Gateway Upgrade Project

Sections 1 and 2 - Alignment Review and Concept Development

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Gateway Upgrade Project Job No. 140/ U13B/ 4 Sections 1 and 2 - Alignment Review and Concept Development (Mt Gravatt-Capalaba Road to Lytton Road) Department of Main Roads

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Appendix A

Reference Design - Alignment Analysis Northbound

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Concept Development Options- Northbound & Southbound

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List of Abbreviations

ATC	Australia TradeCoast
BCC	Brisbane City Council
DMR	Department of Main Roads
DWS	Deck Wearing Surface
FFP & EDD	Fitness for Purpose and Extended Design Domain
EIS	Environmental Impact Statement
ETC	Electronic Toll Collection
GUP	Gateway Upgrade Project
MSD	Manoeuvring Sight Distance
MWT	Mason Wilson Twiney
QML	Queensland Motorways Limited
RPDM	Road Planning and Design Manual
RS&E	Road Systems and Engineering
SSD	Stopping Sight Distance



1. Overview

1.1 Background

1.1.1 Previous Planning Study (Reference Design)

A major element of the previous Planning Study confirmed upgrade requirements necessary to meet the Gateway Motorway corridor demands at 2021 for a 10.6km segment from Mt Gravatt – Capalaba Road to Lytton Road. This proposed Ultimate Design scheme comprises 4 to 6 lane road widening, including a portion of reconstruction, between Mt Gravatt–Capalaba Road and north of Wynnum Road, and 4 to 8 lane road widening between the northern side of Wynnum Road Interchange and Lytton Road.

In addition, the previous Planning Study also identified an Interim Design based on 6 lane road widening. This scheme excludes ramp metering at Old Cleveland Road Interchange and delays the upgrading of the Meadowlands Road Overpass Bridge. Though not as extensive as the Ultimate Design, the Interim Design is proposed to meet the demands of Gateway Motorway up to 2016.

For the purposes of this review and design development, the Planning Study's (Ultimate Design) scheme is herein referred to as the Reference Design.

1.2 Scope of Work

1.2.1 Reference Design Review

Since the previous Planning Study was finalised and further EIS/ engineering and associated studies initiated, a greater understanding of the needs of the GUP is apparent, particularly in the context of the range of probable delivery methods and likely program. As part of the commission to undertake an Environmental Impact Statement ("EIS") for the Gateway Upgrade Project ("GUP"), Connell Wagner was requested to review, and redevelop where necessary, various aspects of the Reference Design which would form the basis of the Reference Project.

This review has focused on the alignments and carriageway configuration of Section 1 and 2, from Mt Gravatt – Capalaba Road to Lytton Road (Ch 5160 to Ch15760). In particular, alignments for north and southbound carriageways were to be reviewed in the context of compliance with current DMR Road Planning and Design Manual ("RPDM"), and Fitness for Purpose and Extended Design Domain ("FFP" & "EDD") standards.

1.2.2 Scheme Concept Development

The existing Gateway Motorway is currently speed sign posted to 100km/h. DMR wishes to improve any alignment deficiencies in Section 1 and 2 for a 100km/h design speed through the GUP. In order to determine any deficiencies that currently exist, existing alignments need to be examined on an element by element basis to confirm the design speeds, and identify key constraints or any opportunities for improvement.

It is anticipated that these alignment elements will conform to a range of design standards or categories. Where elements do not attain a high standard, alternative horizontal and vertical alignments options are considered to meet these standards. These concept design options based on higher standards are then rationalised, forming the basis for a Consolidated Development Option – Northbound and Southbound (Refer to Appendix C).

Following this review, a modified Reference Design (Reference Project) was to be further developed and recommended to the Department forming the basis for subsequent delivery stages of the GUP. The primary purpose of this report is to document the design processes



that have led to the recommendation on the main carriageway horizontal and vertical alignments.

1.2.3 Implementation of Design Standards

Based on the Department's widely used RPDM standards, it appears that many elements within Sections 1 and 2 of the Motorway will not attain the desirable scheme standard without substantial levels of reconstruction and augmentation. Consequently in terms of a fitness for purpose approach, there is a need to carefully consider what standards are acceptable to meet the needs of GUP.

In some locations, lower standard(s) developed using the principles of FFP & EDD may be acceptable, however the implications of accepting these alignment(s) need to be thoroughly examined. The review of the Reference Design alignments and subsequent development of a Consolidated Design Option as input to the Reference Project is based on a justifiable and defendable balance of RPDM and FFP & EDD standards.

1.2.4 Limits of Review and Concept Development

All assessments and reporting have been based on Section 1 (Ch 5160-Ch 13470) extending from the northern edge of the bridge on Mt Gravatt-Capalaba Road. Section 2 (Ch 13470-Ch 15760) extends from Wynnum Road (excluding bridge) to the southern edge of Lytton Road Bridge.

Excluded from these assessments are all works proposed from Lytton Road to Nudgee Road, and the 4.4km southern segment of Gateway Motorway from the Pacific Motorway to Mt Gravatt–Capalaba Road.



2. Strategic Issues

2.1 Role and Function

The Gateway Motorway is classified as a Strategic State Road within the Department's hierarchy. As part of the National Highway Route 1, it forms a pivotal road network function within SouthEast Queensland, providing a bypass of the Brisbane CBD and servicing the growing needs of the Australia TradeCoast ("ATC") region.

Within Section 1 and 2, the Gateway Motorway corridor traverses through a mix of rural/ urban, fringe urban, light industry and bushland environments. It currently services traffic flows ranging from 64,928 AADT just south of Mt Gravatt-Capalaba Road Interchange, to 79,379 AADT just north of Lytton Road Interchange at the Gateway Bridge Toll Plaza. Between these two interchanges, traffic operates at a posted speed of 100km/h, and commercial vehicles account for approximately 15-17% of total traffic.

In addition to its primary function, major network connections/ interchanges are located at Mt Gravatt-Capalaba Road and the Port of Brisbane Motorway, where a significant proportion of traffic entering and exiting are commercial vehicles travelling between the Port of Brisbane, and the Brisbane Urban Corridor, Ipswich Road and western regions.

"Secondary" interchanges with major arterials and the local road network service inter-suburban and inter-regional demands at Old Cleveland Road and Wynnum Road.

2.2 Corridor History

The original Gateway Motorway (formerly Gateway Arterial) was constructed circa 1986 as a 41km long arterial standard road, connecting the SouthEast Freeway to the Bruce Highway. Initially opened as 2 lane single carriageway route with a maximum posted speed of 80km/h, it has been progressively duplicated (2nd carriageway western side) to the current 4 lane dual carriageway facility. Existing diamond interchanges were originally constructed as at-grade intersections or roundabouts, and subsequently grade separated. It is understood that all road designs were primarily based on DMR's then current Urban Road Design – Volume 1.

Over time, localised upgrades and portions of duplication has led to a gradual increase in posted speeds over the majority of the route. Clearly traffic volumes have increased well beyond initial predictions. Recent surveys have shown the average 85th percentile speed to be in excess of the environment speed in some areas. Traffic congestion due to minor breakdowns and accidents is not uncommon at peak times, particularly along Section 2 of the Gateway Motorway, and becomes further congested if major accidents occur. Shoulder widths along much its length are narrow and generally inadequate to provide breakdown and stopping opportunities for current levels of traffic.

2.3 Design Standards

Over the last five years, road design standards have developed to a very high level. This has been influenced by the construction of the Pacific Motorway, and more recently formalised by the release of the Department's Road Planning and Design Manual.

2.3.1 Road works

The design approach used in undertaking the review of existing and development of new alignments was through an application of desirable, yet justifiable and defensible standards, rather than a focus solely based on current standards ("RPDM") or on minimal requirements. Notwithstanding this approach, elements have been reviewed in the context of fitness for purpose, so as to ensure that basic design elements meet their intended function and the needs of the GUP.



Reference Design elements have been assessed and concept design options developed in accordance with the DMR RPDM and FFP & EDD.

2.3.2 Bridges

Bridge design considerations are commensurate with this stage of alignment review and development. Vertical clearances are to meet the requirements of national highway standards and BCC as necessary.



3. Review of Alignments

3.1 Existing Information / Constraints

The Reference Design adopted a full depth pavement overlay (typically 605 mm) over the majority of Section 1 and 2 carriageways. In the vicinity of Ch 5400 to Ch 6300, existing carriageways have been realigned and reconstructed, including the elimination of undesirable singular and/ or complex horizontal curves. Existing bridge structures have generally been retained and modified where necessary to suit the widened carriageways. On and off ramps are to be reinstated to current RPDM standards to match existing approach roadways.

3.2 Review Methodology

The horizontal and vertical carriageway elements of the Reference Design within Section 1 and 2 have been assessed under this current review process. An audit of the Reference Design was undertaken using an interrogated MX model based on supplied GENIO format base data and Volume 6 Drawings.

For the purposes of this examination and to clearly document the degree of compliance with nominated standards, we have structured the review initially into four independent assessments (alignments): northbound and southbound, and horizontal and vertical. Each of the four alignments has been subdivided into discrete horizontal and vertical elements, and each element uniquely coded. (Eg NH2 denotes Northbound Horizontal Element No.2). The location of all curve elements for Section 1 and 2 are detailed on sketch Plan No. 5792-S-SK27.

When using traditional RPDM techniques, elements were generally considered to be either above or below a nominated standard. Using the DMR RPDM standards and FFP & EDD principles, each of these elements have been analysed based on a hierarchy of five (5) design standards. Using this range of possible standards allows a more detailed appreciation and comparison of elements to be determined. The five (5) design standard categories are presented in Table 3.1 below:

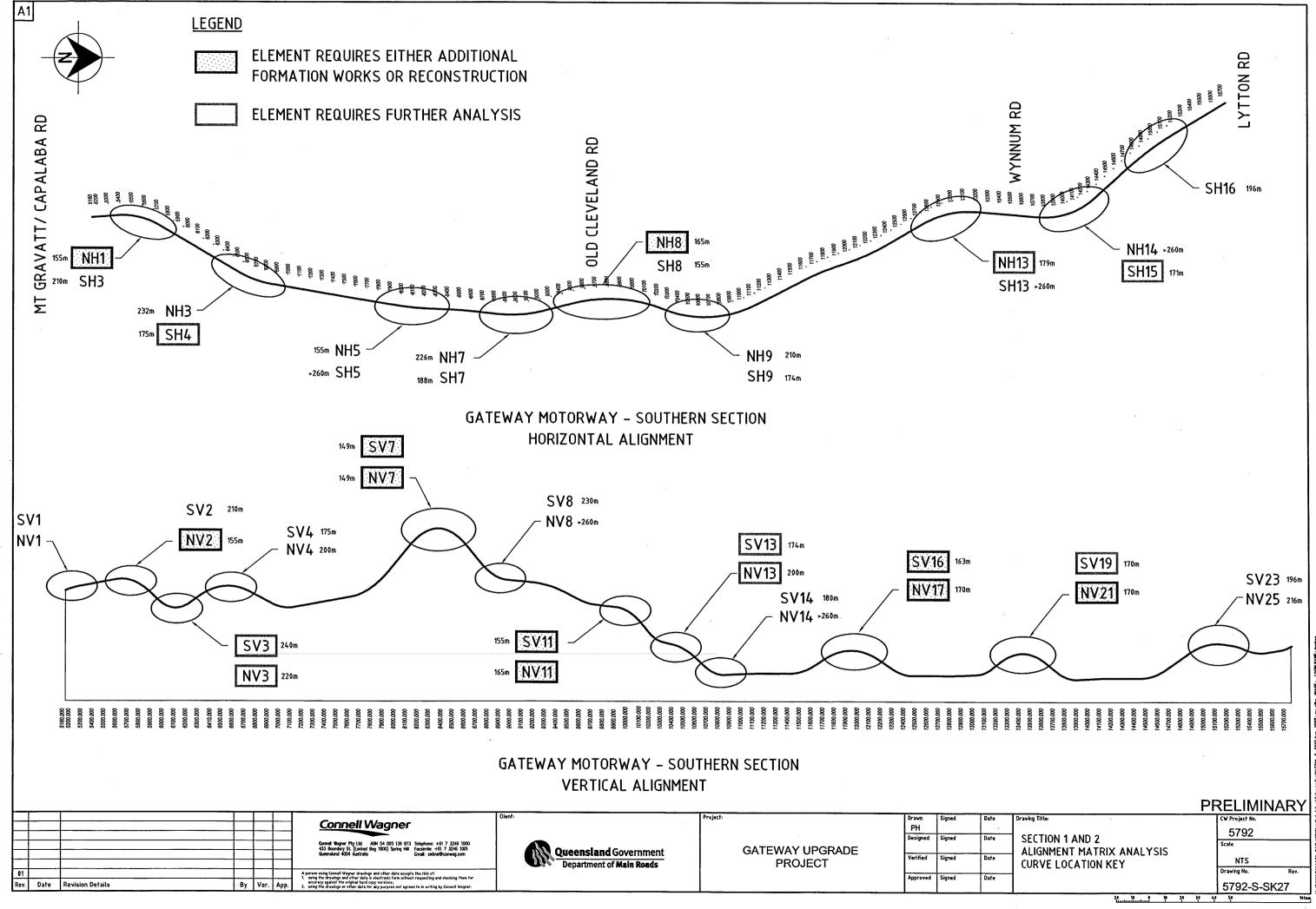
Category	Nominal Design Standard	General Description
1	110km/h RPDM	Absolute upper limit of design standards.
2	110km/h FFP & EDD	Acceptable design standard.
3	100km/h RPDM	Acceptable design standard.
4	100km/h FFP & EDD	Absolute lower limit of design standards.
5	Sub-standard Cases (< Cat.4)	Unacceptable design standards

Table 3.1 Summary of Design Standard Categories

The Categories and associated Descriptions identified above should be used as a general guide and not be interpreted as fixed limits. All lower standard elements require detailed substantiation as to the basis for acceptance or otherwise. Categories are only used for examination and reporting purposes. In assessing alignments, all elements are to be considered both individually, and in the context of the overall alignment.

The assessment of Stopping Sight Distance ("SSD") compliance for each element attained when calculated using both the RPDM and FFP & EDD standards, and for 110km/h and 100km/h speeds are summarised in the Appendix A - Reference Design Alignment Analysis – Northbound, and Appendix B - Reference Design Alignment Analysis-Southbound. Where the audit examination has determined that an element conforms to less than the upper limit, these elements are shown shadowed.





3.3 Design Review Parameters

3.3.1 Horizontal Alignment

The design parameter that significantly effects the compliance of horizontal alignment elements is radius of curvature and the resultant visibility restrictions imposed by lateral obstructions, such as traffic and bridge barriers. We note the following key parameters used in the review and development of alignments:

Minimum horizontal curve R620 with 4% superelevation; Height of drivers eye (car) 1150 mm (object height varies); . Height of drivers eye (truck) 2400 mm; Lateral obstructions such as guardrail 730 mm high; Bridge railing height 850 mm high; Central concrete traffic barrier 1100 mm high; Offset from position of driver eye to inside lane edge 1750 mm: and Offset from position of driver eye to outside lane edge 8750 mm.

3.3.2 Vertical Alignment

Currently Section 1 and 2 are posted at 100km/h, though it is understood that the original (then Gateway Arterial) design parameters were selected to provide a posted speed of 80km/h. This review and concept development has examined existing vertical alignment elements which are detailed below.

Vertical alignment is primarily controlled by the provision of appropriate Stopping Sight Distance ("SSD"). This criteria has been examined for compliance using several derivatives of input data, including the effects of cars and trucks; day and night effects; and a range of object heights. In all instances elements have been checked for the provision of appropriate MSD ("Manoeuvring Sight Distance").

3.4 Accident Statistics

3.4.1 Framework for Analysis

The DMR Metropolitan District has supplied Crash data in electronic format for Sections 1 and 2 of Gateway Motorway. These were recorded from December 1990 to February 2003, and summarise statistics for a total of 826 accidents. Data is classified by accident codes based on the standard 10 x 10 matrix of categories and sub-types. Refer to Appendix D - Traffic Accident Statistics, for descriptions of each accident code and a full breakdown of all accidents, including time, location, vehicle type and accident code etc.

From this standard data, a corresponding 10 x 10 matrix identifying the number of accidents per code is shown below in Table 3.2 - Summary of Accidents by Code. For the purposes of this assessment, only accident categories and sub-types relevant for analysis were considered further eg 100 series pedestrain accidents were ignored. Codes shown shadowed within Table 3.2 are generally not relevant to two-lane uni-directional flow, and have therefore been excluded from further consideration of alignment issues. Only accident data within and immediately adjacent to "sub-standard" elements summarised in Sections 3.5.1 and 3.5.2 have been considered. ie relevant accidents.



3.4.2 Summary of Findings

A summary of statistics of carriageway based accidents are presented in Table 3.3- Accidents on Key Elements. Findings and observations drawn from **relevant** accidents on both northbound and southbound carriageways include:

- 31% of accidents are rear end (301) collisions;
- 70% of accidents occur within three (3) locations;
 - 21% Ch 5400 to Ch 6000 Mt Gravatt Road (north)
 - 32% Ch 9400 to Ch 10350 Old Cleveland Road Overpass bridges
 - 17% Ch 13100 to Ch 13700 Wynnum Road Overpass bridges
- Mt Petrie Road cutting (Ch 8100 to Ch 8700) comprises 5% of accidents; and
- Crest curve at truck lay-by area (Ch 11600 to Ch 12150) comprises less than 1% of accidents.



Table 3.2 Summary of Accidents by Code.

