of 14

cxi-9410 - cctir submission for the surveying industry_tmd.dwg

OPERATION 10 - LEVEL 1 & LEVEL 2LS
WORKING WHERE THERE IS NO EDGE LINE OR INFERRED EDGE LINE
TRIPOD STRADDLING THE KERB & CHANNEL
OVERTAKING VEHICLES NOT CROSSING CENTRELINE
OR ENTERING THE FLUSH MEDIAN
(ENTERING THE LIVE LANE)



Substitute surveying with TV4 – Pass With Care if static sign are being installed.

Signage may be attached to the back of the work vehicle if CSD to Work Vehicle is available.

ORIGINAL IN COLOUR

CONDITIONS FOR L2LS ROADS:

- There must be CSD to the work vehicle on level 2LS roads.
- Special RCA approval can be obtained to use Level 1 static signage on Level 2ls roads if CSD is not achievable.

CONDITIONS FOR L1 ROADS:

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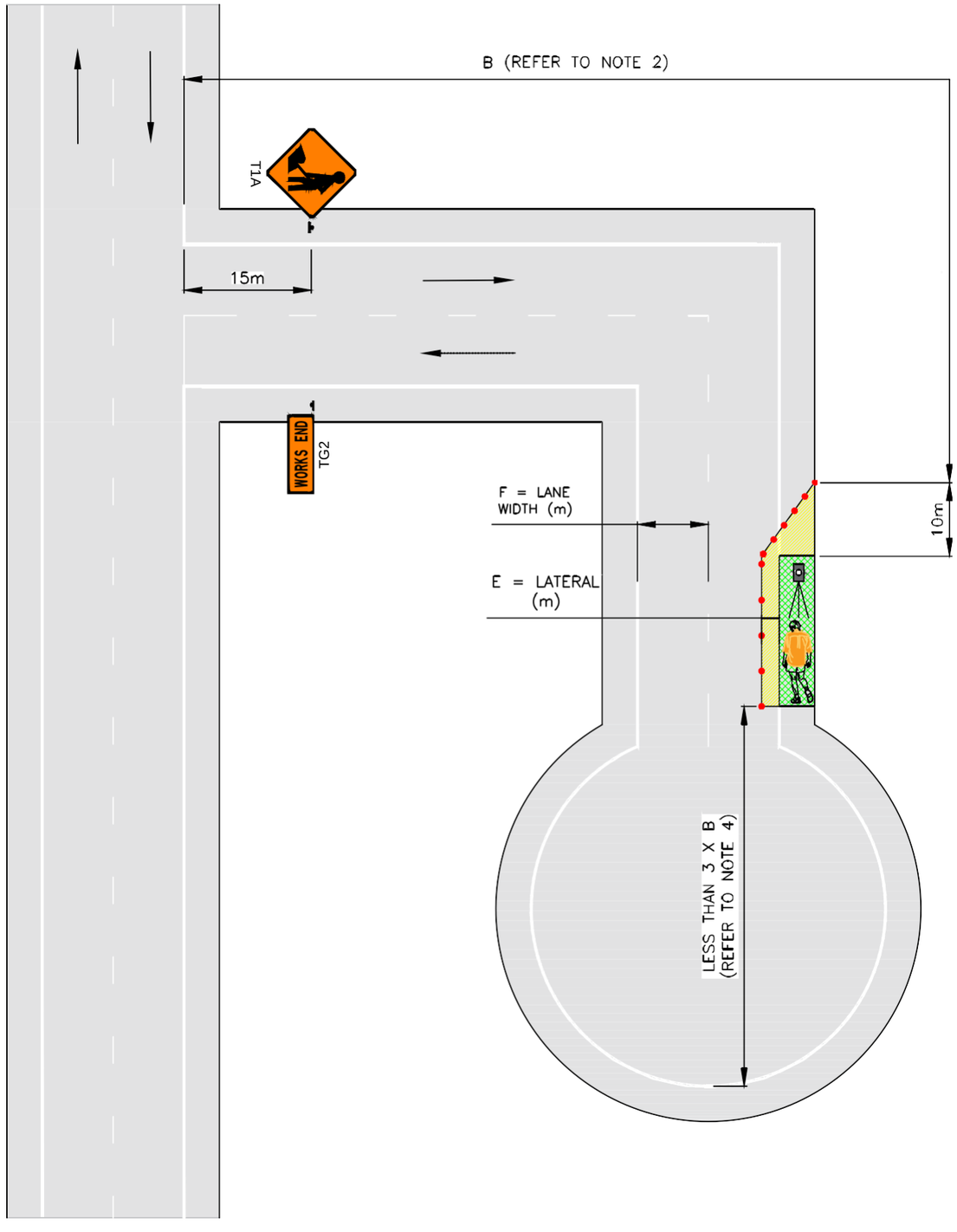
PREPARED FOR CLIENT / CONTRACTOR / PROJECT / CONTRACT:
CONSULTING SURVEYORS NEW ZEALAND

