NSW GOVERNMENT | Transport for NSW

Guide to delineation and signage for Separate Yourself

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Contents

For any enquiries in relation to the Separate Yourself program or content within this document please contact your safety representative.

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1 Introduction

1.1 Purpose

This guide is to be used in conjunction with the Separate Yourself Procedure. It has been developed to promote a consistent approach for the controls and practices associated with the Separate Yourself program, the principle being that a person should be able to navigate their way safely onto and through the site based solely on the controls on the ground.

The site situation controls outlined in this guide define a set of minimum mandatory controls and additional controls as required to manage the risks associated with the interaction between:

- People, plant and vehicles
- Plant and vehicles
- Plant and plant

The guide can be used as a reference tool when planning, implementing, discussing or reviewing controls that include separation, delineation and signage.

1.2 Scope

This guide and the supporting Separate Yourself resources applies to all road projects within Transport for NSW (Transport) and all workers on those projects where the Separate Yourself Program is implemented.

1.3 Principles

The primary objective is to eliminate the risks that interfaces between people, plant and vehicles create. When elimination is not reasonably practicable to implement the hierarchy of controls is to be followed.

Controls are to be selected based on the situation and the risk(s) present and are to be implemented consistently so that the information and layout has a standard response by workers doing the work or coming into the work area.

The controls should be implemented such that they are intuitive and make sense to someone who has not been to the site before.

2 Reference and supporting resources

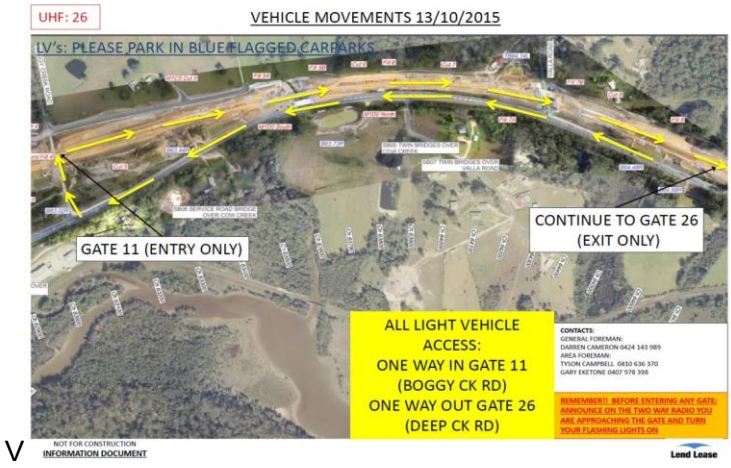
There are a number of resources that support the Separate Yourself program:

- Separate Yourself Procedure
- Separate Yourself Assurance Checklists
- Separate Yourself Banner
- Separate Yourself Posters
- Separate Yourself Flip Card Booklet
- Separate Yourself Toolbox Talk Handouts
- Separate Yourself Induction PowerPoint
- Separate Yourself Champion Role Description
- Separate Yourself Evaluation (survey postcard)
- Separate Yourself Evaluation Criteria

3 Definitions

Definition	Photo reference
Barrier Boards	
Device delineating closure of area mounted on trestles Barrier boards must comply with the TfNSW QA Specification 3385 Barrier Boards QA 3385 Barrier Boards	
Bunting/Flagging	
	 
Concrete or steel barriers	
Concrete and steel modular barrier systems must comply with the TfNSW QA Specification R132 Safety Barrier Systems QA R132 Safety Barrier Systems	 

Definition	Photo reference
Cones and bollards	
Traffic cones must comply with the TfNSW QA Specification 3352 Fluorescent Plastic Traffic Cones QA3352 Fluorescent Plastic Traffic Cones	
Light Vehicle (LV)	
< 4.5 tonnes gross vehicle mass (GVM)	
Para webbing/Barrier Mesh	
	

Definition	Photo reference
Plastic Barrier	
Modular plastic barrier designed to be filled with water when in use Plastic barrier systems must comply with the TfNSW QA Specification R132 Safety Barrier Systems QA R132 Safety Barrier Systems	
Sign on station	
Typical sign on stations	
Vehicle Movement Plan (VMP)	
A diagram showing the preferred travel paths for vehicles associated with a work site entering, leaving or crossing through the traffic stream. A VMP should also show travel paths for vehicles at key points on routes remote from the work site such as places to turn around, accesses, ramps and side roads.	

Definition	Photo reference
Heavy Vehicle (HV)	
> 4.5 tonnes GVM	 
Plant	
Machinery, equipment, appliance, and includes any component or anything fitted or connected to any of those things. Plant includes items such as trucks, cranes, forklifts, excavators, etc., but does not include light vehicles.	 