Pedestrian	Intersection	Vehicles Opposing Direction	Vehicles One Direction	Manoeuvring	Overtaking	On Path	Off Path On Straight	Off Path On Curve	Passenger & Misc.
001	101	201	301	401	501	601	701	801	901
2 Fatal (1)	Ramps = 133 (2) N/B = 8	N/B = 7 S/B = 5	Ramps = 32 N/B = 85 S/B = 58	NIL	NIL	S/B = 2	N/B = 4 S/B = 6	NIL	NIL
002	102	202	302	402	502	602	702	802	902
NIL	Ramps = 7	Ramps = 48 (2) N/B = 3	Ramps = 33 N/B = 5	NIL	S/B = 1	NIL	N/B = 8 S/B = 12	N/B = 1 S/B = 2	NIL
003	103	203	303	403	503	603	703	803	903
NIL	NIL	NIL	Ramps = 6	NIL	NIL	NIL	Ramps = 5	Ramps = 2	NIL
							N/B = 27 S/B = 21	N/B = 6 S/B = 4	
004	104	204	304	404	504	604	704	804	904
S/B =1 Minor	Ramps = 19	NIL	NIL	N/B = 1	NIL	NIL	Ramps = 2	N/B = 5	NIL
	N/B = 5						N/B = 17 S/B = 28	S/B = 4	
005	105	205	305	405	505	605	705	805	905
NIL	NIL	NIL	Ramps = 2 N/B = 13	NIL	NIL	NIL	Ramps = 2 N/B = 13	Ramps = 1 N/B = 4	NIL
	400		S/B = 15		500		S/B = 8	S/B =7	
006 NIL	106 NIL	206 NIL	306	406 NIL	506 NIL	606 NIL	706 Demos = 1	806	906
INIL	INIL	INIL	Ramps = 1 N/B =6	INIL	INIL		Ramps = 1	NIL	NIL
			S/B = 4						
007	107	207	307	407		607	707	807	907
NIL	Ramps = 3	NIL	N/B = 11	NIL		Ramps = 2	NIL	NIL	NIL
			S/B = 9			N/B = 19 S/B = 21			
008	108		308	408		608	708	808	
NIL	NIL		N/B = 1	Ramps = 1		N/B = 3 S/B = 3	Ramps = 2 N/B = 2	NIL	



Pedestrian	Intersection	Vehicles Opposing Direction	Vehicles One Direction	Manoeuvring	Overtaking	On Path	Off Path On Straight	Off Path On Curve	Passenger & Misc.
009 NIL	109 NIL		309 Ramps = 1			609 N/B = 2			
000 N/B =1 Hospital S/B = 1 Treatment			310 Ramps = 1 N/B = 1 S/B = 5			610 N/B = 3 S/B = 2	700 N/B = 10 S/B = 4	800 N/B = 7 S/B = 9	

Notes:

Included one Drunk fatality;
 Indicates accidents beyond ramp terminal.



Table 3.3

Gateway Upgrade Project										Number o	of Acciden	s							
Southern Section Alignme	nt Review			(One Direct	lon		On	Path		Off	Path on St	raight			Off Path	on Curve		
Accidents on Key Elements Note: Element ranges extended 100m downstream of tangent points to capture all relevant accidents. Legend: 1(2) denotes 1 accident on carriageway and 2 accidents on ramp		Head-On (Opposing Direction)	Rear End	Left Rear	Left Lane Swipe	Lane Change Right	Lane Change Left	Temp Object on Carriage	Accident or Broken Down	Off Carriage to Left	Off Carriage to Right	Left Off Carriage Into Object	Right Off Carriage Into Object	Out of Control on Carriage	Off Carriage Left Bend	Off Right Bend Into Object	Off Left Bend Into Object	Out of Control On Carraige	Totals
Description	Chainage	201	301	302	305	306	307	607	608	701	702	703	704	705	802	803	804	805	
Mt Gravatt Capalaba Rd (north)	Ch 5400 to 6000	2	1	1(2)	1	0(1)	0	8	0	0	1	2	2	3	0	2	0	0	23
	Ch 6000 to 6300	0	2	0	0	0	0	1	0	0	0	2	3	0	0	0	1	0	9
Mt Petrie Rd Cutting	Ch 8100 to 8700	0	3	0	0	0	0	0	0	0	1	2	0	0	0	0	0	0	6
Old Cleveland Rd I/C Bridges	Ch 9500 to 10350	0	23	0	3	1	5	4	0	1	1	3	6	3	0	2	0	1	53
	Ch 11700 to 12400	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	2
	Ch 12700 to 13300	1	7(7)	0	1	0	1	1(1)	0	0	0	2	0	1	0	1	0	0	15
	Ch 13230 to 13700	0	8	0	0	0	0	0	0	1	0	3	0	1	1	1	0	0	15
	-																		123
Mt Gravatt Capalaba Rd (north)	Ch 5250 to 5850	0	3	0	3	0	0	7	0	0	3	2	2		0	0	2	3	26
	Ch 5900 to 6200	1	1	0	1	0	0	5	0	0	2	2	3	0	1	0	0	0	16
	Ch 6450 to 6850	0	0	0	1	0	0	0	0	0	0	2	1	0	0	0	0	0	4
Mt Petrle Rd Cutting	Ch 8000 to 8600	1	1	0	0	0	0	0	1	0	0	1	0	2	0	0	0	0	6
	Ch 8700 to 9200	0	2	0	· 2	0	0	0	0	0	1	0	2	0	0	0	0	0	7
Old Cleveland Rd Interchange	Ch 9400 to 10250	0	7	0(1)	1	1	2	2	0	0	2	2	3	0(1)	0	0	_2	00	22
	Ch 10250 to 10550	1	_1	0(1)	0	0	0	0	0	1	0	0	_1	0	0	0	0	0	_4
Crest Near Truck Lay By Area	Ch 11600 to 12150	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	
	Ch 13100 to 13650	0	14	0	1	0	1	0	0	-1	0	3	3	0	_1	1	0	0	25
		6	73	1	15	2	9	28	1	4	11	27	26	11	3	7	5	4	110

3.5 Summary of Deficiencies

In confirming (and ultimately certifying) compliance with nominated standards, an extensive quantitative examination of the Reference Design's discrete horizontal and vertical alignment elements has been undertaken. Additionally, further assessments have been undertaken as to the compliance of element and/ or sections of alignment within the context of a multi-criteria environment ie an on-balance assessment of the combined horizontal and vertical alignments, including adjoining road elements, accident statistics and other relevant issues.

Where elements do not meet the nominal Category 1 design criteria, they are examined further below. These locations may require reconstruction / regrading works or additional formation widening to attain higher standards:

3.5.1 Major Deficient Elements

North • •	nbound NH1,NV2 NV7 NH8, NV11	General Description Mt Gravatt Capalaba Road (north) Crest at Mt Petrie Road cutting Old Cleveland Road I/C bridge(s)	Location Ch 5500 to 5800 Ch 8100 to 8700 Ch 9600 to 10050
Sout • •	hbound SH3, SV2 SV7 SH8, SV11	Mt Gravatt Capalaba Road (north) Crest at Mt Petrie Road cutting Old Cleveland Road I/C bridge(s)	Ch 5500 to 5800 Ch 8100 to 8700 Ch 9950 to 10220

3.5.2 Minor Deficient Elements

Other areas of more localised alignment interest in terms of improving design speed include:

Northbound

•	NV3	Sag near Weedon Street/ Wecker Road	Ch 5950 to 6230
•	NV12	Sag north Old Cleveland Road I/C	Ch 10180 to 10320
•	NH13	Approach to Wynnum Road I/C	Ch 12716 to 13208
•	NV17	Crest near truck lay-by area	Ch 13230 to 13630
•	NV21	Crest at Wynnum Road I/C bridge	Ch 13230 to 13630
South	nbound		
•	SV3	Sag near Weedon Street/Wecker Road	Ch 5987 to 6204
•	SH4	Curve near Wecker Road (Inner Shoulder)	Ch 6553 to 6848
•	SH7	Old Cleveland Rd I/C (Inner Shoulder)	Ch 8836 to 9233
•	SV13	Old Cleveland Rd I/C (Inner Shoulder)	Ch 10350 to 10550
•	SV16	Crest near truck lay-by area	Ch 11700 to 12100
•	SV19	Crest at Wynnum Road I/C Overpass bridge	Ch 13175 to 13655
•	SH15	North of Wynnum Road	Ch 13758 to 14286

SH17 North of Old Cleveland Railway Bridge Ch 15145 to 15440

These elements are shown on Plan No. 5792-S-SK27 Curve Location Key Plan. As the primary purpose of this assessment is the review and redesign of main carriageways, on and off-ramps will be considered separately, following further assessment.

4. Concept Development

4.1 Speed Environment

4.1.1 Existing Framework

It is important that consideration be given to reaffirming the speed environment for Sections 1 and 2, and that a level of design speed consistency across all existing (retained) and upgraded elements can be realistically achieved, given the following key factors:

- Continuity in vehicle speed within Sections 1 and 2;
- High proportion of vehicles surveyed as travelling in excess of the 85th percentile;
- Standard of adjoining southern Section (Pacific Motorway to Mt Gravatt Capalaba Road);
- Gateway Bridge vertical alignment (design speed restricted to 80km/h);
- Northern deviation ("green-field") likely to be designed based on a 110km/h environment speed; and
- Construction cost implications required to attain higher design standards.

4.1.2 Proposed Upgrade

It is considered that an environment/ target speed of 110km/h is unlikely to be practical, as significant regrading and/ or realignment of the carriageways would be required. Based on an assessment of these factors, it is recommended that the environment speed for Section 1 and 2 is 100km/h. This target environment speed falls within a range consistent with the RPDM's minimum motorway speed environments (Refer Table 4.1) for outer urban (100km/h) and rolling rural terrain (110km/h).

Consequently existing and upgraded alignment elements should be consistent with a maximum posted speed of 100km/h. A similar environment and general posted speed of 100km/h is considered acceptable and consistent with the intent of the Section 1 and 2 upgrade.

4.2 Main Carriageway Alignments

For the purposes of this assessment Control Line MCA0 from the previous Planning Study (configured from south to north as the right hand inner traffic lane edge) has been adopted for corridor chainage references. The chainage datum at Mt Gravatt-Capalaba Road is Ch5160.00

4.2.1 Horizontal Alignment

The approach adopted for the horizontal alignment design is similar to the Reference Design. This proposed scheme generally follows the majority of the existing north and southbound carriageways. New off-line construction is proposed between Ch 5400 and Ch6300, where several complex and sub-standard elements occurred concurrently, or to avoid inconsistency with adjacent alignment elements.

It is proposed that additional formation widening ease horizontal curves (inner shoulder) where sight distance is restricted. Improvements to the Reference Design horizontal alignments by increasing curve radii will provide broader design consistency along Section 1 and 2.

4.2.2 Pavement Design

The Department's Road System and Engineering ("RS&E") Branch has undertaken a review of the Reference Design pavement parameters. Based on a greater understanding of the needs of the GUP, this investigation has determined a nominal pavement overlay thickness based on deep lift asphalt of 435 mm above existing surface levels should be adopted.

The type of asphalt and surface properties is outside the scope of this assessment.



4.2.3 Vertical Alignment

The proposed vertical alignment has been generally based on retaining the majority of existing carriageways and overlay with a nominal 435 mm thick asphalt layer. As many of the bridge structures will generally be retained (and extended), scarification of existing pavement prior to bridge relieving slabs will be required to match new and existing levels. Transition lengths for bridge approaches are detailed in Section 4.6.

4.2.4 Other Assumptions

The following design assumptions have been used in FFP & EDD analysis:

- Horizontal and vertical elements were initially evaluated separately, then further assessed in combination for compliance;
- Derived horizontal offsets (Required Offsets) shown when the length of horizontal curve < sight distance are theoretical and are not used for practical analysis;
- Manoeuvring Sight Distance is not used for FFP & EDD analysis for Design Speed > 100km/h;
- Minimum manoeuvring time of 3.5 seconds is shown only for comparison (with 4.0 second value);
- Reaction Time of 2.0secs is shown only for comparison (with 2.5 second value);
- FFP & EDD Sight Distances are currently based on 0% grade. Sensitivity checks show that maximum grade on critical elements gives variance +/- 7.0 m; and
- Carriageways are anticipated to be route lit due to the implementation of additional lanes and central barrier.

Cross Section Elements 4.3

4.3.1 Central Median

Typically the 12.0 m wide existing median is depressed, with moderate but interspersed landscaping coverage. For the development to 6 and 8 lanes, the central concrete barrier (single sloped) should be retained, generally in accordance with the Reference Design. Some adjustment of the alignment will be required to provide increases in horizontal curves for SSD.

4.3.2 Inner Shoulder

Based on lane widening to the central median, the residual width between inner lanes is typically 5.0 m, typically providing in excess of 2.0 m wide inner shoulders to each carriageway. Further formation widening is proposed to provide appropriate SSD on key horizontal curves eg SH4, Sh7, SV13 and NH13.

4.3.3 Traffic Lanes

Generally traffic lanes are typically 3.5 m wide for 6 and 8 lane carriageways, although the "middle" lane (6 lane scheme) has been increased to 3.7 m wide in recognition of the likely large proportion of heavy vehicles on the motorway. These widths have been accepted as the basis for this assessment. (Refer also to Future Provisions below).

4.3.4 Outer Shoulder/ Breakdown Lane

The Reference Design width of outer shoulder provided on carriageways and some bridges is typically 3.0 m. This criteria has been included in further development of the Reference Project. Bridge shoulder widths currently < 3.0 m are discussed in Section 4.6 below.

4.3.5 Emergency Stopping Bays

These elements have not been assessed at this stage of design development. It is assumed that these can be incorporated within the scheme at a subsequent stage without impacting notably upon construction costs.

4.4 Interchanges/ Ramps

All eight (8) on and off ramps between Mt Gravatt-Capalaba Road and Wynnum Road will require some form of pavement overlay and/ or reconstruction to connect to the 6 lane carriageways. The primary focus of this assessment has been to review and develop the through carriageway alignments, and therefore the detailed integration of attendant ramps into the Reference Design will be undertaken at a subsequent stage. For the purposes of this assessment, an initial geometric review of the ramps has been undertaken to confirm integration with the adjacent carriageways.

4.5 Bridges and Major Structures

It is proposed to provide a typical outer shoulder width of 3.0 m, though many of the bridges have been assessed on a case by case basis. This approach has been necessary due to the significant cost implications of providing 3.0 m on all bridges eg Old Cleveland Road interchange. Provision for inner shoulders on bridges will be determined primarily by sight distance criteria, though a minimum of 2.0 m has been generally adopted. In general, the intent of the Reference Design horizontal alignments at bridges has been reviewed and accepted.

For the purposes of developing a suitable vertical alignment grading over bridges, existing and proposed levels on bridges are the same. This assumes the scarification and replacement of existing Deck Wearing Surface ("DWS"). The extent of reconstruction at approaches to bridge relieving slabs has been carefully considered to minimise the extent of reconstruction to existing pavement.

4.5.1 Mt. Gravatt-Capalaba Road (Ch 5140)

The limits of design on this bridge are the northern relieving slabs. No direct modification to the bridges is proposed under the Reference Project. Full depth pavement reconstruction will be required for approximately 100 m from the existing relieving slabs to ensure appropriate transition to the nominal 435 mm thick asphalt overlay

4.5.2 Greendale Way Overpass (Ch 8780)

Full depth pavement reconstruction will be required approximately 80 m south and 110 m north of the existing relieving slabs to ensure appropriate grading(s) transition to the nominal 435 mm thick asphalt overlay.

4.5.3 Old Cleveland Road Overpass (Ch 9900)

The Reference Design proposes augmentation to four (4) structures at the interchange to accommodate the 6 laning upgrade. (Southern and northern structures are 96.725 m and 26.45 m long respectively).

Full depth pavement reconstruction will be required from approximately 200 m south of the southern abutment and 150 m north of the northern abutment to ensure appropriate grading(s) transition to the nominal 435 mm thick asphalt overlay. Between the northern and southern bridges a 40 m long intermediate section of pavement would be removed and reconstructed to full depth (605 mm). Additional DWS (100 mm maximum thickness) may be utilised to achieve a more generous vertical alignment. Subject to the final asphalt thicknesses, a bridge railing

may be required to be installed along the top of the existing concrete barrier to provide consistency across all structures.

4.5.4 Medowlands Road (Ch 11090)

Further examination (survey) of the existing bridge clearance(s) is required to confirm the extent of pavement reconstruction in this vicinity.

For the purposes of this current Reference Project design, full depth pavement reconstruction is proposed 150 m either side of the bridge, to ensure appropriate grading(s) can transition to the nominal 435 mm thick asphalt overlay.

4.5.5 Major Culvert (Ch 13120)

The existing minimum energy culvert structure is to be augmented under the Reference Design by structural works. Based on the assessment of element NH13, it is proposed to review drainage structure modifications to suit the revised horizontal alignment for the southbound carriageway and ramp.

4.5.6 Wynnum Road Overpass (Ch 13440)

The length of the widened Reference Design structures is 61.7 m, with 0.6 m inner and outer shoulders on both carriageways. Full depth pavement reconstruction will be required from approximately 150 m south of the southern abutment and 130 m north of the northern abutment to ensure appropriate grading(s) transition to the nominal 435 mm thick asphalt overlay.

4.5.7 Major Culvert (Ch 14260)

Further assessment of horizontal and vertical carriageway elements is required to confirm recommended alignments.

4.5.8 Bulimba Creek Viaduct (Ch 14700)

Further assessment of horizontal and vertical carriageway elements is required to confirm recommended alignments.

4.5.9 Cleveland Railway Overbridge (Ch 15140)

Further assessment of horizontal and vertical carriageway elements is required to confirm recommended alignments.

4.5.10 Port of Brisbane Motorway

Further assessment of horizontal and vertical carriageway elements is required to confirm recommended alignments.

4.5.11 Lytton Road Overpass (Ch 15530)

Further assessment of horizontal and vertical carriageway elements is required to confirm recommended alignments.

4.5.12 Retaining Walls

Widening of the formation to accommodate additional lanes and corresponding retaining walls previously identified have been initially reviewed.

No further considerations have been made at this stage of design development.



4.6 Road Furniture

4.6.1 Traffic Barriers

A nominal width single sloped concrete traffic barrier has been included in developing the formation. No further considerations have been made at this stage of design development.

4.6.2 Signage

Provision within the formation for major advance directional and origin/ destination signage has not been considered at this stage of design development.

4.6.3 Lighting

The effective carriageway width (and formation width) for lighting in accordance with AS/ NZS 1158.1 will be determined and form the basis for the lighting design strategy for Sections 1 to 2 inclusive. Further design is required to confirm if central lighting may need to be supplemented with staggered shoulder lighting to gain compliance, particularly in areas where 5 lanes and full width shoulders is required.

No further considerations have been made at this stage of design development.

4.6.4 Noise Barriers

A nominal width for noise barriers has been included within embankment formations developed for Sections 1 to 2 inclusive.

No further considerations have been made at this stage of design development.

4.7 Staging and Constructability

We note Construction staging layouts developed by Evans and Peck. These have been used to assist in examining various alignment options. No further assessments have been undertaken at this stage of design development.

4.8 Future Provisions

The configuration of on and off ramps to accommodate possible future 8 laning requirements should be considered to avoid minimal redundant work.



5. Consolidated Design Option

5.1 Consolidation of Alignments and Concept Options

Several alternative horizontal and vertical alignment options have been considered where elements do not meet nominated standards. Concept Development Options for lower standard elements identified in Sections 3.5.1 and 3.5.2 above are presented in the Appendix C – Concept Development Options – Northbound and Southbound). These show the changes to the horizontal and vertical alignments required to attain higher design standards. In determining an on-balance assessment of each realignment option, the following factors have been also been considered:

- Design speed attained;
- Levels of speed consistency;
- Pavement retained, regraded or reconstructed;
- Additional modifications required to structures;
- Level of traffic accidents;
- Extent of earthworks; and
- Cost implications.