DRAWING TITLE:
L1/L2LS SURVEYING GENERICS
OPERATION 10 – NO EDGE LINE OR INFERRED EDGE LINE
(ENTERING THE LIVE LANE)

DRAWING TITLE:
PXJ-9410

SHEET NO:
Sheet 10 of 14

cxi-9410 - contr submission for the surveying industry_tmd.dwg



LOW VOLUME & LEVEL 1
TWO-WAY TWO-LANE ROAD (J2.16a)
SHORT NO EXIT ROAD

NOTES:

1. T1A signs to be placed at least 15m from the intersection.
2. Where less than B, T1A/T135 and TG2 signs required on main road.
3. Working space to be less than 100m.
4. Signage is not required past the worksite where there is less than 3 x B from the end of the working space to the end of the road.

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PREPARED FOR CLIENT / CONTRACTOR / PROJECT / CONTRACT:

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DRAWING TITLE:

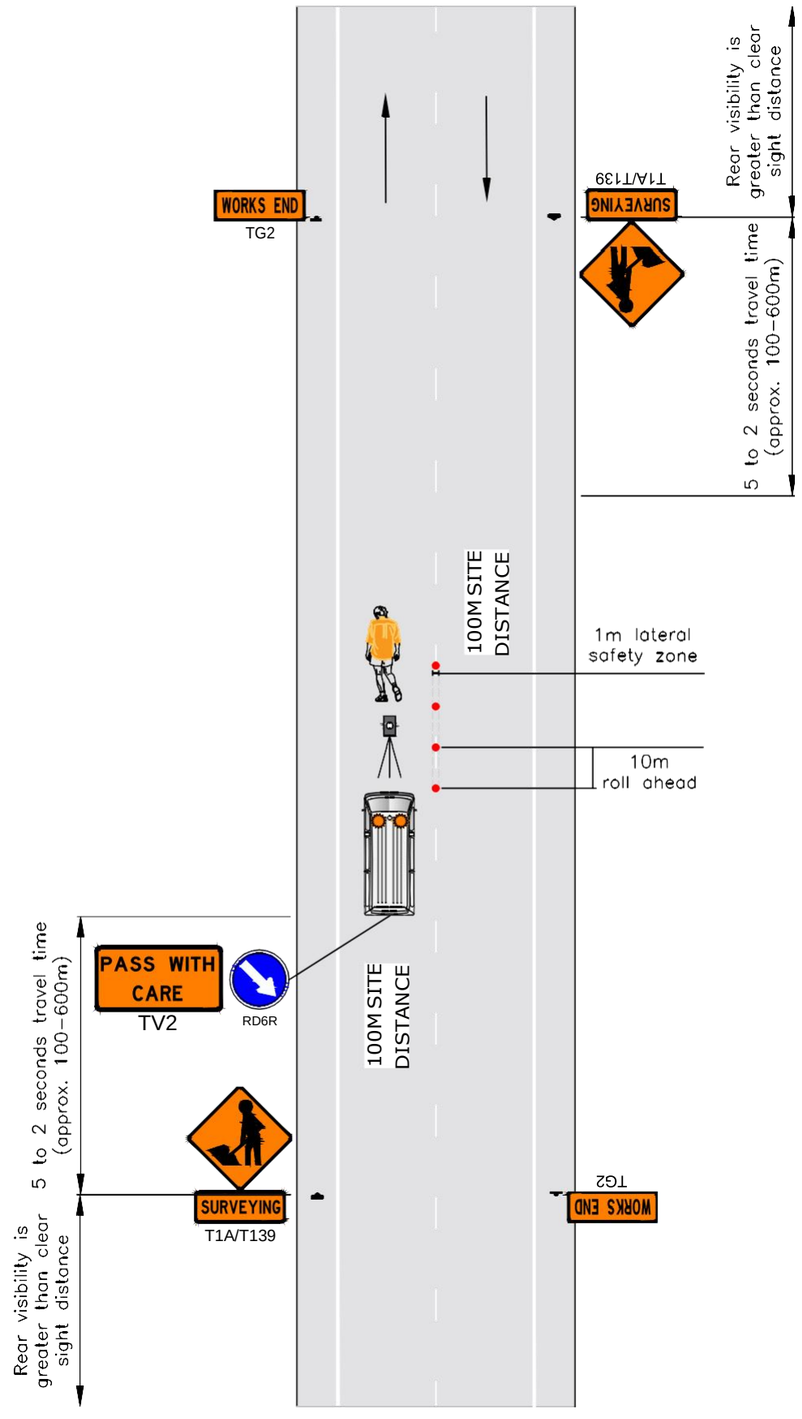
LR/LV/L1 SURVEYING GENERICS
SHORT NO EXIT ROAD (J2.16a)
TWO-WAY TWO-LANE ROAD

DRAWING TITLE:

PXJ-9410

SHEET NO:

Sheet 11 of 14



LOW VOLUME & LEVEL 1
TWO-WAY TWO-LANE ROAD (F4.7a)
PERSONNEL ON THE ROAD UNDER 65KMH CSD