4 Sign standards and delineation requirements

4.1 Sign standards

All signs should be compliant with the requirements of AS1319 Signage for the Occupational Environment. Regulatory signs (e.g. Stop or Give Way) shall be printed and conform to AS 1319.

Handwritten signs should be avoided and only be used for temporary use (less than or equal to one day or shift) and are unsuitable for high risk area warnings such as exclusion zones, deep excavations, open penetrations and fall from height risks.

The size of signage and location should consider human factors such as:

- sight distances
- literacy
- reaction times
- alignment
- relationship to other signs (i.e. number, are they contradictory, confusing order).

4.2 Delineation requirements

All delineation and signage should be selected, installed, inspected and maintained so that it remains fit for purpose and durable, relative to the activity and the expected duration of the activity. The colour scheme has been standardised to create consistency and avoid confusion when implementing delineation.

Control selection should always follow a risk management approach and the hierarchy of controls, elimination, then isolation and engineering higher order controls before relying on delineation, signage, procedures and Personal Protection Equipment (PPE).

Table 1 outlines mandatory application of delineation devices colour scheme.

Colour	Delineation device	Application
Orange	Bunting/flagging/cones/para webbing/barrier mesh	General use
Lime	Cones/bollards	Delineation of LV path
Blue	Bunting/flagging/cones/para webbing/barrier mesh	LV Parking areas

Table 1

When selecting other colours for delineation consult with the environmental and heritage officer and survey to ensure that there are no conflicts with colours and uses of delineation materials.

4.2.1 Physical controls

For the purposes of the Separate Yourself program, the physical controls or devices provided in the table below are defined as ‘Higher Order’ or ‘Other’ controls.

Higher order controls	Solid concrete or steel barriers Plastic water filled barriers Guard rail or wire rope barrier Earthen bund, sand bag wall
Other controls	Barrier boards Para webbing/barrier mesh Bunting/flagging Cones/bollards Reflective bunting/flagging Signage Pedestrian crossing Bump strips, cuts

A ‘higher order’ control is one that has the capability or potential to absorb the kinetic energy from a moving vehicle or plant on impact and prevent the plant or vehicle passing into an area where it has been excluded.

‘Other’ control is one that has little kinetic absorption potential and relies primarily on human behaviour (visual recognition, action) to realise the intended effect (stop, change direction).

Higher order controls can be considered as engineering controls, or when implemented in some configurations as isolation barriers. In some circumstances other controls such as barrier boards, flagging, and bollards can be used to create an isolation area that potentially eliminates some interfaces between operations. In practice and as outlined in the mandatory and additional controls for site situations a combination of higher order and other controls is available to control the identified risks. Use of elimination or higher order controls must be used where interface frequency and potential kinetic energies are higher.

5 Site situation controls

Each situation below outlines the mandatory controls and the additional controls that may be required.

5.1 Situation 1: Main gate entrance signage

Number	Mandatory controls – Main gate entrance signage
1	UHF channel for work area
2	Gate number displayed
3	Supervisors name and contact details displayed
4	Legislated Principal Contractor information
5	‘Construction site – do not enter’ signage
6	PPE requirements.

Additional controls (may be required) include:

- All visitors must report to site office
- Sign on before entering work areas
- Call up supervisor to be escorted on site.

This situation is specific to gates that have direct access from or exit to a public road. In addition to the main gate entrance signage, consideration should be given to access and exit onto existing roadway/highway. Additional controls may include:

- Slip lanes
- Restriction of right turn signage
- Establishment of designated U-turn bays.

5.2 Situation 2: Other gate signage

Number	Mandatory controls – Other gate signage
1	UHF channel for work area
2	Gate number displayed
3	Supervisors name and contact details displayed.

Other controls (may be required) include:

- Legislated Principal Contractor information
- PPE requirements
- 'Construction site – do not enter' signage
- All visitors must report to site office
- Sign on before entering work areas
- Call up supervisor to be escorted on site.

This requirement is specific to gates within a project that do not have access from or exit to a public road.

5.3 Situation 3: Site risk information

Number	Mandatory controls - Site risk information
1	At a fixed location - prestart lectern box or other object containing risk information
2	Prestart signage 'sign on here' etc.
3	Prestart sign on documentation
4	Supervisors name and contact details displayed
5	Prestart includes activities, hazards/risks and controls
6	White board or other notice board for displaying information including last review date.

Additional control (may be required) includes:

- Vehicle Movement Plan (VMP)

On entry to the site through a gate, an area should be clearly identifiable and available prior to exposure to site risks where risk information can be obtained and reviewed. A display board should also be incorporated to display messages, for example VMP's or risk information.