The key issues and considerations, together with recommendations for each element are presented in Table 5.1 below.

Table 5.1 Summary of Design Element Issues and Recommendations

	Element	Location	Key Issues/ Comments	Recommendation		
	NH1	Ch 5500 to 5800	 Existing critical HA curve R 620 > Cat.4+ Cat.1 very significant realignment and construction costs required ; Cat.2 complies if formation is widened by ~6.0m to east; R 800 approx. Cat.3 complies if formation is widened by ~4.0m to east; R 750 approx Accident count = 19% Northbound 	 Reconstruction similar extent to Reference Design Reconstruct north facing ramp terminals 		
Northbound	NV2	Ch 5500 to 5800	 Existing VA curve R 6340 Cat.1 complies if R 9500; very significant regrade required Cat.2 complies if R 8500; vary overlay 435mm to 600mm max. to achieve Cat.3 complies if R 7000; use nominal 435mm overlay Accident count as above 	 Reconstruct north facing ramp terminals Ramps terminals reconstructed regardless of regrading Widen formation to east and reconnect ramps Design Speed 100km/h (Cat.3) 		
	NV3	Ch 5950 to 6230	 Existing VA curve R 4000 sag Cat.1 complies for comfort criteria Full route lighting to be implemented Accident count = 7% Northbound 	 Maintain existing vertical grading R 4000+. Cat. 2 Optimise overlay 435 mm to 600 mm max. to achieve Design Speed 110km/h FFP & EDD (Cat.2) 		
	NV7	Ch 8100 to 8700 Mt Petrie Cutting	 Existing VA curve R 4970 crest = Cat.4 excluding trucks Cat.1 complies if VA curve R 9500 crest; regrade ~4.0 m to 5.0 m cut; high costs Cat.2(Option A) complies if VA curve R 6300; regrade ~1.0 m cut Cat.2(Option B) complies if VA curve R 6300; approach overlay depth > 1.2 m Optimise overlay 435 mm to 600 mm over existing VA crest to attain ~R6000 Accident count = 5% Northbound & Southbound 	 Regrade VA curve R 6000+; achieve Cat.3 (MSD only) Design Speed 100km/h FFP & EDD (Cat.4+) 		



Element	Location	Key Issues/ Comments	Recommendation
NH8 NV11	Ch 9600 to 10050 Old Cleveland Rd Interchange	 Existing HA curve R 1225 > Cat.3 Existing VA curve R 5000 crest = Cat.4 excluding trucks (VA controls) Cat.1 complies if VA curve R 9500 crest; rebuild bridges Cat.2 complies if VA curve R 8000 crest; rebuild bridges or regrade north >2.5m Cat.3 VA curve R 6300 crest controls regardless of shoulder widths Cat.3 VA curve R6300 Optimise overlay 435mm to 600mm to north Review bridge deck levels and DWS thickness @ Detailed Design for > R 6300 Accident count = 43% Northbound 	 Widen bridge shoulders as per Reference Deign Regrade VA curve R 6300 Design Speed 100km/h (Cat.3)
NV12	Ch10180 to 10320	 Existing VA curve R 2980 sag Cat.1 desirable VA curve R 5000 crest (comfort); std overlay +400mm Cat.2 complies if VA curve R 4000 crest; std overlay +200mm Full route lighting to be implemented Accident count included in NH8 / NV11 above (43%) 	 Optimise overlay 435mm to 600mm max. Adjust VA curve R 4000 Design Speed 110km/h FFP & EDD (Cat.2)
NV17	Ch 11700 to 12180 Truck Lay-by	 Existing VA curve R 8800 crest = Cat.1 excluding trucks (Cat.2) Cat.1 complies if VA curve R 9500 crest; regrade/ lower 500mm Cat.2 VA R9000; Optimise overlay approaches 435mm to 600mm max Accident count = 1% Northbound and Southbound 	 Adjust VA curve R 9500 Design Speed 110km/h FFP & EDD (Cat.2)
NH13	Ch 12716 to 13208	 Existing HA curve R 808 = Cat.4 excluding trucks Cat.1 significant alterations to alignment(s) Cat.2 complies excluding trucks; if formation is widened by ~4.0m east (increase inner shoulder). Drainage impacts need further investigation; Cat.3 required additional drainage structure alterations widen by 2.0m/ extensions Accident count = 12% Northbound 	 Additional formation widening west Design Speed 100km/h Cat.3)



	Element	Location	Key Issues/ Comments	Recommendation
	NV21	Ch 13230 to 13630 Wynnum Road Interchange	 Existing VA curve R 6725 crest = Cat.2 excluding trucks (ie ~Cat.3) Cat.1 complies if VA curve R 9500 crest; raise approaches 2.0m + Cat.2 VA R 7640; Optimise overlay approaches 435mm to 600mm max Accident count = 17% Northbound and Southbound 	 Optimise VA curve R 7640 Design Speed 110km/h FFP & EDD (Cat.2)
Southbound	SH3 SV2 SH2	Ch 5500 to 5800	Refer to NH1 and NV2 above	Refer to NH1 and NV2 above (Cat.2)
South	SV3	Ch 5987 to 6204	Refer to NV3 above	Refer to NV3 above (Cat.2)
	SH4 (NV4)	Ch 6553 to 6848	 Existing HA curve R 794 = Cat.4 excluding trucks Existing VA curve R 8800 = Cat.2 Cat.1 complies if formation is widened by ~3.0m west (+ drainage constraints) Cat.2 complies if formation is widened by ~1.5m west (increase inner shoulder) Widening required for 6 lanes; in excess of 2.0m along west side VA R9200 using optimised overlay 435-600mm; Accident count = 4% Southbound 	 Maintain existing VA Additional formation widening west Design Speed 110km/h FFP & EDD (Cat.2)
	SV7	Ch 8100 to 8700	Refer to NV7 above	Refer to NV7 above (Cat.4+)
	SH7 SH6	Ch 8836 to 9233	 Existing HA curve R 1090 = Cat.4 excluding trucks Cat.1 complies if formation is widened by ~1.0m west (increase inner shoulder) Cat.2 complies if formation is widened by ~0.5m west (increase inner shoulder) Widening required for 6 lanes; in excess of 3.5m along west side Accident count = 6% Southbound 	 Additional formation widening west Design Speed 110km/h FFP & EDD (Cat.2)



Element	Location	Key Issues/ Comments	Recommendation
SH8 SV11	Ch 9950 to 10220	Refer to NH8 and NV11 above	Refer to NH8 and NV11 above (Cat.3)
SV13 SH9	Ch 10350 to 10550	 Existing HA curve R 960 = Cat.4 excluding trucks Existing VA Curve R 7180; Cat.2 =R 9500 Cat.2 complies if formation is widened by ~1.0m west (increase inner shoulder) VA using optimised overlay 435-600mm; Widening required for 6 lanes; in excess of 2.0m along west side Accident count = 4% Southbound 	 Optimise overlay for VA curve R 9500 Additional formation widening west Design Speed 110km/h FFP & EDD (Cat.2)
SV16 SH11	Ch 11700 to 12100	Refer to NV17 above	Refer to NV17 above (Cat.2)
SV19	Ch 13175 to 13655	Refer to NV21 above	Refer to NV21 above (Cat.2)
SH15 SV21	Ch 13758 to 14286	 Existing HA curve R 660 = Cat.4 excluding trucks Cat.2 complies if formation is widened by ~2.0m west 	 Additional formation widening west Design Speed 110km/h FFP & EDD (Cat.2)



5.2 Discussion of Key Elements

5.2.1 Mt. Petrie Road Cutting

The vertical alignment over the Mt. Petrie Road cutting has substantial limitations based on the extent to which a vertical curve in excess of R6000 can be achieved. (existing VC = R4970). All regrading options considered (Refer to SK-S-29) would have large reconstruction costs and involve significant traffic disruption.

The extent of these impacts when compared with the benefits suggests it is unlikely to be cost effective in pursuing a lower alignment. In addition, a low incidence of traffic accidents in this vicinity suggests that the existing design parameters of this element may be acceptable largely as is. Notwithstanding an optimised overlay may provide some small increase in SSD.

5.2.2 Old Cleveland Road

The vertical alignment over Old Cleveland Road Interchange bridges has design limitations based on the extent to which a vertical curve equal to, or in excess of R6300 can be achieved. Given the very substantial existing bridge(s) infrastructure, lowering the vertical alignment cannot be justified.

Further investigation at Old Cleveland Road Interchange bridges using a variable thickness DWS over the existing bridge decks (100mm maximum additional) should be investigated in subsequent design phases using more accurate survey.

5.3 Summary

From the review existing elements and development of concept options for Section 1 and 2, it is likely a Category 3 (100km/h) can generally be achieved, with the exception of Mt. Petrie Road Cutting (Cat.3-4). Other key locations detailed in Table 5.1 can be constructed by using either an optimised overlay design (assuming ~600 mm asphalt maximum) and/ or formation widening. A portion of full width reconstruction is required in the vicinity of Ch 5500 to Ch 5800.

In consideration of the review and concept development of Section 1 and 2, it is recommended that these elements be accepted at this stage of design development, though reviewed further in the Detailed Design phase to determine if higher design speeds can be achieved within the FFP & EDD framework.

6. Other Considerations

6.1 Survey Input

The composite survey for Sections 1 and 2 has been supplied by DMR. The data is in South East Transit coordinate system and comprises the following photogrammetry data:

			j =
Location	Survey Scale	Date of Capture	Expected Accuracy
Mt Gravatt-Capalaba Road to Bulimba Creek	1:3000	Feb/ Mar 1998	+/- 100 mm
Bulimba Creek to Toll Booths, Incl Port of Brisbane Motorway	1:12500	Dec 2003	+/- 250 mm

Table 4.2 Summary of Photogrammetric Survey Data

Survey accuracy is considered commensurate with this stage of the design/ delivery process. Notwithstanding, pavement and earthworks quantities derived from the modified Reference Design (Reference Project) need to be used with appropriate qualification eg volume of asphalt overlay. In this regard, an appropriate contingency allowance relevant to the variance should be allowed for within preliminary quantities.

6.2 PUP / Services Assessments

The recommended carriageway alignments are generally maintained within the existing motorway reserve. Existing major (or additional to that shown by the Reference Design) services are not affected by the new carriageway alignments. No detailed service assessments have been undertaken as input to this engineering review and design development.

6.3 Environmental Considerations

The proposed new carriageway alignments require an upgrade over existing alignments, with the exception of works likely between Ch 5500 and Ch 5960. At this stage of the EIS, no major issues have been identified that would impact upon further development of the alignment options presented in this report.

6.4 Land Acquisition Requirements

The extent to which land acquisitions are required is shown in the Reference Project Planning Layouts. No additional land acquisition is anticipated.

6.5 Risk Assessment

6.5.1 Design Standards

A fundamental risk associated with acceptance of reduced/ FFP & EDD standards is that ultimately elements and/or alignments Sections may be considered as suitable for speeds marginally higher than those found desirable using traditional or non-FFP & EDD based design techniques.

Final detailed design is required to examine and confirm elements/ alignments in the context of Sections 1 and 2 of the Gateway Motorway.

6.6 Estimate

6.6.1 Limitations

At this stage of the development of the Reference Project, preliminary quantities have been calculated for input into the estimate. These have been based on the Consolidated Design's recommended regrading options.

All cut and fill batters are to be confirmed by further geotechnical analysis and assessments.

6.6.2 Earthworks

We note the following assumptions used in the calculations of earthworks and pavement quantities.

- No provision for topsoil stripping;
- No provision for bulking factors; and
- Limit of bulk earthworks between bridges has been taken to the nearest 10.0 m chainage interval to the actual bridge abutments.

6.6.3 Carriageway Pavements

- Asphalt pavement overlay based on 435 mm nominal thickness, using an optimised profile from MX Renew;
- Road widening utilises full depth pavement 605 mm thick, with nominal thickness 300 mm base course and 305 mm sub-base;
- Cutback to existing pavement edge 300 mm ie offset from existing surveyed pavement edge (edges coded 'EP' in survey DTM model); and
- The interface between the through carriageways and ramps is at the ramp nose.

6.6.4 Formation

- No allowance for guardrail flares;
- No allowance for emergency breakdown bays; and
- No allowance for entry/ exit ramps.

6.6.5 Cut Batters

- 5% grade from shoulder where less than 4.0 m wide verge;
- Open drain and 1.5 m wide verge at +5% grade and 1 on 4 batter at 4.0 m max offset;
- Open drain and 1.5 m wide verge at +5% grade and retaining wall at 5 on 1, where greater than 4.0 m offset;

6.6.6 Fill Batters

- 2.0 m wide verge at -3%, with 1 on 2 Batter for 4.0 m max offset;
- 2.0 m wide verge at -3%, with retaining wall at 10 on 1, where greater than 4.0 m offset;

Appendix A

Reference Design - Alignment Analysis Northbound

Horizontal Alignment - North Bound

Horizontal Alignment - North Bound	Exist. P.S. Ref. Design 110 km/hr design speed													
Category 1 - RPDM	110 km/hr desig Category 2 - EDD	n speed Principles (use V ₈₅ of 110 km/h)	Category 3 - RPDM		100 km/hr design speed Category 4 - EDD Principles (use V ₈₅ of 100 km/h)									
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Line of Sight SSD - Stopping Sight Distance (using har Than AS - Adverse Super NU - Do not Use TRA - T	$-1.10, n_2 = 0.2$ widd $-1000000000000000000000000000000000000$	nce (using $h1 = 1.15$, $h2 = 0.2$) $h1 - Height of Viewer h2 - HSD longer than curve length$	eight of Object RT - Reaction	n Time Trks - Tru	ining Study Reference Design RPDM - Road Planning Design Manual EDD - Extended Design Do icks RO - Required Offset CoD - Coefficient of Decleration TD - Truck Day TN - Truck Night	main LOS - > - Greater								
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0 NH9 34 10310 88 11094 88 11094 960 960 0 960 1 784 1 784 1 784 1 784 1 14 784 3% 1 NU 1 NU 210 210 3 243 3 243 3 258 0 0.069 5.7 8.4 2.122.2 1.9	9 106.9 1.5 2 139.2 2 139.2 2.5 3.5 3.5 3.5 6 164.6 6 3 6.3 2.5 6 164.6 3.5 2.5 3.225.3 3 2.25.3			97.2 97.2 1.0.1 97.2 1.2		1.6								
NH10 NH10 11034 11034 1102 11238 111238 3% 210 0 211 144 1132 258 210 210 223 3% 1132 255 1132 255 1132 255 1132 255 1122 255 0 1.1.1 1.1.1 1.1.1 1.1.1 1.1.1 1.1.1 1.1.1	106.9 0.3 139.2 * 164.6 * 139.2 * 139.2 * * 139.2 * *	* 120.4 0.4 137.0 0.5 0.4 137.0 0.5 137.0 0.5 130.9 * 130.9 * 130.0	* 155 155 170 170 195 209 0 0	111.1 0.3 97.2 0.2 120.1	141.1 191.2 120.1 120.1 120.1 120.1 120.1 120.1 120.1 111.9 97.1 111.9	*								
NH11 11574 111855 2000 7198 311 311 335 3395 3395 243 243 243 243 2210 2018 2.8 2.8 2.8 2.8 2.8 2.8 2.8 2.8 2.8 0.0180000000000	106.9 0.7 139.2 1.2 1.2 1.2 3.7 1.39.2 1.39.2 1.39.2 1.2 1.2 1.2 1.7 225.3	3.7 3.7 0.9 0.9 137.0 1.2 1.2 0.9 0.8 0.8 0.8 0.8 0.8 0.8 0.8 0.8	1:1 155 155 195 209 0.009 1.8	0.8 97.2 0.6 0.6 0.9	0.3 141.1 1.2 1.2 1.2 2.8 2.8 2.8 2.1 1.2 2.8 1.20.1 0.9 0.9 0.12 1.12 1.12 1.12 1.12 1.12 1.12 1.12 1.12 1.12 1.12 0.7 0.7 0.8 97.1 0.6 0.11.9 0.11.9 0.11.9 0.11.9	8.0								