MUST BE AVAILABLE BOTH DIRECTIONS

NOTES:

1. Only to be used on low volume or level 1 roads under 65kmh.
2. 4 cones at 5m centers to be installed forwarc of the work vehicle to form 10m roll ahead. and maximum 5m working space
3. There must be a driver in the vehicle while the work is being carried out in the live lane.
4. State Highway:
   *CSD 50kmh = 150m
   *CSD 60kmh = 180m

   Non–State Highway:
   CSD 50kmh = 75m
5. The activity can take no longer than 10 minutes.
6. Site distance
   *50kmh = 75m
   *65kmh = 100m

ORIGINAL IN COLOUR

Rev	Description	By	Chkd	Date
1	INITIAL DRAWING	A.G.	D.L.	22/05/20

DRAWING ORIGINATOR:
PARALLAXX
Parallaxx Limited
PO Box 302473
North Harbour 0751
Telephone: 0800 333 772
Web: www.parallaxx.co.nz
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ORIGINAL SCALE: N.T.S

DRAWN & CHECKED BY:
Antonette Galang (Level 2/3 NP, #129806, 10/01/2022)
Diana Lising (Level 2/3 NP, #110586, 20/08/2022)

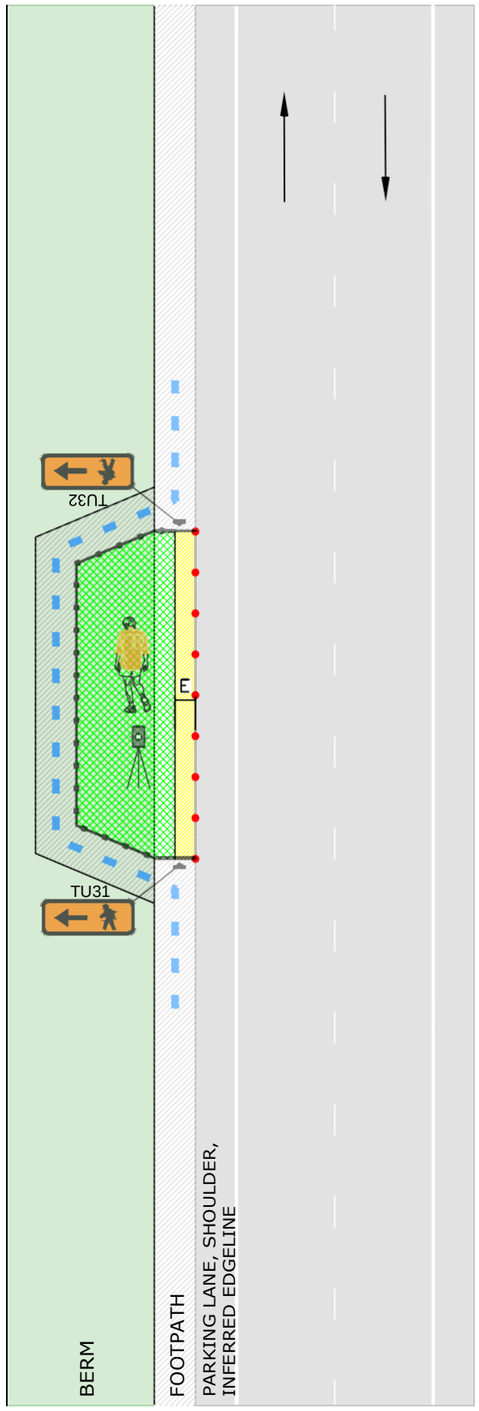
PREPARED FOR CLIENT / CONTRACTOR / PROJECT / CONTRACT:
CONSULTING SURVEYORS NEW ZEALAND