For work areas within the boundary that are accessed after the gate and sign on area, it is not always necessary to have another lectern box/display set up for individual work areas. However, locations where sign on information is available for individual work areas should be clearly visible and in a safe location relative to the works area.

5.4 Situation 4: Crib huts / compounds

Number	Mandatory controls - Crib huts / compounds
1	LV and HV/plant parking separated
2	Reverse parking mandatory
3	Blue coloured flagging/cones for light vehicle parking
4	HV and LV delineation/signage where there is requirement for HV to be in proximity
5	Appropriate warning signage
6	Para webbing for delineation of pedestrian walkways in proximity to HV/LV pathways
7	Diagrammed VMP - white board or noticeboard.

Additional controls (may be required) include:

- Solid concrete barrier where fixed crossing point for pedestrians
- Plastic water filled barrier
- Barrier boards to close an area

- Reflective flagging (night time access)
- Orange cones or bollards (reflective for night time access).

Crib hut locations, arrangement and layout must consider access for LV and potential interface with HV and pedestrians. Arrangements should use the hierarchy of control with elimination, isolation, separation and engineering preferred.

5.5 Situation 5: Parking areas

Number	Mandatory controls - Parking areas
1	Parking areas are separated from HV/LV paths of travel
2	Signage – ‘LV parking area’ or similar
3	‘Reverse parking only’ signage
4	Blue flagging/cones, para webbing for light vehicle parking areas.

Additional controls (may be required) include:

- Additional appropriate warning signage
- Gate number
- Supervisors name and contact details
- UHF Channel.

Other additional controls may include:

- Level surface
- Surface preparation (gravel/sealed)
- Application of park brake
- Wheel stops/spoon drains
- Consider the use of a Spotter where possible.

Parking areas should consider the potential volume of vehicles, run away vehicles potential and human behaviour in selecting locations with adequate size and proximity. This may include levelling the site or installing bunds or barriers.

5.6 Situation 6: Delineation for paths of travel at pedestrian interfaces

Number	Mandatory controls - Delineation for paths of travel at pedestrian interfaces
1	Coloured flagging
2	Para webbing for higher volume areas
3	Signage indicating pedestrian pathway
4	HV/LV delineation – vehicle paths are delineated separate to pedestrian pathways.

Additional controls (may be required) include:

- Solid concrete barrier where fixed crossing point for pedestrians
- Plastic water filled barrier
- Cones or bollards
- Orange reflective cones or bollards (night time work)
- Orange reflective flagging (night time access)
- Bump strips
- Gate or chicane
- “Pedestrian Crossing” warning sign for drivers.

Where traffic and pedestrian volumes are high, for example near crib huts and main compounds, the potential for contact or injury increases. Therefore it may be necessary to use higher order controls such as concrete barriers or water filled barriers to provide increased protection. However more isolated locations with clear access may be suitable for lower levels of control such as flagging and signage only.

For pedestrian access, signs, cones, bollards, bump strips or pedestrian crossings may highlight the access and crossing areas. In areas where HV and pedestrian interfaces cannot be avoided the use of traffic controllers and boom gates to restrict access must be considered.

'Pedestrian crossing' signs are to be utilised as the signs are self-explanatory and recognisable.

5.7 Situation 7: Delineation of paths of travel for HV/LV through site

Number	Mandatory controls - Delineation of paths of travel for HV/LV through site
1	Lime cones or bollards used at regular intervals where LV have a separate route
2	HV and LV routes are delineated
3	Signage to delineate – direction arrows, HV, LV, HV/LV
4	Shared routes differentiated from HV or LV separate routes
5	Single lane two way routes with 'stop' and call up signs
6	Rock checks, docket sign off etc. are separated from through traffic
7	'T' intersections and '+' intersections use 'give way' and or 'stop' signs – see section 4.1 Sign Standards.

Additional controls (may be required) include:

- Reflective flagging (night time access)
- Specific colour in flagging or cones used for LV or HV pathway in tight areas with boundary fencing, where additional delineation may create confusion as to route delineation
- Plastic water filled barrier
- Para webbing
- Flagging– chicane or to separate into lanes
- Barrier boards – exclusion areas or closed to traffic
- Truck safety bay or equivalent for rock checks and docket sign offs.

5.8 Situation 8: Interface with mobile plant and HV/LV

This situation differs from the previous one in that this refers to a stationary work area that may have plant, HV/LV and/or workers on foot. In these scenarios it is likely that an opportunity to eliminate the interaction at the point of the interface can be implemented, for example, an exclusion zone with appropriate protection and signage.