ConnellWagner

Horizontal Alignment - North Bound

Exist. P.S. Ref. Design 110 km/hr design speed 100 km/hr design Category 1 - RPDM Category 2 - EDD Principles (use V ₈₅ of 110 km/h) Category 3 - RPDM																									
Category	1 - RPDM	1			Category 2 -	uesign s EDD Pri	nciples (use V _{or} (of 110 k	m/h)		······		-	Cater	nrv 3 -	RDUN	<u> </u>							
Co e = E Cars Tr	%	MSD (0% grade)					g Sight Di								SSD Gra Cars	(0% de)	-	N	ISD (0% grade)				Caleg		Stopp
nd)))	nan cks	Reaction	Base Ca	se			Chec	ks				Boro	derline	-			anc rs (i				Base Ca	ase	T		
Curve No. Chainage Start Chainage End Radius (m) Direction Length (m) Super Elevation . SSD (h ₁ = 1.15, Available Offsets ¹ 2.0 (m) 2.5 (m)	R _T 2.5 (m) ³	Time	Norm Day	Truck Day	Norm Night	Truck Night	Mea V = 0.8	n Day 5 x V ₈₅		an Nigh .85 x V ₈	;	Skill Day	Skill Night	Q			n Demand set Cars (rr	Offset Trucks	Reaction Time	Nor	m Day	Truck Day	Norr	n Night	Tru Nig
Curve I Chainage Chainage Chainage Radius Directi Directi Length Super Ele Avail. SSD (h ₁ : R _T 2.0 (m) R _T 2.0 (m)	2.5 (m Friction red Off ed Offs	4.0s 3.5s	CoD = 0.46	CoD = 0.29	CoD = 0.46	CoD = 0.29		= 0.41		D = 0.4		CoD = 0.56		, MS	2.0 (m) 2.5 (m)	R _T 2.0 (m) R _T 2.5 (m)			0s 3.5		= 0.46	CoD = 0.29		= 0.46	CoE 0.2
Avail R _T R _T	R _T 2.5 Side Fi Required Required	ÊÊÊÊ	dry wet	wet	dry wet	wet	dry ÊÊÊ	wet	dry			dry wet	dry wet	1	ጚጚ	ጙጙ	Side Fri Required	Required SD (m)	ÊÊÎ	dry	wet	wet	dry	wet	we
Min	L R R	MSD (m) RO (m) MSD (m) RO (m)	SSD (m) RO (m) SSD (m) RO (m)	SSD (m) RO (m)	SSD (m) RO (m) SSD (m) RO (m)	SSD (m) RO (m)	SSD (m) RO (m)	SSD (m) RO (m)	(m) USS	(m) SSD (m)	RO (m) SSD (m)	RO (m) SSD (m) RO (m)	SSD (m) RO (m) SSD (m) RO (m)				a,	Requi MSD (m)	RO (m) MSD (m)	SSD (m) RO (m)	SSD (m) RO (m)	SSD (m) RO (m)	SSD (m) RO (m)	SSD (m) RO (m)	SSD (m)
Definition Notes 1. Offsets - Offset Category - denotes the standard of m	from centre	line of inside	lane to obstruct	ction ie. A standa	Concrete bar	rier, emt	bankmen	it, etc.	west E		adarde			<u>а</u>)	Eviat				Estatio						
Line of Sight SSD - Stopping Sight D	Distance (usi	ng h ₁ = 1.15,	$h_2 = 0.2$) MS	D - Man	oeuvre Sight	Distance	e (using h	11 = 1.15	5, h2 = ().2) h1	- Heig	ght of Viewe	er h2 - Height	of O	bject	RT - I	React	ion Tir	ne Trk	g Plann s - Truc	ing Stu ks RO	dy Refe - Requ	rence L ired Of	esign set C	RPD D - C
Than AS - Adverse Super NU - Do	not Use TI	RA - Transitio	n Curve			* SSD	longer ti	han curv	e length	<u>1</u>								-							
Straight (ch.11885 to ch.11965)																									
NH12 11965 12361 2000 2001 left 396 396 376 > req'd NU 210 210	258 0.018 2.8 3.9	122.2 0.9 106.9 0.7	139.2 1.2 164.6 1.7	225.3 2.9	139.2 1.2 164.6 1.7	225.3 2.9	120.4 0.9	137.0 1.2	120.4	137.0	1.2 112.9	0.8 130.9 1.1	112.9 0.8 130.9 1.1	155	170 N	195 209	0.009	2.4 111.1	0.8 97.2 0.6	0.9 0.9	141.1	191.2 2.0	120.1 0.9	141.1	191.2
Straight (ch.12361 to ch.12716)					td		·				L	- I			l		1 1				1 1	l			
NH13 12716 13208 808 808 808 492 3% 179 179 179 230 210 210 210	258 0.087 6.8 10.8	122.2 2.3 106.9 1.8	139.2 3.0 164.6 4.2	225.3 8.4	139.2 3.0 164.6 4.2	225.3 8.4	120.4 2.2	137.0 2.9	120.4	2.2 137.0	2.9 112.9	2.0 130.9 2.6	112.9 2.0 130.9 2.6	155	DN 021	195 209	0.067 4.5	7.3 111.1	1.9 97.2 1 E	120.1	141.1 3.1	191.2 6.2	120.1	3.1	191.2
Straight (ch.13208 to ch.13749)							·		- I	1	i				l				I	l			<u></u>		<u>, (1960)</u>
NH14 13749 14286 660 660 6537 4% 537 4% >260 > req'd NU 210 210	258 0.104 8.3 12.3	122.2 2.8 106.9 2.2	139.2 3.7 164.6 5.1	225.3 9.3	139.2 3.7 164.6 5.1	225.3 9.3	120.4 2.7	137.0 3.6	120.4	137.0	3.6 112.9	2.4 130.9 3.2	112.9 2.4 130.9 3.2	155	170 170	195 209	0.079 5.5	8.0 111.1	2.3 97.2	120.1 2.7	141.1 3.8	191.2 6.6	120.1 2.7	141.1 3.8	191.2
Straight (ch.14286 to ch.14600)								Anano,									13							I	<u> </u>
NH15 14600 15233 3015 633 633 AS 216 3.6 3.6 NU NU 210 210 210	258 0.002 1.8 3.3	122.2 0.6 106.9 0.5	139.2 0.8 164.6 1.1	225.3 2.7	139.2 0.8 164.6 1.1	225.3 2.7	120.4 0.6	137.0 0.8	120.4	137.0	0.8 112.9	0.5 130.9 0.7	112.9 0.5 130.9 0.7	155	170 NU	195 209	1.2	2.4 111.1	0.5 97.2	0.6	141.1 0.8	191.2 2.1	120.1 0.6	141.1 0.8	191.2
Straight (ch.15233 to ch.15563)								•			I,			J						I	-J	1 1		<u> </u>	1
NH16 15563 15752 3000 left 189 2% >260 5.5 5.5 NU 210 243	258 0.002 1.8 2.5	122.2 0.6 106.9 0.5	139.2 * 164.6 *	225.3	139.2 * 164.6 *	225.3	120.4	137.0	120.4	137.0	* 112.9	* 130.9 *	112.9 * 130.9 *	155	170 170	195 209	1.2	1.5 111.1	0.5 97.2	120.1	141.1	191.2	* 120.1	141.1	191.2
Straight (ch.15752 to ch.15760)												• • • • • • • • • • • • • • • • • • •	• • • • • • • • • • • • • • • • • • •							I(<u> </u>	<u> </u>	.II	

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uck Mean Day Mean Night (ght) Skill Day Skill Night (V = 0.85 x V ₈₅) V = 0.85 x V ₈₅ Skill Day Skill Night DD = 29 CoD = 0.41 CoD = 0.41 CoD = 0.56 CoD = 0.59 vet dry wet dry wet vet dry wet dry wet vet ve																			
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$\begin{array}{c ccccccccccccccccccccccccccccccccccc$		V =	0.85	хV	85	V =	0.8	5 x V	85		Jita	Da	y	Ŭ	TANI				n n n
Z:1 dry wet dry dry dry dry <td></td> <td>c</td> <td>oD =</td> <td>0.4</td> <td>1</td> <td>С</td> <td>oD =</td> <td>= 0.4</td> <td>1</td> <td>C</td> <td>٥D :</td> <td>= 0.</td> <td>56</td> <td>С</td> <td>D:</td> <td>= 0.</td> <td>59</td> <td></td> <td>ŏ</td>		c	oD =	0.4	1	С	oD =	= 0.4	1	C	٥D :	= 0.	56	С	D:	= 0.	59		ŏ
DM - Road Planning Design Manual EDD - Extended Design Domain LOS - Coefficient of Decleration DM - Road Planning Design Manual EDD - Extended Design Domain LOS - Greater Coefficient of Decleration TD - Truck Day TN - Truck Night > - Greater 0 $\overline{0}$ $\overline{0}$ $\overline{0}$ $\overline{0}$ $\overline{0}$ $\overline{0}$ 0 $\overline{0}$ $\overline{0}$ $\overline{0}$ $\overline{0}$ $\overline{0}$ $\overline{0}$ $\overline{0}$ 0 $\overline{0}$ \overline	vet	dry wet dry wet dry wet dry wet																	
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2.1 103 0.4 116.6 0.6 0.4 0.4 0.4 0.4 0.4 111.9 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5	6.2	103	1.6	116.6	2.1	103	1.6	116.6	2.1	97.1	1.5	111.9	1.9	97.1	1.5	111.9	1.9		
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	6.6	103	2.0	116.6	2.6	103	2.0	116.6	2.6	97.1	1.8	111.9	2.4	97.1	1.8	111.9	2.4		
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* 103 * 116.6 * 116.6 * 111.9 97.1 * 111.9 * 111.9 * 111.9	2.1	103	0.4	116.6	0.6	103	0.4	116.6	0.6	97.1	0.4	111.9	0.5	97.1	0.4	111.9	0.5		
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	*	103	*	116.6	*	103	*	116.6	*	97.1	*	111.9	*	97.1	*	111.9	*		
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Vertical Alignment - North Bound

Ex	sting P.S.	Ref. Desi	gn	110 km/hr design speed																				10	00 km/hr desi	ign speed							1	
		Available Sight	E Category RPDM RPDM					Categor	ory 2 - EDD Prir	nciples (use V	/ _{es} of 110 km/r	(۱						ategory 3 - RPDM							ory 4 - EDD F		use V _{ss} of 10	0 km/h)						
			Crest o	MSD (Base Case)					S	Stopping Sight	Distance						C	rest Sag	MSD (Ba Case)							Stopping S	Sight Distanc	ce						
Number	ge Start ge End	h (m) 4	BD BD	$h_1 = 1.15,$ $h_2 = 0.2$	Ва	se Case				Checks					Borderline	e		R R	h ₁ = 1.15 h ₂ = 0.2		Base C	ase				Checks					Border	rline		ment
Curve	Chaina Chaina Chaina	length ($h_1 = 1.15$, $h_2 = 0.2$ $h_3 = 1.15$, $h_5 = 0.4$		4.0s 3.5s	Norm Da		R ₁ =2.0s, Col =2.4 h ₁ =0.75	жD=0.46 R _т h ₁ =1.15 h	Truck Night $R_r=2.0s, CoD=0.29$ $h_1=1.1$ $h_1=2.4$ 0.6 $h_2=1.15$ $h_2=0.6$ M_{S} G_{S} M_{S} G_{S}	V = 0.8	n Day 85 x V ₈₅)=0.41, h ₁ =1.15 h ₂ =0.6 h ₂ =1.15 C C C C C C C	Mean Nigh V = 0.85 x V R ₁ =2.0s, CoD=0. h ₁ =0.75 h ₁ h ₂ =0.6 h ₂ =1.15 h O O O O O O O O O O O O O O O O O O O	V ₈₅ 0.41 h ₁ =1.15	Skill Day	3, h _i =1.15		t .56 hj=1.15	R _T 2.0 BD R _T 2.0 MSDI R _T 2.5 SSDI	MMT MI 4.0s 3. WCK SSD	.5s N	orm Day CoD=0.46, h ₁ =1.1 h ₂ =0.4 h ₂ =0.6 D Y Q Y	Truck Day $R_{T}=2.05,$ CaD=0.29, h1=2.4 $h_{2}=0.6$ $h_{2}=1.15$ $O_{1}O_{2}O_{2}O_{2}O_{2}O_{2}O_{2}O_{2}O_{2$		D=0.46 h ₁ =1.15	Truck Night $R_1=2.0s, CoD=0.2s$ $h_1=1.1$ $h_2=1.15$ $h_2=1.15$ $h_2=0.2s$	V R _T =2.0	Mean Day = 0.85 x V ₈₅ Ds, CoD=0.41, h ₁ =1. h ₂ =0.4 h ₂ =0.6 h	.15 V =	lean Night = $0.85 \times V_{85}$ = $2.05, CoD=0.41$ = 0.75 h ₁ =1.15 h ₂ =1.15 h ₂ =0.6 $0 \times 0 \times 0$	R _T =1.5s, Col	II Day 0=0.58, h ₁ =1.15 h ₂ =0.6 h ₂ =1.1 5 0 0 0 0 0 0	Skill Nigh	0.56 h ₁ =1.15	Com
Cate	nition Note	otes the s	tandard of mot	orway achievable	(1 = highest	. RPDM standa	rds for 110 km/	/h design spr	eed - 4 = lowe	est, EDD stanc	dards for 100 l	km/h design s	speed) Exi	ist. P.S. Re	ef. Design	- Evisting Pla	unning Stu	udy Referer	ce Design	RPDM - F	Road Planni	ng Design Ma	nual EDD -	- Extended	≥ ø ≥ ø	i≥ ∽ ≥ o ain MSD-	- Manoeuvre	Sight Dista	ທ ≥ ທ ≥ ance h1-He	ight of View	ver h2-Hei	<u>Σ</u> ω Σ ω Σ α	ooli∑ BD - Breai	ikina
	884	0 8 0			ance Radius	NDBC - Norma 52 03 03 03 03 03 03 03 03 03 03 03 03 03	al Day Base Ca	15e TDBC -	- Truck Day Ba	ise Case RT	F - Reaction Ti	me MMT - M			ime SSD	- Stopping S		ance MCR		Crest Rad				SW - Sho		NU - Do n		- Not Applic		ligh Volume				
				(+ 0.75 % gra	7 80 - 8	<u>2 4 2 3 4</u>	39 16 20 19	30 <u>11</u>	56 26 72	<u>39</u> 31 31	213	2 <u>4</u> 2	27 37 37	130 13	2 <u>7</u> 19 19 19	313	15	ž 🗧 Z Z	11 26	4 <u>14</u> 50 4 <u>14</u>	34: 34: 29:	19 26(26(370 370 265	14 292 19	55(19 19	338 11 294	196	147 11 252	180119	11: 271 215 215	111:11:11:11:11:11:11:11:11:11:11:11:11	111 111 166	111	
				(+0.75 % gia			(0 .) . (0																						· · · · · ·			·····		
NV	560(533)	300 168 173	174 NU 210	122 323(107 247(165 5872 165 466	165 397! 225 470: 225	3696 165 5037 165 3608	165 3975 225 7630	/16.3% 225 5645 225 225 4703	149 4799 149 3813	149 3249 149 2409	130 3430 136 2457	131 131 13710	131 2948 131	2511 131 1863 131	3183 3183 131 2280	2511 155	2843	111 2673 97	2047 141 4314	141 3427 141 2920	191 3389 191 2663	141 3701 141 2651	141 2920 191	5504 191 4067 191	3389 117 2944 117	2339 2339 117 1993	11/ 1478 117 2526	117 1809 117 1993	112 2715 112 2157	112 1838 112 112	1305 112 2329 112 1668	200	Refer Sketch K_S_28
Gra	ide (ch	5900 to	ch.5950)	(- 3.98 % gra	de)																													
NV3	5950 6230 4004	220 NU						Sag	g Curves No	ot Analyse	d in EDD						AN	NA 3500 3900						Sag	g Curves I	Not Anal	ysed in El	DD						Refer Sketch
				(+ 3.01 % gra	ade)												I																SI	K_S_36
NV4	6293 6747 8810	454 200 210	210 210 NA	122 3235 107 2476	165 5872 1655 1665	165 1975 225 1703 225	3696 165 5037 165 808	8975 225 225	639 225 6645 225 703	149 149 813	149 249 1409	130 136 136 136	707 710 710	131 948 131	511 131 863	51 183 280 280	511	DANA NAN	673 97	047 14 314	41 427 41 920	91 91 663	41 41 651	41 920 91	504 91 91	389 344 344	339 17 993	1/ 478 17 526	17 309 393	12 715 12	12 338 338	803 229 208 229 209		Refer Sketch
		<u></u>	ch.6930)	(- 2.14 % gra	de)		<u>es as es</u>	<u>' 0' 1</u>			() ()	or a	<u> </u>				∾.		. [0]	0,4	<u>, w</u> , v	<u>, w, v</u>		- 0 - 1	<u>0</u> 7 4 7 00	9 - 19 - 19				- <u>10</u> -0		1-10-21		K_S_34
NV5	6930 7130 6927	200 >260 NU	NU NA NA					Sag	g Curves No	ot Analyse	d in EDD						NA	NA 3500 3900						Sag) Curves N	Not Analy	ysed in El	DD						
Gra	de (ch.	7130 to	ch.7625)	(+ 0.74 % gra	ade)																								,,,,					
NV6 Sad	7625 7965 8025	340 >260 NU					9.00.	Sag	g Curves No	ot Analyser	d in EDD						AN NA	NA 3500 3900						Sag	Curves !	Not Analy	ysed in El	DD						
Gra	de (ch.	7965 to	ch.8127)	(+ 4.98 % gra	ade)																													
NV7 Creet	8127 8623 4969	496 149 167	184 NU 210	122 3235 107 2476	165 5872 165 4665	165 3975 225 4703 225	3696 165 5037 165 3608	3975 3975 225 7830	/ b39 225 5645 225 4703	149 4799 149 3813	149 3249 149 2409	130 3430 136 2457 136	131 3710 3710	131 2948 131 2511	2511 131 1863 131	3183 3183 131 2280	2511 155	170 NA	111 2673 97	2047 141 4314	141 3427 141 2920	191 3389 191 2663	141 3701 141 2651	141 2920 191	5504 191 4067 191	3389 117 2944 117	2339 117 1993 117	1478 117 2526	117 1809 117 1993	112 2715 112 2157	112 1838 112 112	1305 112 2329 112 1668	122	Refer Sketch K_S_29
Gra	de (ch.	3623 to	ch.8735)((- 5.00 % gra	de)																													
NV8	8735 8965 4994	230 >260 NU						Sag	g Curves No	ot Analysed	d in EDD						NA	NA 3500 3900						Sag	J Curves N	Not Analy	ysed in ED	DD						
Gra	de (ch.	3965 to	ch. 9195)	(- 0.39 % gra	ade)																													
NV9 Crest	9195 9475 16505	280 210 210	210 210 NU	122 3235 107 2476	165 5872 165 4665	165 3975 225 4703 225	3696 165 5037 165 3608	165 3975 225 7630	7639 225 5645 225 4703	149 4799 149 3813	149 3249 149 2409	1.30 3430 136 2457 136	2707 2707 131 3710	131 2948 131 2511	251'i 131 1863 134	131 3183 131 2280 131	2511 155 NII	NA NA	111 2673 97	2047 141 4314	141 3427 141 2920	191 3389 191 2663	141 3701 141 2651	141 2920 191	5504 191 191 191	3389 117 2944	2339 117 1993	1478 117 2526	117 1809 117 1993	112 2715 112 2157	112 112 112 112	1303 112 2329 112 1668	112	
Gra	de (ch.	9475 to	ch.9600)((- 2.09 % gra	de)																			<u></u>	ttt	<u> </u>	_ <u></u>		4	<u>I</u>				
NV10	9600 9720 7545	120 198 NU	NU NA NA					Sag) Curves No	ot Analysed	d in EDD						NA	3500 3900						Sag	Curves N	lot Analy	/sed in ED	סס						