DRAWING TITLE:
LR/LV/L1 SURVEYING GENERICS
PERSONNEL ON THE ROAD (F4.7a)
UNDER 65K CSD MUST BE AVAILABLE BOTH DIRECTIONS

DRAWING TITLE:
PXJ-9410

SHEET NO:
Sheet 12 of 14

pxi–94 0 – copy submission for the Surveying industry_tmd.dwg



LR/LV, LOW VOLUME, LEVEL 1, & LEVEL 2 ROADS FOOTPATH DIVERTED ONTO BERM BEHIND WORKING SPACE (F2.1A)

NOTES:

1. Minimum pedestrian footpath widths:
   *Residential/Rural/Suburban Centre – 1.2m
   *CBD – 2m
2. Where the length of the temporary footpaths exceeds 20m, these widths may have to be increased so footpath users do not have to wait to pass.
3. Temporary footpath surfaces must be suitable for footpath users.
4. Use safety fence to enclose the working space, or at attended worksites, cones connected with cone bars can be used to enclose the working space but only for a short period of time.
   NOTE: Cone bars are not recommended where heavy equipment (e.g. a digger) is being used. A safety fence is preferred in these cases.
5. This TMD must be used in conjunction with appropriate TTM for any work carried out on the shoulder or in the live lane.

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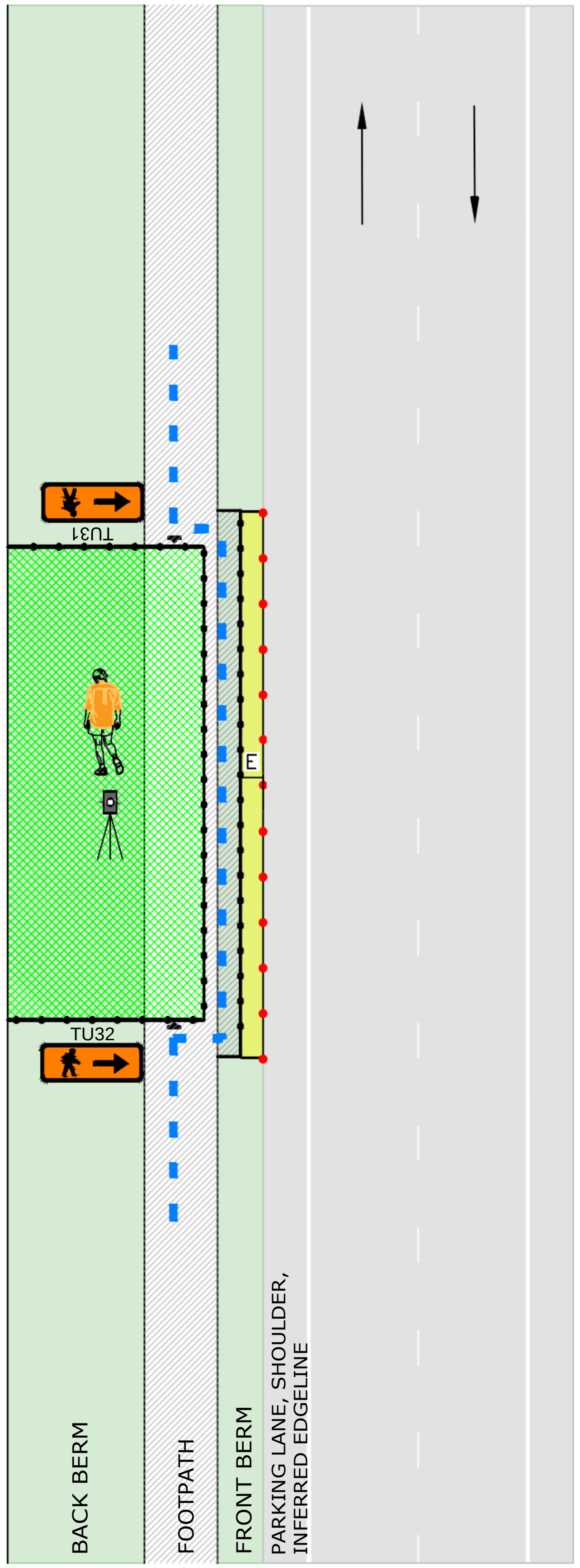
PREPARED FOR CLIENT / CONTRACTOR / PROJECT / CONTRACT:
CONSULTING SURVEYORS NEW ZEALAND