Number	Mandatory controls - Delineation of paths of travel for HV/LV through site
1	Delineation – suitable for the volume of interaction
2	HV and LV routes are delineated
3	Shared routes differentiated from HV or LV separate routes
4	Lime cones or bollards used at regular intervals where LV have a separate route
5	Signage to delineate – direction arrows, HV, LV, HV/LV
6	Appropriate warning signage

Additional controls (may be required) include:

- Plastic water filled barrier
- Orange coloured flagging or cones for exclusion
- Reflective flagging (night time access)
- Reflective cones or bollards (night time work)
- Para webbing
- Flagging.

Interfaces between plant and LV/HV can occur during a range of activities such as earthworks, drainage works, temporary works, structures, survey, geotechnical, surveillance and inspection, maintenance and servicing. These activities may require their own warning signage and controls (see general works areas site situation for examples). Planning should ensure all signage is appropriate and that conflicts are not created between signs or delineation for separate work groups.

Arrangements should use the hierarchy of control with elimination, isolation, separation and engineering preferred. The agreed controls can be supported by additional controls. For some high risk areas it may be necessary to use an escort vehicle where additional access is required.

5.9 Situation 9: General work areas

Number	Mandatory controls - General work areas
1	Warning signage
2	Delineation - para webbing, flagging, cones/bollards

Additional controls (may be required):

- Solid barrier where fixed crossing point for pedestrians
- Plastic water filled barrier
- Separate lanes for through traffic
- Reflective flagging (night time access)
- Orange reflective cones or bollards (night time work)
- Barrier boards

- Windrows.

General work areas, mobile or short term work areas can cover a range of activities such as; drainage finishing works, temporary works such as hand pour formwork or culvert treatments, structures stripping, environmental inspections, survey, geotechnical, surveillance and inspection, refuelling, landscaping, maintenance and servicing. These activities generally will be for less than one day or in several locations throughout the day. These activities and work areas may require their own warning signage and controls to be installed by the work group and carried with them between work locations.

Planning should include ensuring all signage and delineation is appropriate and that conflicts are not created between signs or delineation for other works. As a minimum a workgroup operating in an area where an interface exists with through or surround traffic should have 10kph and worker on foot signage with cones delineating a work area with enough separation to allow for a minimum of 2 metres clearance laterally and a buffer zone at either end.

Arrangements for this type of activity must use the hierarchy of control with elimination, isolation, separation and engineering preferred when planning the staging of all works. The agreed controls can be supported by additional controls used for the general management of interfaces.

5.10 Situation 10: Batch plants

Number	Mandatory controls - Batch Plant
1	Diagrammed VMP - white board or noticeboard
2	LV and HV/plant parking separated
3	Delineation - Para webbing, flagging
4	Orange coloured flagging/cones for exclusion
5	Cones or bollards – for temporary delineation
6	HV and LV delineation
7	Signage to delineate – pedestrian paths, arrows, HV, LV, HV/LV
8	Shared routes differentiated from HV or LV separate routes

Number	Mandatory controls - Batch Plant
9	Single lane two way routes with 'stop' and call up signs
10	‘T' intersections and '+' intersections 'give way' and or 'stop' signs.

Additional controls (may be required) include:

- Solid barrier where fixed crossing point for pedestrians
- Plastic water filled barrier
- Separate lanes for through traffic
- Barrier boards

Batch plants should be established during design to eliminate the need for reversing, create one way traffic, separated access and through routes for operations between workers, drivers, deliveries and loading/unloading activities.

6 Document control

The Separate Yourself program site situation controls will be continuously monitored to ensure best practice initiatives are maintained. This guide and the associated reference and resource materials will be reviewed on an annual basis.

Version Number	Version History	Approved By	Date	Review Date
1	First version	Karl Wisdom Manager WHS Northern Projects Office	March 2017	October 2020
2	Full document review completed by the Separate Yourself Working Party. Includes addition of Situation 1 Main Gate Entrance Signage, Scope, Principles for Separate Yourself, Reference & Supporting Resources, and Document Control.	Paul Stathers Director – WHS, Infrastructure & Place/Safety, Environment & Regulation	October 2020	October 2021
3	Removal of the Separate Yourself Induction Video and the Separate Yourself Report Template as reference and supporting resources. Amendment to Situation 1 Main gate entrance signage - This situation is specific to gates that have direct access from or exit to a public road. Addition of “compounds” to the subheading for Situation 4 Crib huts. Added “gate or chicane” as an additional control for site situation #6 delineation for paths of travel at pedestrian interfaces.	Paul Stathers Director – WHS, Infrastructure & Place/Safety, Environment & Regulation	January 2021	January 2022

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