ConnellWagner

Vertical Alignment - North Bound

Existing P.S. Ref. Design			110 km/hr desig	n speed									100 km/hr desig	n speed				1
el telson el tel		Cate	egory 2 - EDD Prin	ciples (use V _{as} of 110 km/ł	h)		Category 3 RPDM	-				Cate	egory 4 - EDD Pri	nciples (use V_{85} of 10	10 km/h)			
Crest o MSD (Bas Case)	e		St	opping Sight Distance			Crest Sa		ISD (Base Case)					Stopping Sight Distance				1
$\begin{array}{c} \begin{array}{c} h_1 = 1.15 \\ h_2 = 0.2 \\ h_2 = 0.2 \end{array}$				Checks		Borderline		h	$h_1 = 1.15,$ $h_2 = 0.2$	Base Case				Checks	441-941-941-941-941-941-941-941-941-941-		Borderline	
Curve Nur Curve TJ Curve TJ Chainage Chainage Chainage Radius (Radius (Ra	Norm Day Truck Day		Truck Night	Mean Day V = 0.85 x V ₈₅	Mean Night V = 0.85 x V ₈₅	Skill Day Skill Night	MSD MSD MSD		MT MMT 0s 3.5s	Norm Day Truc	k Day No	orm Night	Truck Night	Mean Day V = 0.85 x V ₈₅	Mean Night V = 0.85 x V _{as}	SKIII	Day Skill Night	Сот
	R ₁ =2.0s, CoD=0.46, h ₁ =1.15 CoD=0.29, h1=2.	.4 h ₁ =0.75 h ₁ =1.15	R ₁ =2.0s, CoD=0.29 h ₁ =1.1 h ₁ =2.4	R ₁ =2.0s, CoD=0.41, h ₁ =1.15	R ₁ =2.0s, CoD=0.41 h ₁ =0.75 h ₁ =1.15	R _T =1.5s, CoD=0.56, h ₁ =1.15 h ₁ =0.75 h ₁ =1.1	5		R		=2.0s, R _T =2 29, h1=2.4 h ₁ =0	2.0s, CoD=0.46 0.75 h ₁ =1.15	R ₁ =2.0s, CoD=0.29 h ₁ =1.1 h ₁ =2.4	R ₁ =2.0s, CoD=0.41, h ₁ =1	.15 R ₁ =2.0s, CoD=0.41	— R ₇ ≈1.5s. CoD=	=0.58, h ₁ =1.15 h ₁ =0.75 h ₁ =1.1	5
R _T 2.0 R _T 2.1 R _T 2.1 SSD SSD	$\sum_{i=1}^{n} \frac{h_2=0.2}{2} h_2=0.4 h_2=0.6 h_2=0.6 h_2=0.6 h_2=1.1$	$5 h_2 = 0.6 h_2 = 1.15 h_2 = 0.6$	h2=0.6 h ₂ =1.15 h ₂ =0.6	h ₂ =0.2 h ₂ =0.4 h ₂ =0.6 h ₂ =1.15	$h_2=0.6$ $h_2=1.15$ $h_2=0.6$	$h_2=0.2$ $h_2=0.4$ $h_2=0.6$ $h_2=1.15$ $h_2=0.6$ $h_2=1.15$ $h_2=0.6$	RT 2.0	R _T 2.5 SSD	MCR SSD	$h_2=0.2$ $h_2=0.4$ $h_2=0.6$ $h_2=0.6$	h2=1.15 h2=0.6	h ₂ =1.15 h ₂ =0.6	h2=0.6 h2=1.15 h2=0.0	5 h ₂ =0.2 h ₂ =0.4 h ₂ =0.6	h_=1.15 h_=0.6 h_=1.15 h_=	0.6 h ₂ =0.2 h ₂ =0.4	h2=0.6 h2=1.15 h2=0.6 h2=1.15 h2=0.6	3
Definition Notes	MC SSI SSI	NCI SSI SSI SSI SSI SSI SSI SSI SSI SSI S	SSI MCI SSI MCI	SSI MCI	SSI NCI	MCF SSC SSC SSC SSC SSC SSC SSC SSC SSC S				MCF MCF MCF MCF MCF	SSD SSD SSD MCF	SSD MCF SSD MCF	SSD SSD MCR MCR SSD	SSD MCR MCR MCR MCR	SSD MCR MCR MCR MCR SSD SSD	MCR SSD MCR MCR	SSD MCR SSD MCR MCR MCR SSD MCR	
Category - denotes the standard of motorway achieva Distance incl. reaction time SSDR - Stopping Sight I	ble(1 = highest. RPDM standard Distance Radius NDBC - Normal	s for 110 km/h desigr Day Base Case TD	n speed - 4 = lowes BC - Truck Day Ba	st, EDD standards for 100 second second standards for 100 second se	km/h design speed ïme MMT - Minimi) Exist. P.S. Ref. Design - Existing Planni um Manoeuvre Time SSD - Stopping Sigh	ng Study Refer	rence D CR - Mir	Design RPD	M - Road Planning Des Radius CoD - Coeffici	ign Manual E	EDD - Extend	ed Design Domai	in MSD - Manoeuvre	Sight Distance h1 -	Height of Viewer	r h2 - Height of Object BD -	Breaking
Grade (ch.9720 to ch.9913) (- 0.50 % g		4												VU - DU HOL USE - NA				
Rest 8913 913 913 913 1738 992 765 765 765 7235 7235 707 707 707 707 707 707 707 707 707 70	00 00 00 00 00 00 00 00 00 00 00 00 00	337 337 75	39 39 39 39 30 30 30 30 30 30 30 30 30 30 30 30 30	000100000000000000000000000000000000000	02 8 2 8 8 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	2 - 28 - 23 - 23 - 2 - 24 - 2 - 2	5-04	∢⊢	47 73	- 4 - 6 - 6 - 6	<u>+ 8 + 5</u>	- 5 - 8		2 4 2 0 2 0	8 2 9 2 6 2	2020		Refer
	30 440 160 128 160 176 176 176 176 176 176 176 176 176 176	399999	4 20 20 20 20 20 20 20 20 20 20 20 20 20	14 14 32 14 24 24 24 24 24 24 24 24 24 24 24 24 24	2713 2413 2413 2413 2413 2413 2413 2413 24	13 13 37 37 37 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	Ž 🗄	91 20/14	43.14 342 332 332 332 332 332 332 332 332 33	19 26(37(14 265 14 292	19 19 19 19 19 19 19	2332 11 1990 11 1990	11 147 11 11 180 11	199 111 215 215	111 183 136 111 111 111 111 111 111 111 111 11	Sketch SK_S_30
Sag Curves Not Analysed in EDD																		
Sag Curves Not Analysed in EDD Sag Curves Not Analysed in EDD Sag Curves Not Analysed in EDD Sag Curves Not Analysed in EDD															Refer Sketch			
Image: Strate (ch.10305 to ch.10400)(-0.97 % grade)															SK_S_35			
irade (ch.10305 to ch.10400) (- 0.97 % grade) 338 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2																		
															201			
Grade (ch.10600 to ch.10670) (- 3.76 (6 grade)																	
NV14 sag 10670 10650 10650 15600 NU NU NU NU NU NU NU NU S000		S	Sag Curves No	t Analysed in EDD			NA NA 3500	3900				s	ag Curves N	ot Analysed in E	DD			
Grade (ch.10850 to ch.11030) (+ 0.20	% grade)							•										
V15 030 030 030 030 030 030 030 030 030 130 00 0 0 0	4 / 6 65 65 65 65 65 65 770 375 770 375 770 375 770 375 770 375 770 375 770 375 770 375 770 375 770 375 770 775 777 777 777 777 777 777 777 7	65 65 65 75	25 339 345 255 703	49 799 749 713 713 799 709	36 336 336 707	710 331 331 331 331 331 331 331 331 331 3	10 10 10	₹F	173 17 47	89 91 89 89 89 89 89 80 80 80 80 80 80 80 80 80 80 80 80 80	01183	20 11 1	04 04 80 80	339 339 339 339 339 339 339 339 339 339	78	93 57 57	38 22 20 23 23 23 23 23 23 23 23 23 23 23 23 23	3
$\frac{G_{1}}{100} \frac{G_{1}}{100} $		<u>, 22, 27, 27, 20, 20, 20, 20, 20, 20, 20, 20, 20, 20</u>	4 0 2 0 7 0					~ -	7 5 6	- <u>8</u>	37-13	29-1-29-1-	33 16 16 16 16 16 16 16 16 16 16 16 16 16	<u>10-13-13-18</u>	1811	11 21 21	11011111111111111111111111111111111111	
NV16 sag 11410 11410 11630 220 220 NU NU NU NU NU NU NU S000 5000		S	Sag Curves No	t Analysed in EDD			NA NA 3500	3900				S	ag Curves N	ot Analysed in El	DD			
Grade (ch.11630 to ch.11700) (+ 2.71	% grade)																	
NV17 crest 11700 11700 11700 12180 194 194 194 194 210 NU NA NA NA 1122 3235 107	24/6 24/6 5872 5872 165 3975 225 4703 225 3696	165 5037 165 3608 165 3975	225 7639 225 5645 225 225 4703	149 149 149 3813 3813 3813 149 149 149 149 2409	136 3430 136 2457 2457 2457 2457 2707	131 3710 131 131 131 131 131 131 131 131 131 1	155 NU NA	111 111	2673 97 2047 141	4314 141 141 141 191 3389	191 2663 141 3701	141 2651 141 2920	191 5504 191 191 191 3389	2944 117 2944 117 117 1993	117 1478 117 117 117 117 117	1993 112 112 112 2157	112 112 112 112 112 112 112 112 112 112	Refer Sketch SK_S_32
Grade (ch.12180 to ch.12290) (- 2.74 9	6 grade)												I					
NV18 sag 12290 12470 12470 12470 NU NU NU NU NU NU NU NU NU S5000 5000		S	Sag Curves No	t Analysed in EDD			NA NA 3500 3500	3900				S	ag Curves No	ot Analysed in El	DD			
Grade (ch.12470 to ch.12790) (0.00 %	grade)						.											-
NV19 sag 12790 12890 5000 179 179 179 179 179 179 179 179 5000 5000 5000		S	Sag Curves No	t Analysed in EDD			NA NA 3500	3900				S	ag Curves No	ot Analysed in El	DD			
Grade (ch.12890 to ch.13030) (+ 0.20	% grade)		*****															

Vertical Alignment - North Bound

Existing	P.S. Ref. I	Ref. Design 110 km/hr design speed																		· · · · · · · · · · · · · · · · · · ·	100 km/hr desig	gn speed							
		Distance (m) Sight Bistance (m) Bistance (m)	ory 1 - DM				С	ategory 2 - EDD F	Principles (use V_{as} of 1	10 km/h)				Catego RPI						Cate	gory 4 - EDD P	rinciples (use	e V ₈₅ of 100 km	n/h)					
	-	Cres	Sag	MSD (Base Case)					Stopping Sight Distar	nce				Crest	Sag	MSD (Base Case)	•					Stopping Sig	pht Distance						
umber Type e Start	ge End s (m) (m)	4 9 0	R	h ₁ = 1.15, h ₂ = 0.2	Base	Case			Checks			Borderline)		щ К К	h ₁ = 1.15, h ₂ = 0.2	Ba	se Case				Checks				Borde	rline		ıment
Curve N Curve Chainag	Chainag Radiu lengt	= 1.15, h ₂ = 0.6 = 1.15, h ₂ = 0.6		MMT MMT 4.0s 3.5s	Norm Day	Truck Day	Norm Night	Truck Night	Mean Day V = 0.85 x V		SKIII L	Day	Skill Night	MSC	MSDR SSDR	MMT MMT 4.0s 3.5s		y Truc	k Day No	rm Night	Truck Night		ean Day 0.85 x V ₈₅	Mean Nigh		Skill Day	Skill Night		Can
	ب ۱		5.5		R ₇ =2.0s, CoD=0.48, h ₁ =	CoD=0.29, h1=2.4	R _T =2.0s, CoD=0.48		R _T =2.0s, CoD=0.41, h	=1.15 R ₁ =2.0s, CoD=0.4 h ₁ =0.75 h ₁	1 =1.15 R _T =1.5s, CoD=0		R ₁ =1.5s, CoD=0.56 h ₁ =0.75 h ₁ =1.15	0.0.4	2.5		R ₁ =2.0s, CoD=0.46,	C6D=0.2	29, h1=2.4 h ₁ =0	.0s, CoD=0.46	R _T =2.0s, CoD=0.29	2.4 R _t =2.0s, 6	CoD=0.41, h _i =1.15	R ₁ =2.0s, CoD=0. h ₁ =0.75 h	41 R _T =1.51	s, CoD=0.58, h ₁ =1.15	R _T =1.5s, CoD=0.	=1.15	
		6 1 1	R ¹	SSD SSD MCR	MCR SSD MCR SSD SSD SSD SSD SSD	MCR SSD SSD MCR	SSD	MCR SSD SSD SSD SSD SSD SSD SSD SSD SSD SS	MCR SSD 850 MCR SSD 850 MCR SSD 800 MCR SS	MCR SSD MCR SSD MCR SSD MCR SSD	=0.6 h ₂ =0.2 h ₂ =0.4 h ₂ =0.	MCR SSD SSD SSD SSD SSD SSD SSD SSD SSD SS	ACR NCR 00-1	<u>т</u> т т		MCR SSD		MCR SSD MCR SSD	MCR SSD MCR SSD MCR SSD	MCR SSD MCR SSD		SSD ACR	ACR SSD ACR			NCR MCR			
Definition Category Distance	- denotes f	he standard of In time SSDF	f motorw R - Stopp	ay achievab ing Sight Dis	e (1 = highest. F stance Radius N	RPDM standards	for 110 km/h des Day Base Case	ign speed - 4 = lo DBC - Truck Day	west, EDD standards Base Case RT - Rea	for 100 km/h design sp action Time MMT - M	eed) Exist. P.S. nimum Manoeuvre	Ref. Design - e Time SSD	- Existing Plannir - Stopping Sight	ng Study I Distance	Reference MCR -	e Design R Minimum Cr	RPDM - Road Pl rest Radius Co	anning Desi D - Coeffici	ign Manual I	EDD - Extende	ed Design Dom houlder Width	ain MSD - M NU - Do not	Manoeuvre Sigl Use NA - No	ht Distance h1 of Applicable H	- Height of V V - High Volu	ïewer h2 - He me	ight of Object B	D - Breakiı	ing
NV20 sag 13030	13150 4150 120		5000					Sag Curves	Not Analysed in I	EDD				NA NA	3500					S	ag Curves N	Not Analys	sed in EDD)					
1		50 to ch.13	230)((+ 3.09 %	grade)									- I ,.t.,,.t,	-hR_											-			
NV21 crest 13230	13630 6302 400 470	200 200 200 200	AN S	3235 3235 107 2476	165 5872 165 4665 165	3975 225 4703 225 3696	165 5037 165 3608 165	225 225 7639 225 5645 225 225	4703 149 4799 149 3813 3813 3249	149 2409 136 3430 136 2457 136	2707 131 3710 131 2948	131 2511 131 1863 131	3183 3183 131 131 131 131 2511	155 NU 170	AA	2673 97 2047	2047 141 4314 141 3427	141 2920 191 3389	191 2663 141 3701	141 2651 141 2920	191 5504 191 191 191	3389 117 2944 117	2339 117 1993 117 1478	1470 117 2526 117 1809 147	1993 112 2715 112	2157 112 1838 112	1363 112 2329 112 1668	≚ 🛱 Sk	Refer Sketch (_S_33
		30 to ch.13	720)(- 3.25 %	grade)	LR		From From Provid	L																<u>t</u> ttt				
NV22 sag 13720	13900 5209 180		5000					Sag Curves	Not Analysed in I	EDD					3500					S	ag Curves N	Not Analys	sed in EDD)					
		00 to ch.14	100) ((+ 0.19 %	grade)																								
NV23 crest 14100	14200 50147 100 ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	>210 >210 NU	AN C	3235 3235 107 2476	165 5872 165 4665 165	3975 225 4703 225 3696	165 5037 165 3608 165	225 225 7639 225 5645 225 225	4703 149 4799 149 3813 3813 3249	149 2409 136 136 136 2457	2707 131 3710 131 2948	131 2511 131 1863 131	3183 3183 131 131 131 7511	155 NU	AAA	2673 97 2047	2047 141 4314 141 3427	141 2920 191 3389	191 2663 141 3701	141 2651 141 2920	191 5504 191 191 191	3389 117 2944 117	2339 117 1993 117 117	117 117 117 117 1809	1993 1993 112 2715 112	2157 112 1838 112	1363 112 2329 112 1668	1838	
		00 to ch.14	460)((0.00 % g	rade)		<u> </u>		<u> </u>		<u></u>								<u></u>			, I d,, d-,, I	<u></u>				l		
NV24 sag 14460	14660 7039 200 200		5000					Sag Curves	Not Analysed in I	EDD				AN AN	3500					s	ag Curves I	Not Analys	sed in EDD)					
Grade	(ch.146	60 to ch.14	860)((+ 2.84 %	grade)																								
NV25 crest 14860	15160 8863 300 216	>210 >210 NU	AN AS	122 3235 107 2476	165 5872 5872 165 4665 165	3975 225 4703 225 3696	165 5037 165 3608 165	225 225 7639 7639 225 5645 5645 225	4703 149 4799 149 3813 3813 3813 3249	149 2409 136 3430 136 2457 2457	2707 131 3710 131 2948	131 2511 131 1863 131	131 3183 131 131 131 131 7511	155 NU	AN	2673 97 2047	2047 141 141 141 3427 3427	141 2920 191 3389	191 2663 141 3701	141 2651 141 2920	191 5504 191 4067 191	3389 117 2944 117	2339 117 1993 117 117	14/0 117 2526 117 1809	1993 1993 112 2715 112	2157 2157 112 1838 112	1363 112 2329 112 1668	112	
		60 to ch.15		(- 0.54 %	grade)																								
NV26 crest 15220	15340 10036 120 ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	>210 >210 NU	A A	122 3235 107 2476	165 5872 165 4665 165	3975 225 4703 225 3696	165 5037 165 3608 165	39/3 225 7639 7639 225 5645 5645	4703 149 4799 149 3813 3813 3813 3249	149 2409 136 3430 136 2457 136	2707 131 3710 131 2948	131 2511 131 1863 131	3183 3183 131 2280 131 7511	155 NU	A A A	111 2673 97 2047	2047 141 4314 141 3427 3427	141 2920 191 3389	191 2663 141 3701	141 2651 141 2920	191 5504 191 191 191	3389 117 2944 117	2339 117 1993 117 117	1476 117 2526 117 1809	11/ 1993 112 2715 112	2157 2157 112 1838 112	1363 112 2329 112 1668	112	
Grade	(ch.153	10 to ch.15	350) (grade)																								
NV27 sag 15350	15550 8170 200 ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		5000					Sag Curves	Not Analysed in I	EDD				AN NA	3500					S	ag Curves I	Not Analys	sed in EDD)					
		50 to ch.15		(+ 0.71 %	grade)																								

Appendix B

Reference Design - Alignment Analysis Southbound

Gateway Upgrade Project EDD Analysis of Planning Study Alignment ch.5160 to ch.15760