DRAWING TITLE:
LR/LV/L1/L2 SURVEYING GENERICS
FOOTPATH DIVERTED ONTO BERM (F2.1A)
BEHIND WORKING SPACE

DRAWING TITLE:
PXJ-9410

SHEET NO:
Sheet 13 of 14

cxi-9410 - draft submission for the surveying industry_tmd.dwg



LR/LV, LOW VOLUME, LEVEL 1, & LEVEL 2 ROADS FOOTPATH DIVERTED ONTO BERM BETWEEN WORKING SPACE AND CARRAIGEWAY (F2.2a)

NOTES:

1. Minimum pedestrian footpath widths:
   *Residential/Rural/Suburban Centre – 1.2m
   *CBD – 2m
2. Where the length of the temporary footpaths exceeds 20m, these widths may have to be increased so footpath users do not have to wait to pass.
3. Temporary footpath surfaces must be suitable for footpath users.
4. Use safety fence to enclose the working space, or at attended worksites, cones connected with cone bars can be used to enclose the working space but only for a short period of time.
   NOTE: Cone bars are not recommended where heavy equipment (e.g. a digger) is being used. A safety fence is preferred in these cases.
5. Use barrier or safety fence to delineate the traffic side of the footpath, or at attended worksites cones connected with cone bars can be used to delineate the traffic side of the footpath for a short period of time (not for use on state highways)
6. There must be a lateral safety zone between the traffic side of the footpath and the live lane:
   *0.5m for barrier
   *1m for safety fence or cone bars
7. This TMD must be used in conjunction with appropriate TTM for any work carried out on the shoulder or in the live lane.

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Diana Lising (Level 2/3 NP, #110586, 20/08/2022)

PREPARED FOR CLIENT / CONTRACTOR / PROJECT / CONTRACT: CONSULTING SURVEYORS NEW ZEALAND

DRAWING TITLE: LR/LV/L1/L2 SURVEYING GENERICS FOOTPATH DIVERTED ONTO BERM (F2.2A) BETWEEN WORKING SPACE & CARRIAGEWAY

DRAWING TITLE: PXJ-9410

SHEET NO: Sheet 14 of 14

pxj-9410 – copttm submission for the surveying industry_tmd.dwg

Checking process for generic TMPs and On-Site Record for Inspection Activities

This form, or a similar company record, must be completed prior to set up of a worksite where a generic TMP is used.

Location details

Road name(s)	***Location #1***		**House number/RP(s)**		**Suburb**		
	Location #2		**House number/RP(s)**				
	Location #3						
Generic TMP reference no.		**TMD no(s).**			***Note:*** *The checking process must include all the TMDs to be used*		

Person in charge of the TTM

TCi - P					☐
	Name	*NZTA ID Number*	*Warrant expiry date*	*Signature*	*Briefing completed*
Site Handover to another TCi - P					☐
	Name	*NZTA ID Number*	*Warrant expiry date*	*Signature*	*Briefing received*
	Time handover briefing completed				

Are the following catered for in the generic TMP?		**Location #1**			**Location #2**			**Location #3**		
Category	**Points to consider**	**Y**	**N**	**Comment/Mitigation**	**Y**	**N**	**Comment/Mitigation**	**Y**	**N**	**Comment/Mitigation**
RCA notification	Has the RCA been notified?									
Road level	Is this at the correct road level?									
Shape	Intersections, Hills, Horizontal Curves, Enough advance warning									
Signs/vehicle /cones positioned as per TMP?	Can you park/place equipment as per the TMD?									
Direction and protection	Enough road width for road user? i.e. minimum lane width is 2.75m • adequate sight distance on both sides									
Plant and equipment	Will your plant and equipment fit within the designated working space?									
Personal safety	Is there a safe escape route? PPE Worn?									
Layout diagrams	Is diagram detailed in the generic TMP fit for purpose and is the									

	operation described in the Proforma?									
RCA notification	Has the RCA been notified?									
Footpath Standards Met?	Footpath blocked?									
Cycle lane standards met?	Equipment in the cycle lane? Car parked in cycle lane?									
Traffic flows OK?	Operating outside of peak hours									
Adequate property access?	Driveway blocked?									

Time assessment completed:			
Site Supervisor Signature:			
Additional Comments:			
Personnel Briefed on Site:	**Name:**	**Signature:**	**Date/Time:**