Horizontal Alignment - South Bound

Horizontal Alignment - S	outh Bou	Ind																							
Exist. P.S. Ref. Design	ory 1 - RPE	NAL			110 km/hr Category 2 -	design spe	ed plac (uco V	of 110 k	m/h)				Catan						100 km/hr de	esign spe	ed	₅ of 100 km/h)			
	0% e)	MSD (0% grade)					ght Distanc		· · · · ·				SSD Gra	ory 3 - R (0% ade) Trks		MSD (0% grade)						e (not isolated)			
	Γrks Έ	E	Base Ca	ase			Checks			Bo	orderline		Cars				Base	Case			Checks			Borderline	
Curve No. Chainage Start Chainage End Radius (m) Direction Length (m) SSD (h ₁ = 1.11 SSD (h ₁ = 1.11 SSD (m) 2.0 (m)	(m) tion Demai Offset Cars	Reaction	Norm Day	Day	Norm Night	1	Mean Day = 0.85 x V		an Night 85 x V ₈₅	Skill Day	/ Skill Nig		(m) (m)	(n (n) (n)	offset Cars ffset Truck	Reaction Time	Norm Da	y Truck Day	Norm Night	Truck Night -	Mean Day V = 0.85 x V ₈	Mean Nig 5 V = 0.85 x	ht Skill Da		Comments
C Cha Cha Cha Cha Cha Cha Cha Cha Cha Cha	Fric	0 4.0s 3.5s	dry wet	0.29 wet	CoD = 0.46 dry wet	0.29 wet	CoD = 0.4 dry we	et dry	0 = 0.41 wet	dry we	56 CoD = 0. et dry w	0.59	2.5	R _T 2.0 (R _T 2.5 (equired O	4.0s 3.5s	dry we	0.29	CoD = 0.46 dry wet	wet	CoD = 0.41 dry we	t dry	vet dry v	.56 CoD = 0.59 vet dry wet	
Min. A	. Å			SSD (RO (SSD (m) RO (m) SSD (m) RO (m)	S H O	RO (m) SSD (m)	0,	SSD (m) RO (m)	SSD (m) RO (m) SSD (m)	RO (m) SSD (m) RO (m) SSD (m)	RO (m)			Rec Re	MSD (m RO (m) MSD (m RO (m)	SSD (m) RO (m) SSD (m)	RO (m) SSD (m) RO (m)	SSD (m) RO (m) SSD (m) RO (m)	SSD (m) RO (m)	SSD (m) RO (m) SSD (m)	RO (m) SSD (m) RO (m) SSD (m)	RO (m) SSD (m) RO (m) SSD (m)	RO (m) SSD (m) RO (m) SSD (m) RO (m)	
Definition Notes 1. Offsets - Offset Category - denotes the standard of	et from cen motorway a	tre line of inside achievable (1 =	e lane to obstru = highest. RPD	uction ie. C M standar	Concrete bai rds for 110 k	rrier, embai m/h design	nkment, etc speed - 4 :	= lowest. E	DD stand	ards for 100	km/h desian	speed) Exis	t. P.S. R	Ref. Des	an - Existin	o Plannino S	tudv Refer	ence Design	RPDM -	Road Plannin	a Desian Manu	al EDD - Exter	nded Design Dom	ain IOS-
Line of Sight SSD - Stopping Sight	Distance (using h ₁ = 1.15	, h ₂ = 0.2) MS	SD - Mano	peuvre Sight	Distance (using h1 = 1	1.15, h2 = ().2) h1 -	Height of Vie	wer h2 - He	eight of	fObject	RT-F	Reaction	Time Trks	s - Trucks R	RO - Requi	red Offset Co	oD - Coet	ficient of Decl	eration TD - T	uck Day TN -	Truck Night >	- Greater
Than AS - Adverse Super NU - E Straight (ch.15760 to ch.15750)	o not Use		on Curve			SD Longer	than Curve	e Length																	
	258 258 0.002 1.8	2.5 122.2 0.6 106.9	139.2 0.8 164.6 1.1	225.3 2.7	139.2 0.8 164.6 1.1	225.3 2.7	0.6	0.8 120.4 0.6	137.0 0.8	112.9 0.5 130.9	0.7 112.9 0.5 130.9	0.7 155	170 NU	195 209	1.5	0.5 0.5 0.4	120.1 0.6 141.1	0.8 191.2 2.1	0.6 0.6 0.8 0.8	2.1	103 0.4 116.6	0.6 103 0.4	0.6 97.1 0.4	0.5 97.1 0.4 0.5	
Straight (ch.15560 to ch.15440)			-ll							- <u>III-</u> I		<u> </u>		L	!!					<u> </u>					
SH17 15440 15440 15145 10000 10000 16ft 1% 196 5.25 NU NU	258 2.58 0.002 0.6	0.5 122.2 0.2 0.1 0.1	139.2 0.2 164.6 0.3	225.3 1.2	139.2 0.2 164.6 0.3	225.3 1.2	0.2	0.2 120.4	0.2 0.2	112.9 0.2 130.9	0.2 112.9 0.2 130.9	0.2 155	NU 170	195 209	0.4	0.2 97.2 0.1	120.1 0.2 141.1	0.2 191.2 0.2	120.1 0.2 141.1 0.2	191.2 0.2	103 0.1 116.6	0.2 103 0.1	0.2 97.1 0.1 0.1	0.2 97.1 0.1 111.9	
SH16 15145 14606 2989 16ft 539 1% 196 539 1% NU 210	258 258 0.002 1.8	2.5 122.2 0.6 106.9	139.2 0.8 164.6 1.1	225.3 2.7	139.2 0.8 164.6	225.3 2.7 1.0.4	0.6	0.8 120.4 0.6	137.0 0.8	112.9 0.5 130.9	0.7 112.9 0.5 130.9	0.7 155	NU 170	195 209 0.070	1.2 1.5	111.1 0.5 97.2 0.4	120.1 0.6 141.1	0.8 191.2 1.2	120.1 0.6 141.1 0.8	191.2 1.2	103 0.4 116.6	0.6 103 0.4 116.6	0.6 97.1 0.4	0.5 97.1 0.4 111.9	
Straight (ch.14606 to ch.14286)																									
SH15 14286 13758 650 right 528 4% 171 6.7 NU 210	258 258 0.002 8.5	12.5 122.2 2.9 106.9 2.7	139.2 3.7 164.6 5.2	225.3 10.3	139.2 3.7 164.6 5.2	225.3 10.3	2.8	3.6 120.4 2.8	137.0 3.6	112.9 2.5 130.9	3.3 112.9 2.5 130.9	3.3 155	NU 170	195 209 0.067	0.00/ 5.6 8.9	111.1 2.4 97.2 1.8	120.1 2.8 141.1	3.8 191.2 7.6	120.1 2.8 141.1 3.8	191.2 7.6	103 2.0 116.6	2.6 103 2.0 116.6	2.6 97.1 1.8 111.9	2.4 97.1 1.8 111.9	Refer Sketch SK_S_38
Straight (ch.13758 to ch.13226)																									
3 SH14 6 13226 8 13166 5 1200 6 60 3% 3% 0 >260 d >req'd NUU 210					2 139.2 * 139.2 * *		* * *		137.0	9 112.9 * 9 130.9) 112.9 130.9		170 NU	195 209	3.0	111.1 1.3 97.2	120.1 * 141.1	* 191.2	120.1 * 141.1 *		103 * 116.6	* 103 * 116.6			
12 SH13 58 13166 98 12758 98 12758 90 802.5 91 12758 92 33% 93 >260 94 >260 91 NU 92 210 93 210	8 258 2002 0002 6 6.9	5 10.0 2.2 122.2 5 2.3 1.9 106.5 7 1.8	.2 139.2 3.0 .6 164.6 4.2	8.4 8.4	1.2 139.2 3.0 .6 164.6 4.2	225		2.9 .4 120.4			2.7 2.1 2.0 2.0						.1 120.1 2.2 .1 141.1		.1 120.1 2.2 .1 141.1 3.1			2.1 3 103 1.7 6 116.6		1.97.1 97.1 1.5 .9 111.9 10	
Straight (cp.15698 to cp.157658 NUU Straight (cp.15698 to cp.157658 Straight (cp.15698 to cp.157688 Straight (cp.15688 Straight (cp.156888 Straight (cp.156888 Straight (cp.156888 Straight (cp.1568888888 Straight (cp.15688888888888888888888888888888888	25 0.00 4.(6.(122 1.(106	139.2 * 164.6 *	225.3	139.2 * 164.6 *	225.3	+ + 137.0	* 120.4 *	137.0	112.9 * 130.9	112.9 * 130.9		ZZ	507	9.0 7.0 7.0 7.0 7.0 7.0 7.0 7.0 7.0 7.0 7	111.1 1.3 97.2	120.1	* 191.2 *	120. 141.	191.2	103 * 116.6	* 103 *	* 97.1 *	* 97.1 * 111.9 *	
SH11 SH11 12362 2005 2005 396 396 395 NU NU S10 210	258 258 0.002 2.7	3.8 122.2 0.9 0.7	139.2 1.2 164.6	225.3 3.7	139.2 1.2 164.6	225.3 3.7	0.9 137.0	1.2 120.4	137.0 1.2	112.9 0.8 130.9	1.1 112.9 0.8 130.9	1.1	2 R 8	195 209 0.052	1.8 2.4 2.4	111.1 0.8 97.2 0.6	120.1 0.9 141.1	1.2 191.2 2.8	120.1 0.9 1.2 1.2	191.2 2.8	103 0.7 116.6	0.8 103 0.7	0.8 97.1 0.6	0.8 97.1 0.6 111.9	Refer Sketch SK_S_32
Straight (ch.11966 to ch.11886)				lorded-ad						-II		- -			dl	i I I	II	Lingung				I	-JJJJ	<u>} </u>	
SH10 11886 11575 1995 1995 1995 1995 311 311 311 317 317 210 210	258 258 0.002 2.8	3.9 122.2 0.9 106.9	139.2 1.2 164.6 1.7	3.7	139.2 1.2 164.6	3.7	0.9	1.2 120.4	137.0 1.2	112.9 0.8 130.9	1.1 112.9 0.8 130.9	1.1	NU 170	195 209 0.034	0.034 1.8 3.3	111.1 0.8 97.2 0.6	120.1 0.9 141.1	1.2 191.2 2.0	120.1 0.9 1.2 1.2	191.2 2.0	103 0.7 116.6	0.9 103 0.7	0.9 97.1 0.6 0.6	0.8 97.1 0.6 111.9	2
Straight (ch.11575 to ch.11126)																			L						
SH9 11126 10307 970 10307 970 right 819 3% 174 3.95 NU S10	258 258 0.002 5.7	8.3 122.2 1.9 106.9	139.2 2.5 164.6 3.5	225.3 7.1	139.2 2.5 164.6 3.5	225.3 7.1	1.9	2.4 120.4	137.0	112.9 1.6 130.9	2.2 112.9 1.6 130.9	2.2 155	NU 170	195 209 0.047	0.042 3.7 5.3	111.1 1.6 97.2 1.2	120.1 1.9 141.1	2.6 191.2 5.3	120.1 1.9 141.1 2.6	191.2 5.3	103 1.4 116.6	1.8 103 114 1166	1.8 97.1 1.2 111 a	97.1 97.1 112 111.9	Refer Sketch SK_S_35
Straight (ch.10307 to ch.10249)																					_				
SH8 10249 9502 1220 16ft 747 3% 155 3.2 NU NU	258 0.002 4:5	6.5 122.2 1.5 106.9	139.2 2.0 164.6 2.8	225.3	139.2 2.0 164.6 2.8	225.3 5.7	1.5	1.9 120.4	137.0 1.9	112.9 1.3 130.9	1.8 112.9 1.3 130.9	1.8 155	170 170	195 209	3.0	111.1 1.3 97.2 1.0	120.1 1.5 141.1	2.0 191.2 3.4	120.1 1.5 141.1 2.0	191.2 3.4	103 1.1 116.6	1.4 103 1.1 1.1 1.6	1.4 97.1 1.0	97.1 97.1 1.0 111.9	Refer Sketch SK_S_30
Straight (ch.9502 to ch.9233)																									

Gateway Upgrade Project EDD Analysis of Planning Study Alignment ch.5160 to ch.15760

Horizontal Alignment - South Bound

Exist. P.S. Ref. Design 100 km/hr design speed	
Category 1 - RPDM Category 2 - EDD Principles (use V ₈₅ of 110 km/h) Category 3 - RPDM Category 4 - EDD Principles (use V ₈₅ of 100 km/h)	
SSD (0% Grade) MSD (0% grade) MSD (0% grade) MSD (0% grade) MSD (0% grade)	
Base Case Checks Borderline Base Case Checks Borderline	
· Image: Control of the state of the st	Comments
	0
Image: Normal black with the state of th	
Definition Notes 1. Offsets - Offset from centre line of inside lane to obstruction ie. Concrete barrier, embankment, etc.	
Category - denotes the standard of motorway achievable (1 = highest. RPDM standards for 110 km/h design speed - 4 = lowest, EDD standards for 100 km/h design speed) Exist. P.S. Ref. Design - Existing Planning Study Reference Design RPDM - Road Planning Design Manual EDD - Extended Design Domain LC Line of Sight SSD - Stopping Sight Distance (using h ₁ = 1.15, h ₂ = 0.2) MSD - Manoeuvre Sight Distance (using h = 1.15, h ₂ = 0.2) MSD - Manoeuvre Sight Distance (using h = 1.15, h ₂ = 0.2) MSD - Manoeuvre Sight Distance (using h = 1.15, h ₂ = 0.2) h1 - Height of Viewer h2 - Height of Object RT - Reaction Time Trks - Trucks RO - Required Offset CoD - Coefficient of Decleration TD - Truck Day TN - Truck Night > - Greation Action Actio	
	efer Sketch SK_S_39
Straight (ch.8836 to ch.8620)	
SH6 8620 8860 8860	efer Sketch SK_S_29
Straight (ch.8367 to ch.8238)	
SH5 SH5 8238 8238 7947 7347 7947 2400 7947 2400 7947 2400 7947 2400 795 3% 291 3% 291 3% 291 3% 291 291 291 3% 292 3% 291 3% 292 3% 291 291 291 210 210 210 210 210 211 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 <td></td>	
Straight (ch.7947 to ch.7475)	
Horizontal Deflection (- 0° 12' 26")	
Straight (ch.7475 to ch.6848)	
SH4 6553 6553 6553 6553 6553 6553 6553 6553 6553 6553 6553 7380 7380 7380 7381 7381 7381 7381 7381 7382 7381 7381 7381 7381 7381 7381 7381 7381 7381 7381 7381 7381 7381 7381 7382 7383 7384 7384 7384 7384 7384 7384 7384 7384 7384 7384 7384 7385 7385 <	efer Sketch SK_S_34
Straight (ch.6553 to ch.5791)	
SH3 5590 5590 5690 9000 9000 9000 9000 101 1101 1101 210 2258 2210 2210 2210 2210 2210 2211 2258 0.0027 6.1 137.0 137.0 137.0 137.0 137.0 137.0 137.0 137.0 137.0 137.0 137.0 137.0 137.0 111.1 111.1 111.1 111.1 111.1 111.1 111.1 111.1 111.1 111.1 111.1 111.1 111.1 111.1	
SH2 5690 5691 5692 5690 5643 613.2 613.2 164.6 2.1 2.2 2.3 <	
SH1 SH3 5357 5357 5357 5357 5357 5357 5357 5357 5357 5357 5357 5357 5357 5357 5357 5356 5357 5356 5356 5357 9300 112.9 120.4 120.4 137.0 137.1	
Straight (ch.5357 to ch.5160)	

Gateway Upgrade Project EDD Analysis of Planning Study Alignment ch.5160 to ch.15760 (MCA0)

Vertical Alignment - South Bound

Existing P.	S. Ref. Des	ign				110 km/hr desig	gn speed									100 km/hr design s	speed					
	Available Sicht	E Category	1 -			Category 2 - EDD Pri	nciples (use V_{as} of 110 kn	n/h)			Category 3 - RPDM				Cate	gory 4 - EDD Princ	iples (use V ₈₅ of 100 k	:m/h)	424 (1999) - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 -			
		Crest	MSD (Base Case)			S	topping Sight Distance				Crest Sag	MSD (Ba Case				Sto	pping Sight Distance					
lumber Type e Start je End	s (m)		$h_1 = 1.15, h_2 = 0.2$	Base Ca	ase		Checks		Borderl	line		$h_1 = 1.1$ $h_2 = 0.1$	Baco Co	ise		C	checks			Borderline		ment
Curve N Curve Chainag Chainag	Radius length = 1.15, h ₂ = 0.2	۲ <u>۴</u>	MMT MMT 4.0s 3.5s	Norm Day R7=2.05, CoD=0.46, h1=1.15	Truck Day Norm Nig		Mean Day V = 0.85 x V ₈₅	Mean Night V = 0.85 x V ₈₅ R ₁ =2.0 ₅ , CoD=0.41	Skill Day	Skill Night R ₁ =1.5s, CoD=0.56	MSD MSD	MMT M 4.0s 3	T	Truck Day	Norm Night Rr=2.0s, CoD=0.48	Truck Night	Mean Day V = 0.85 x V ₈₅	Mean Night V = 0.85 x V _i R ₁ =2.0s, CoD=0.4	85 SKIII	·	Il Night	Сот
	Ē	E E	SSD MCR SSD MCR		CoD=0.29, h1=2.4 h1=0.75	h ₁ =1.15 h ₁ =2.4 h ₂ =0.6 h ₂ =0.6 h ₂ =1.15 h ₂ =0.6 N2 O N2 O N2 O O O N2 O N2	Rr=2.0s, CoD=0.41, hr=1.15 h_2=0.2 h_2=0.4 h_2=0.8 h_2=1.1 (1) (1) (1) (1) (1) (2) (1) (1) (1) (1) (1) (2) (1) (1) (1) (1) (1) (1) (2) (2) (2) (2) (2) (2) (2) (2) (2) ($\begin{array}{c ccccccccccccccccccccccccccccccccccc$	$R_7=1.5s, CoD=0.5e, h_1=1.15$ $h_2=0.2$ $h_2=0.4$ $h_2=0.8$ $h_2=1.1t$ $G_1 G_2 G_2 G_2 G_2 G_2 G_2 G_2 G_2 G_2 G_2$	h1=0.75 h1=1.15 5 h2=0.6 h2=1.15 h2=0.8 6 000000000000000000000000000000000000	R _T 2.0 R _T 2.0 R _T 2.5 R _T 2.0 R ₂ 2.5	SSD MCR SSD	$X = \frac{R_1 = 2.0s, CoD = 0.46, h_1 = 1.15}{h_2 = 0.2, h_2 = 0.4, h_2 = 0.6}$	CoD=0.29, h1=2.4	h ₁ =0.75 h ₁ =1.15	h1=1.1 h1=2.4	$R_7=2.0s, CoD=0.41, h_1=1.15$ $h_2=0.2$ $h_2=0.4$ $h_2=0.6$ $h_2=10$	h1=0.75 h1=	R ₇ =1.5s, CoD =1.15 =0.6 h ₂ =0.2 h ₂ =0.4 PC C C C C C C	=0.58, h1=1.15 h1=0		
Definition No standards for	110 km/h	design speed -	4 = lowest, EDD s	standards for 100 kr	m/h design speed) Exist.	P.S. Ref. Design - Exist	ing Planning Study Refere	ence Design RPDM	- Road Planning Design	Manual EDD - Ex	tended Design	Domain M	SD - Manoeuvre Sight D	$ m \ge m \ge m $	Height of Viewer 1	$ S \ge S \ge S $	ທີ່ຊີທີ່ຊີທີ່ຊີທີ່ Catego t BD - Breaking Dista	$\sum \alpha \ge \alpha \ge \alpha $ ory - denotes the stance inclure reaction	tandard of motor	way achievable (1 =	highest. RPI	
Normal Day		TDDC - Huci	Day Dase Case	RT - Reaction This	e MMT - Minimum Manoe	euvre Time SSD - Stopp	bing Sight Distance MCF	R - Minimum Crest R	adius CoD - Coefficient	of Decleration SW	- Shoulder Wid	th NU - D	o not Use NA - Not App	plicable HV -	High Volume							
	1.150/1))(-0.71% (grade)								1					114 - Anno 11					
SV2 ⁽ sag 1555 1535	200 200 210 210	RAA				Sag Curves No	ot Analysed in EDD				NA NA 3500 3500				S	ag Curves Not	Analysed in ED	D				
Grade (cl	n.15350	to ch.1533	i)(+1.66%	grade)																· · ·		
SV24 crest 15335 15215	11856 >210 >210	>210 210 210	122 3235 107 2476	165 5872 165 4665 165 3975	225 4703 225 225 3696 165 165 165 3608	165 3975 225 225 7639 225 5645 225 225 225	7409 3813 3813 149 149 149 2409	136 136 136 136 136 136 2457 136 2707	131 3710 131 131 131 131 131 1363	131 131 131 131 131 131 2511	155 NU NA NA	111 2673 97	2047 141 141 141 141 141 141 2920	191 3389 191 2663	141 3701 141 141 141 2920	191 5504 191 191 3389	11/ 2944 117 117 1993 1993	1478 117 117 117 117 117	1993 112 2715 112 2157	112 1838 112 112 2329	112 112 1838	<u></u>
Grade (cl	n.15215	to ch.1517)(+0.65%	grade)	dana kanadar <u>aska di di dana</u> di	l		<u> </u>			┺╍╌╁╍┈╎╓╖┧═╼┠╼╸	I i										
SV23 crest 15175 14875	8/00 300 196 210	>210 NU 210	122 3235 107 2476	165 5872 165 4665 165 3975	225 4703 225 3696 165 5037 165 3608	165 3975 225 7639 7639 225 5645 225 225 4703	149 4799 149 3813 3813 149 149 149	136 3430 136 2457 136 136 2707	131 3710 131 2948 131 2511 131 131	131 131 131 2280 131 2511	155 NU NA NA	111 2673 97	2047 141 4314 141 3427 141 2920	191 3389 191 2663	141 3701 141 2651 2920	191 5504 191 191 3389	2944 117 2339 117 117 117	1478 117 2526 117 1809 117	1993 112 2715 112 2157	112 112 112 112 2329 2329	1668 112 1838	
Grade (cl	n.14875	to ch.14632	:) (- 2.80 % g	jrade)															• • • • • • • • • • • • • • • • • • • •			
SV22 sag 14632 14392	/31/ 240 210 NII					Sag Curves No	ot Analysed in EDD				NA NA 3500 3900				S	ag Curves Not	Analysed in EDD)				
Grade (cl	n.14392	to ch.1421()(+0.48%	grade)								•					ana ga da a					
SV21 crest 14210 14010	1/100 200 188 189	240 EG	122 3235 107 2476	165 5872 165 4665 165 3975	225 4703 225 3696 165 5037 165 3608 3608	165 3975 225 225 7639 225 5645 5645 225 225 225	149 4799 149 3813 3813 149 149 7409	136 136 136 136 2457 2457 136 2707	131 3710 131 131 131 131 131 131 131	131 131 131 131 131 131 2511	155 NU NA NA	111 2673 97	2047 141 4314 141 3427 141 141 2920	191 3389 191 2663	3701 3701 141 2651 141 2920	5504 5504 191 191 3389	2944 2944 117 2339 117 1993 117	14/8 117 2526 117 1809 117	1993 112 2715 112 2157	112 1838 112 1363 1363 2329	112 1668 112 1838	Refer Sketch SK_S_38
Grade (cl	n.14010	to ch.13920) (- 0.69 % g	jrade)																		
SV20 sag 13920 13740	180 169 NIJ		2000 2000			Sag Curves No	ot Analysed in EDD				NA NA 3500 3900				S	ag Curves Not	Analysed in EDD)				
Grade (cł	n.13740	to ch.13655)(+3.39 %	grade)																		
SV19 crest 13655 13175	480 480 170	210 210	122 122 3235 107 2476	165 5872 165 4665 165 3975	225 4703 225 3696 165 5037 165 3608 3608	165 3975 225 7639 225 5645 5645 225 225 225	149 4799 149 3813 3813 149 3249 149 2409	136 136 136 136 2457 136 2707	131 3710 131 131 2948 131 131 131 131	131 131 131 131 2280 131 2511	155 NU NA NA	111 2673 97	2047 141 4314 141 141 141 141 2920	191 3389 191 2663	3701 3701 141 141 2651 2920	191 5504 191 191 3389 3389	2944 117 117 117 1993 117	14/8 117 2526 117 117 117	1993 112 2715 112 2157 2157	112 1838 112 112 2329 2329	112 1668 112 1838	Refer Sketch SK_S_33
Grade (cł	1.13175	to ch.13150) (- 3.65 % g	ırade)																		
SV18 sag 13150 13030	320/ 120 >210 NU		8			Sag Curves No	ot Analysed in EDD				NA NA 3500 3900				S	ag Curves Not	Analysed in EDD)		·		Refer Sketch SK_S_33
Grade (cł	n.13030	to ch.12490)(0.0 % gra	ide)																		
SV17 sag 12490 12310	04559 180 >210 NU	NA NA		-		Sag Curves No	ot Analysed in EDD				NA NA 3500 3900				S	ag Curves Not	Analysed in EDD)				
)(+2.78%	grade)																		

<u>ConnellWagner</u>

Gateway Upgrade Project EDD Analysis of Planning Study Alignment ch.5160 to ch.15760 (MCA0)

Vertical Alignment - South Bound

Existing P.S. Ref. Design	110 km/hr design speed					100 km/hr design s	speed				1
el tit bis A Mailable A Mailable Category 1 - RPDM RPDM	Category 2 - EDD Principles (use V _{as} of 110 km/h)	Category 3 - RPDM					ciples (use V ₈₅ of 100 kr	m/h)		۰	
Crest 🛱 MSD (Bas 0 Case)	Stopping Sight Distance	Crest Sag	MSD (Base Case)			Sto	opping Sight Distance				-
$\begin{array}{c c} h_1 = 1.15 \\ h_2 = 0.2 \\ h_2 = 0.$	Bace Case	о <u>ж</u> ж	h ₁ = 1.15, h ₂ = 0.2	Base Case		С	Checks		Borde	rline	Jent
$\begin{tabular}{ c c c c c c } \hline Curve Tyr \\ Curve Ty \\ Curve Ty \\ Chainage \\ Chainage \\ Chainage \\ Chainage \\ Chainage \\ Radius (\\ h_1 = 1.15, h_2 = 0.4 \\ R_T 2.5 \\ R_T 2.5 \\ R_T 2.5 \\ SSDR $	$\frac{158}{1000} \frac{11000}{1000} 1100$	CK Imiliar Imiliar MSC R12.0 BD R	MMT MMT 4.0s 3.5s CS XO WCS XO WCS XO MCS XO MC XO MC XO MC XO MC XO MC XO MC XO MC XO		Norm Night R ₁ =2.05, CoD=0.46 h ₁ =0.75 h ₂ =0.6 h ₂ =1.15 h ₂ =0.6 h ₂ =1.15 h ₂ =0.6 H ₂ =0.6 H ₂	Truck Night R ₁ =2.0s, CoD=0.28 h ₁ =1.1 h ₁ =2.4 h ₂ =0.6 h ₂ =1.16 h ₂ =0.6 h ₂ =1.16 h ₂ =0.6 h ₂ =0.6	Mean Day V = 0.85 x V ₈₅ R ₇ =20s, CaD=0.41, h ₂ =1.15 h ₂ =0.2 h ₂ =0.4 h ₂ =0.6 h ₂ =1.1 Q C Q C Q C Q C Q C	Mean Night V = 0.85 x V ₈₅ R ₁ =2.0s, CaD=0.41 h ₁ =0.75 h ₂ =0.6 h ₂ =0.6	Skill Day R;=1.55, CoD=0.56, h;=1.15 h;=0.2 h;=0.4 h;=0.8 h;=1. Q X Q X Q X Q X Q X	Skill Night R _t =1.5s, CoD=0.56 h ₁ =0.75 h ₂ =0.6 h ₂ =1.15 h ₂ =0.6 h ₂ =1.15 h ₂ =0.6 h ₂ =1.0 h ₂ =0.6 H ₂ =0.6 h ₂ =1.0 h ₂ =0.6 H ₂ =0.6 h ₂ =0	-
Definition Notes							Catego	ry - denotes the standa	ard of motorway achiev	vable (1 = highest. R	(PDM
Holma Bay Babe Bace TBBC Hack Bay Babe Ba	DD standards for 100 km/h design speed) Exist. P.S. Ref. Design - Existing Planning Study Reference Design RPDM - Road Planning Design Manual EDD - Ex ase RT - Reaction Time MMT - Minimum Manoeuvre Time SSD - Stopping Sight Distance MCR - Minimum Crest Radius CoD - Coefficient of Decleration SW	tended Design D V - Shoulder Wid	omain MSD - th NU - Do no	- Manoeuvre Sight Distance h1 - H ot Use NA - Not Applicable HV - I	Height of Viewer h High Volume	n2 - Height of Objec	x BD - Breaking Dista	nce incl. reaction time	SSDR - Stopping Sig	ght Distance Radius	NDBC -
SV16 crest 12160 12160 11680 7934 166 7934 166 166 204 NU NU 122 3335 107 107	2476 2476 2476 25872 55872 55872 55872 55872 55872 55872 56872 56872 56872 56872 56872 5687 165 165 5687 167 167 167 167 167 167 167 16	155 NU NA NA NA	111 2673 97 2047	141 141 141 141 141 141 191 191 191 191	141 141 141 141 2920	191 5504 191 191 191 3389	11/ 2944 117 2339 2339 117 117 117	14/0 117 117 117 117 11809 117 11993	112 2715 112 112 112 112 112	1363 112 2329 112 1668 1668 1838	Refer Sketch SK_S_32
Grade (ch.11680 to ch.11640) (- 3.26 %	% grade)										
SV15 sag 11640 11420 6742 220 >210 NU NU NA NA NA NA S000	Sag Curves Not Analysed in EDD	NA NA 3500 3900			S	ag Curves Not	t Analysed in EDD)			
Grade (ch.11420 to ch.10820) (0.00 %	, grade)										
SV14 sag 10820 10820 10640 179 179 NU NA NA NA NA NA	Sag Curves Not Analysed in EDD	NA NA 3500 3900			S	ag Curves Not	Analysed in EDD	1			
Grade (ch.10640 to ch.10550) (+ 3.48 °	% grade)										
SV13 crest 10550 10350 10350 10350 10350 10350 10350 176 176 176 NU NA NU 122 3235 107 107	2476 2476 165 165 5872 5872 5875 5875 5875 3975 3975 3975 3975 3975 3975 3975 3975 3975 3975 3975 3975 3037 165 30313 165 3976 3131 131 <td>155 155 NU 170 NA NA</td> <td>111 2673 97 2047</td> <td>141 4314 141 141 141 141 2920 191 191 191 2663 2663</td> <td>141 3701 141 2651 2920</td> <td>191 5504 191 191 3389</td> <td>11/ 2944 117 2339 2339 117 117 117 117</td> <td>14/0 117 2526 117 117 1993 1993</td> <td>112 2715 112 112 1838 1838 112 112</td> <td>1363 112 2329 112 1668 1668 1838</td> <td>Refer Sketch SK_ S_35</td>	155 155 NU 170 NA NA	111 2673 97 2047	141 4314 141 141 141 141 2920 191 191 191 2663 2663	141 3701 141 2651 2920	191 5504 191 191 3389	11/ 2944 117 2339 2339 117 117 117 117	14/0 117 2526 117 117 1993 1993	112 2715 112 112 1838 1838 112 112	1363 112 2329 112 1668 1668 1838	Refer Sketch SK_ S_35
Grade(ch.10350 to ch.10340)(+0.71 %	% grade)										
SV12 sag 10340 10140 10140 NU NA NA NA NA NA	Sag Curves Not Analysed in EDD	NA NA 3500 3900			S	ag Curves Not	Analysed in EDD	}			Refer Sketch SK_ S_35
Grade (ch.10140 to ch.10135) (+ 5.43 9	% grade)										
SV11 crest 10135 9905 9905 172 172 172 172 172 172 3235 3235 107	2476 2476 165 5872 5872 5872 5872 5872 165 3975 3875 225 3975 5037 165 366 165 366 165 366 165 5037 225 5037 165 3608 165 3608 165 3608 165 3675 225 5637 165 3675 225 5637 165 3675 165 3675 2255 5637 165 3675 2255 5539 2255 5539 149 149 131 131 136 2459 131 2564 2564 2649 136 2459 131 2649 131 2640 <	155 155 170 NA NA	111 2673 97 2047	141 4314 141 141 2920 191 3389 191 2663 141	3701 3701 141 2651 141 2920	191 5504 191 4067 191 3389 147	11/ 2944 117 2339 117 117 117 117 117	117 117 2526 117 1809 117 1993 142	112 2715 112 2157 112 1838 112 112	1363 112 2329 112 1668 112 1838	Refer Sketch SK_S_30
Grade (ch.9905 to ch.9700) (+ 0.42 % (grade)										
SV10 830 9700 9700 9700 9700 9700 9700 8279 8279 8279 8279 8270 8270 8270 8270 8270 8270 8270 8270	Sag Curves Not Analysed in EDD	NA NA NA 3500 3900			S	ag Curves Not	Analysed in EDD	,			
Grade (ch.9500 to ch.9490) (+ 2.84 % g	grade)										
SV9 5290 9490 9490 9290 9290 189 189 190 190 NU 210 NA 122 3235 3235 3235	2476 165 5872 165 5872 5872 5872 5872 5872 4665 3975 3975 3975 3975 2255 30375 30375 30375 5037 165 3608 165 3608 165 3608 165 3608 165 3608 165 3608 165 3665 3665 3665 3675 2225 3679 149 149 149 149 149 149 149 149 149 149 131 131	155 155 NU 170 NA NA	111 2673 97 2047	141 4314 141 141 2920 191 3389 191 2663 141	3701 3701 141 2651 141 2920	191 5504 191 191 3389 447	11/ 2944 117 2339 117 117 117 117 117	117 117 2526 117 117 1993 117	2715 2715 112 112 112 1838 112	1363 112 2329 112 1668 1838	
Grade (ch.9290 to ch. 8965) (+ 0.38 %	grade)										
SV8 sag 8965 8777 8777 8777 230 NU NA NA NA NA NA	Sag Curves Not Analysed in EDD	NA NA 3500 3900			Si	ag Curves Not	Analysed in EDD	,			
Grade (ch.8735 to ch.8625) (+ 5.00 % g	grade)										
SV7 crest 8625 8125 8125 8125 8125 9125 9125 9125 9125 9125 9125 9125 9125 9125 9125 9125 9125 9125 912 912 9149 1469 1469 1485 NU NU 2210 NA 1222 32235 32235	2476 2476 165 5872 165 5872 165 3975 3975 3975 3975 3975 3975 3975 3225 3975 3225 3608 165 3603 165 3603 165 3603 165 3603 165 3645 2255 3645 2255 3645 2255 3645 2255 2255 3645 22645 149 149 149 149 149 149 149 149 149 149 131 131	155 NU NA NA	111 2673 97 2047	141 4314 141 141 2920 191 2920 191 2963 2663	3701 3701 141 2651 141 2920	181 5504 191 4067 191 3389 117	11/ 2944 117 2339 117 1993 117 117	117 2526 117 1809 117 1993 117	2715 2715 112 112 1838 112 112	1363 112 2329 112 1668 112 1838	Refer Sketch SK_S_29

Gateway Upgrade Project EDD Analysis of Planning Study Alignment ch.5160 to ch.15760 (MCA0)

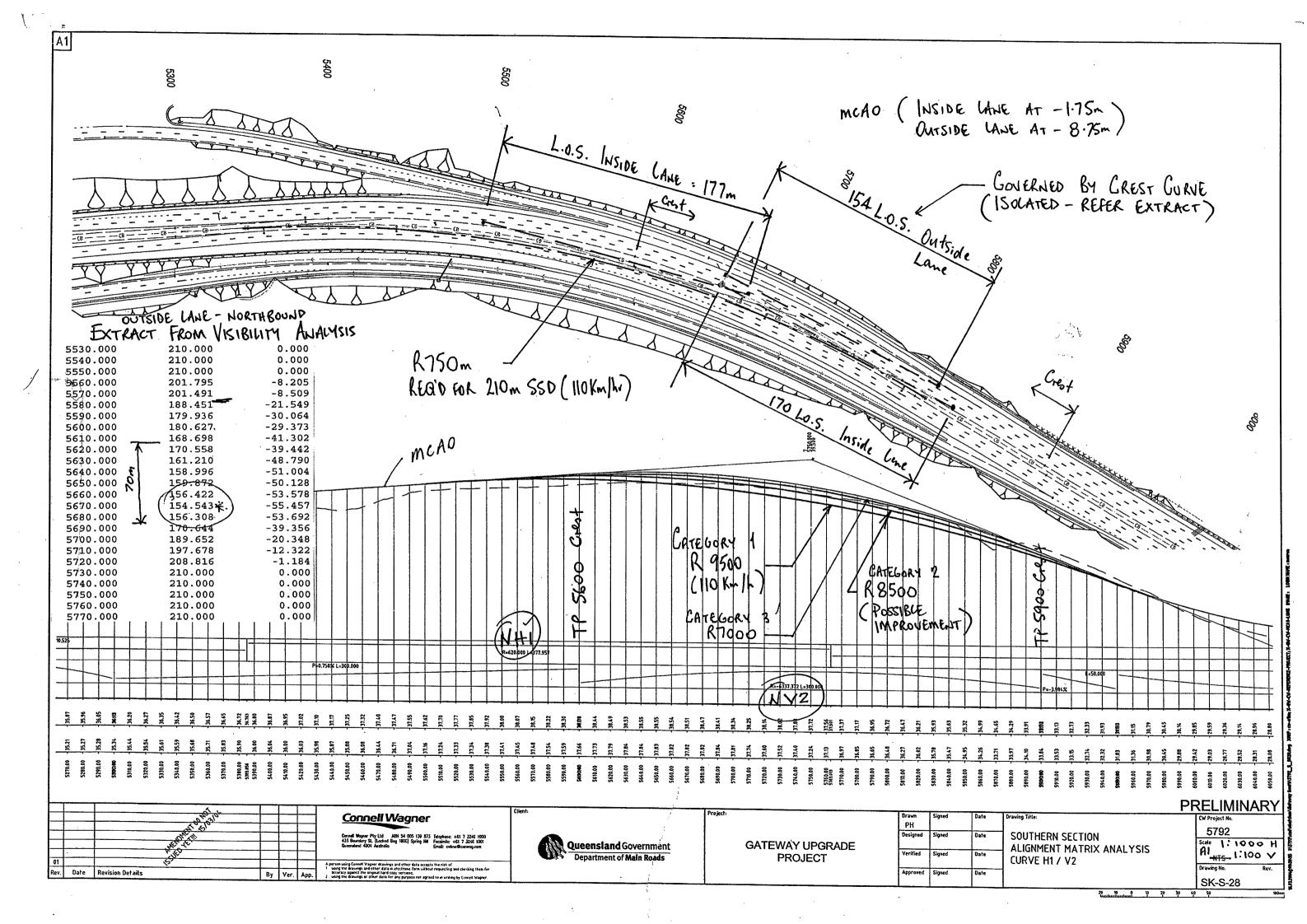
Vertical Alignment - South Bound

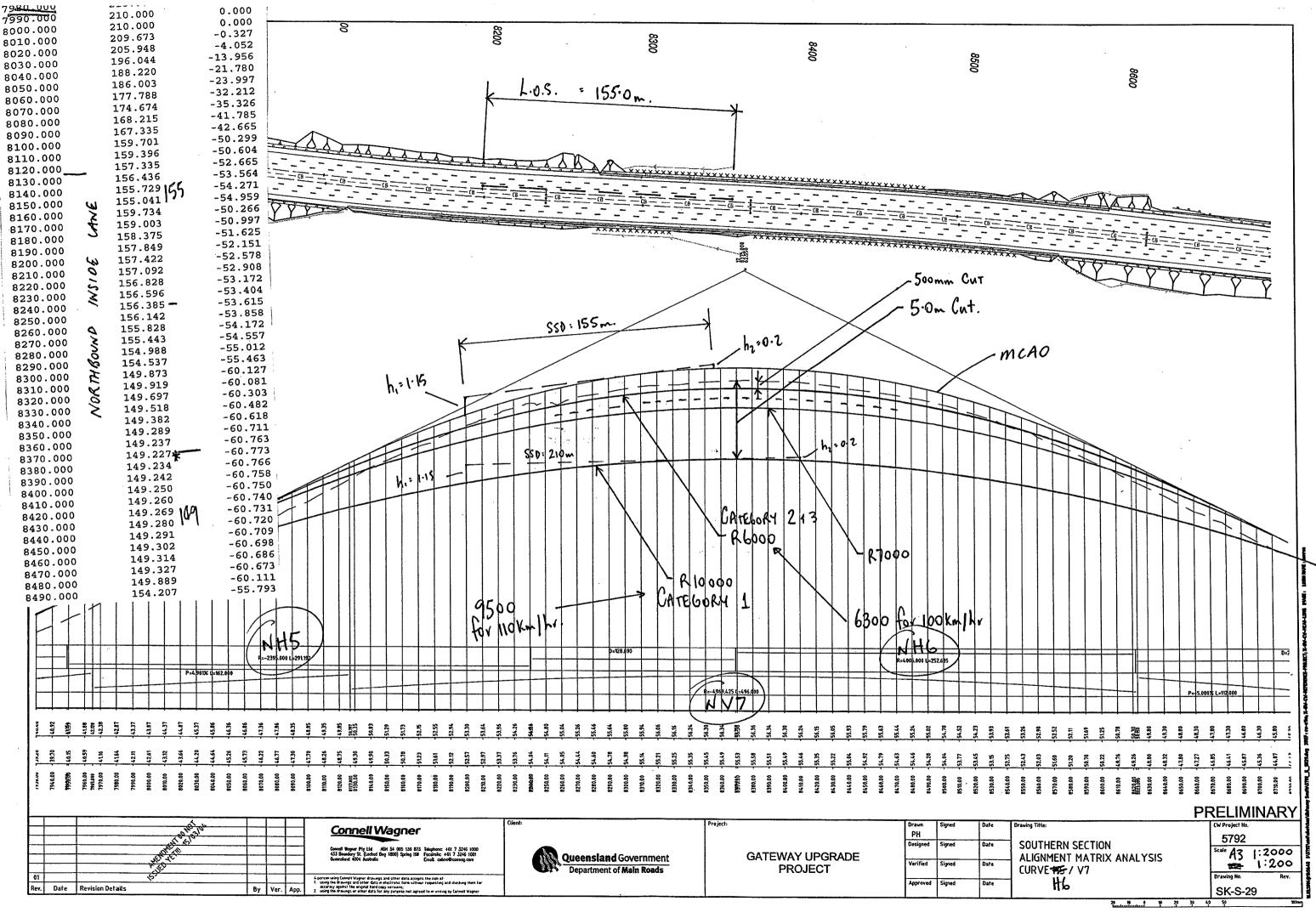
Existing P.S. Ref. Des	sign							1'	10 km/hr desig	gn speed	i																	10	00 km/hr d	esign sp	eed								
Available	Distance (II Distance (II RP							Catego	ory 2 - EDD Pri	inciples (u	use V ₈₅ of 110	0 km/h)								Catego RPD	уЗ- М							Catego	ory 4 - EDI	D Princip	oles (use V ₈₅ (of 100 kn	m/h)						
	Crest	Sag	MSD (Base Case)							Stopping S	Sight Distance	;e								Crest	Sag	MSD (I Cas								Stop	ping Sight Di	istance							
tumber Type e Start ge End s (m) 2	4 9 0	ĸ	h ₁ = 1.15, h ₂ = 0.2	Ba	ase Case	9				Checks						Border	erline	A.A			<u>م</u> م	h ₁ = 1 h ₂ = 1	1.15,	Ba	se Case				·····	Ch	iecks					Bor	derline		nent
Curve N Curve Curve Chainag Chainag Radlu length length	1 11 - E E	SSDF	MMT MMT 4.0s 3.5s		ay T	Truck Day	Norm Night	ıt .	Truck Night		Mean Day / = 0.85 x V ₈₅		Mean Nigh V = 0.85 x V		Skill	ll Day		Skill Nig	ht	BD			MMT 3.5s	Norm D	y Truck	Day	Norm Nigh	nt	Truck Nig	Iht	Mean D V = 0.85 x		Mean V = 0.8	-	s	kill Day	Ski	ll Night	Comr
1	- 1 2 2	5		R ₇ =2.0s, CoD=0.46	C0	R ₁ =2.0s, oD=0.29, h1=2.4		h=1.15 h	R ₁ =2.0s, CoD=0.29 h ₁ =1.15 h ₁ =2.4	.4 R _T =2.0	2.0s, CoD=0.41, h _i =1.1	.15 R	Ry=2.0s, CoD=0.4 h1=0.75 h1	.41 R	R _T =1.5s, CoD	D=0.56, h1=1.15	5	R _T ≈1.5s, CoD h₁=0.75	h ₁ =1.15					R ₁ =2.0s, CoD=0.44	h ₁ =1.15 R ₁ =2 CoD=0.25		R _T =2.0s, CoD=0. h ₁ =0.75 h	.46 1 ₁ =1.15	R _T =2.0s, CoD≕ h ₁ =1.1	0.29 h1=2.4	R _T =2.0s, CoD=0.4		R ₁ =2.0s, 0		R ₁ =1.5s, (CoD=0.56, h ₁ =1.1	5	is, CoD=0.58 75 h ₁ =1.15	
	R _T 2.5	$R_{T}2$	SSD MCR SSD					2=0.6 h2=0		3 h ₂ =0.2 h	h2=0.4 h2=0.6 h2 00 00 00 00 00		=0.6 h₂=1.15 h₂ ₩ Ω ₩ Ω	2=0.6 h2=0.1).2 h₂=0.4 ℃ ೧٫℃		1.15 h₂=0 12 CS	=0.6 h₂=1.15	h ₂ =0.6 с Ду Цу	R _T 2.0 R _T 2.0 R _T 2.5	R ₁ 2.	SSD MCR	SSD		h₂=0.6 h₂=0.6		=0.6 h₂=1.15 h	h₂=0.6 h2:	0.6 h₂=1.15	h ₂ =0.6 h ₂	2=0.2 h2=0.4 h2	n₂=0.6 h₂=1.1	15 h ₂ =0.6 h ₂ =1	1.15 h ₂ =0.6	h ₂ =0.2 h ₂ =0	1.4 h₂=0.6 h₂	=1.15 h ₂ =0.6 h	k₂=1.15 k₂=0.8	
Definition Notes		I		0202	0 2 0	12012	0 2 0 2 0	1201	20202	2020	<u>n > 0 > 0</u>	<u>15 0</u>	2020	<u>, > 0 5</u>		<u> </u>	<u>∑ 0</u>]	N N N	ω					0 <u>2</u> 0 <u>2</u>	0 2 0 2	ŭ Ż ŭ	ΣÖΣŬ	Ň Ž Ň	ž ő ž	ΰ Ξ ΰ	ž % ž %	Categor	≊ ິທີ ≊ິທິ v-denotes	the stand	ຜັ≊ ຜິ lard of mot	≤ orway achi	ievable (1 =	highest, R	PDM
standards for 110 km/h Normai Day Base Case	aesign spee TDBC - Tr	ruck Da	iowest, EDD y Base Case	RT - Reactio	100 km/r n Time	h design sp MMT - Min	eed) Exist. P imum Manoeuv	'.S. Ref. I Ivre Time	Design - Exist	ing Planni ping Sight	ning Study Re nt Distance N	ference I MCR - Mir	Design RF inimum Cre	PDM - Ro st Radius	oad Plan Is CoD	Ining Desig	gn Man nt of De	nual EDI	D - Exte	ended De Shoulde	sign Do r Width	omain I NU-	MSD - I Do not	Manoeuvre S t Use NA - N	ight Distance ot Applicable	e h1-H HV-H	eight of Vie ìgh Volume	werh2	- Height o	f Object	BD - Breaki	king Dista	nce incl. rea	action tim	e SSDR ·	Stopping	Sight Distand	ce Radius	NDBC -
Grade (ch.8125 t	o ch.7950)(-	4.94 % gr	ade)																																			
SV6 sag 7950 7610 8000 8000 8000 8000 8000 8000 8000 8		5000						Sag	g Curves N	ot Analy	lysed in E[DC							A LA	NA NA	3500 3900							Sa	g Curve	s Not A	Analysed i	in EDD)						
Grade (ch.7610 t	o ch.7130)(-	0.69 % gra	ade)																																			
SV5 SV5 sag 7130 6930 6930 7020 7020 7020 208		5000						Sag	g Curves N	ot Analy	lysed in E[סכ				Antonia and			V I A	AAA	3500 3900							Sa	g Curve	s Not A	Analysed i	in EDD)						
Grade (ch.6930 t	o ch.6755	5)(+	2.16 % gr	rade)																																			
SV4 crest 6755 6275 9466 480 175	177 NU 210	A	122 3235 107 2476	2475 165 5872 165 4665	165 3975 225	4703 225 3696	165 5037 165 3608 165	3975 225 7000	7639 225 5645 225 7773	4/ VV 149 4799 149	149 3813 149 3249 140	145 2409 136	3430 136 2457 136	2707 131	3710 131 2948	131 2511 131	1863 131	3183 131 2280	131 2511 455		A A A	2673 2673	97 2047	141 4314 141 3427	141 2920 3389	191 2663 141	3701 141 2651 141	191 191	5504 191 4067	191 3389 117	2944 117 2339 117	1993 117 1478	117 117 117 117	1809 117 1993	112 2715 112	215/ 112 1838 112	1363 112 2329 417	112 112 1838	Refer Sketch SK_S_34
Grade (ch.6275 t	o ch.6204	i)(- :	2.91 % gra	ade)																									<u> </u>		-1								
SV3 sag 6204 5987 5987 5987 5987 2987 217 217 217		5000						Sag	g Curves N	ot Analy	lysed in EE	D							VIV	AAAA	3900							Sa	g Curves	s Not A	Analysed i	in EDD)	<u> </u>					Refer Sketch SK_S_36
Grade (ch.5987 to	o ch.5852	2)(+	3.31 % gr	ade)																																			
SV2 crest 5852 5617 6300 6300 235 235 210	>210 210 NU	AN	122 3235 107 2476	165 5872 165 4665	165 3975 225	4703 225 3696	165 5037 165 3608 165	3975 225 7770	7639 225 5645 225 225 7773	4799 149 149	149 3813 149 3249 149	136 136	3430 136 2457 136	2707 131 3710	3710 131 2948	131 2511 131	1863	3183 131 2280	131 2511 155	NU 170	A A A	2673	97 2047	141 4314 141 3427	141 2920 3389	191 2663 141	3701 141 2651 141	2920 191	5504 191 4067	191 3389 117	2944 117 2339 117	1993 117 1478	117 117 117	1809 117 1993	112 2715 112	215/ 112 1838 112	1363 112 2329 442	1668 112 1838	Refer Sketch SK_S_28
Grade (ch.5617 to	o ch.5235	5)(-(0.43 % gra	ade)																																			
SV1 crest 5235 4915 9805 320 >210	210 210 210	AA	122 3235 107 2476	165 5872 165 4665	165 3975 225	4703 225 3696	165 5037 165 3608 165	3975 225 700	7639 225 5645 225 703	136 136 136	130 3177 136 2707 136	2007 136 136	3430 136 2457 136	2707 131 2710	3/10 131 2948	131 2511 131 131	1863 131	3183 131 2280	131 2511 155	NU 170	A A	2673	97 2047	141 4314 141 3427	141 2920 3389	2663 141	3701 141 2651 141	2920 191	5504 191 4067	3389 117	2944 117 2339 117	1993 117 1478	117 2526 117	1809 117 1993	112 2715 112	215/ 112 1838 112	1363 112 2329 112	112 1838 112	

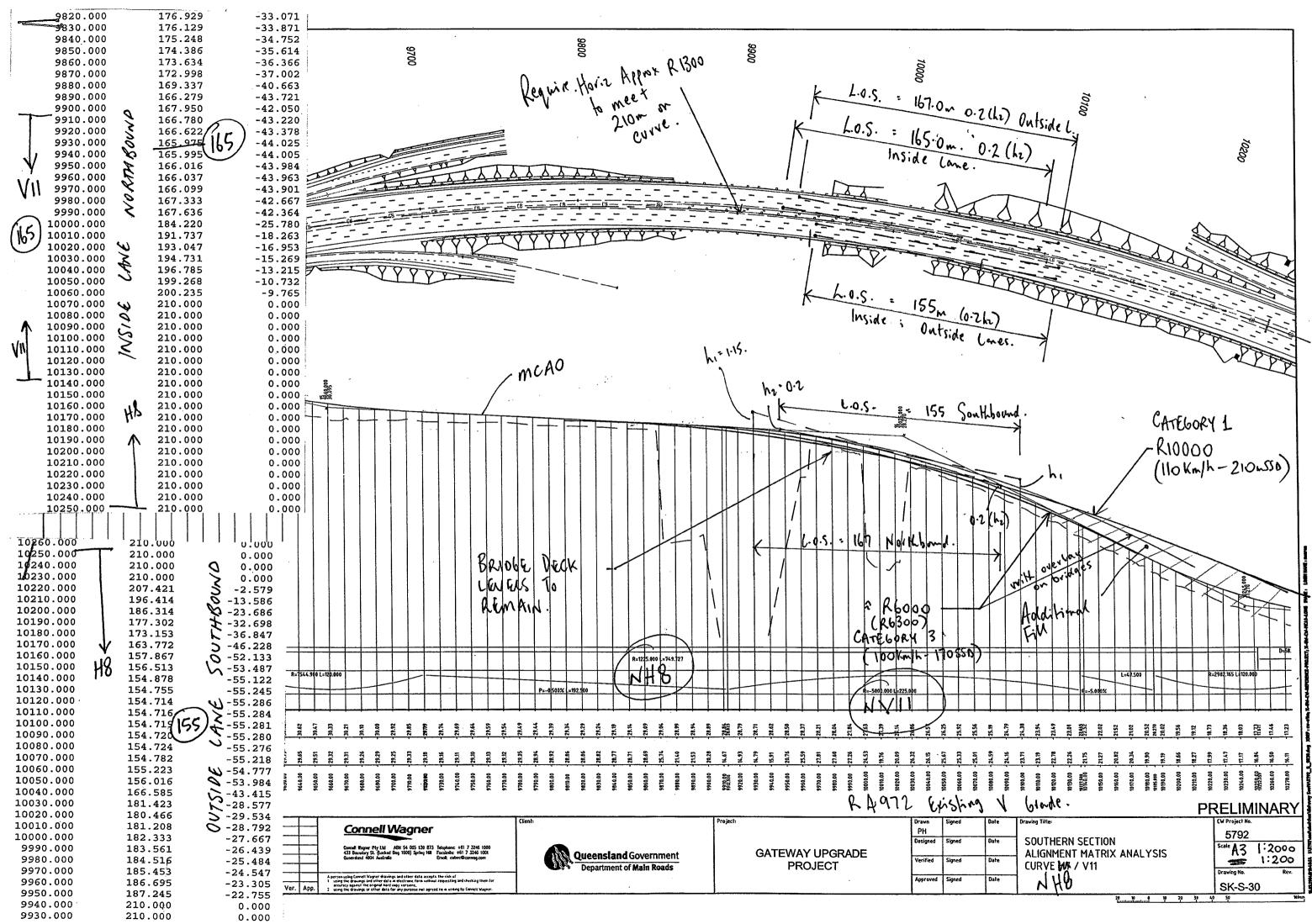
SV3 S3500 S3500 S3500 S3500 S5000 NA NA NA NA	Sag Curves Not Analysed in EDD	NA 3500 3900	Sag Curves Not Ana
Grade (ch.5987 to ch.5852) (+ 3.31 % grade)			
SV2 crest 5852 5617 5817 5817 5817 5817 210 NU NA NA NA 122 210 210 210 210 210 210 210 5872 165	4665 3975 3975 3975 3975 225 3975 2255 3696 165 3975 225 3696 165 3608 3608 3608 3608 3608 3608 3608 3805 2255 3608 165 3805 2255 3805 2255 2255 3875 2255 2255 2255 2255 2255 2255 2255 2255 2255 2255 2255 2255 2255 2255 2255 2255 2255 2256 2257	131 131 2511 131 131 131 131 131 131 131 131 131 131 131 131 131 131 131 131 2511 155 115 155 100 170 NU NA NA NA NA 111 111 141 141 141 141 141 22047 2427 3427	2920 191 191 191 141 141 141 141 141 191 191
Grade(ch.5617 to ch.5235)(-0.43 % grade)			

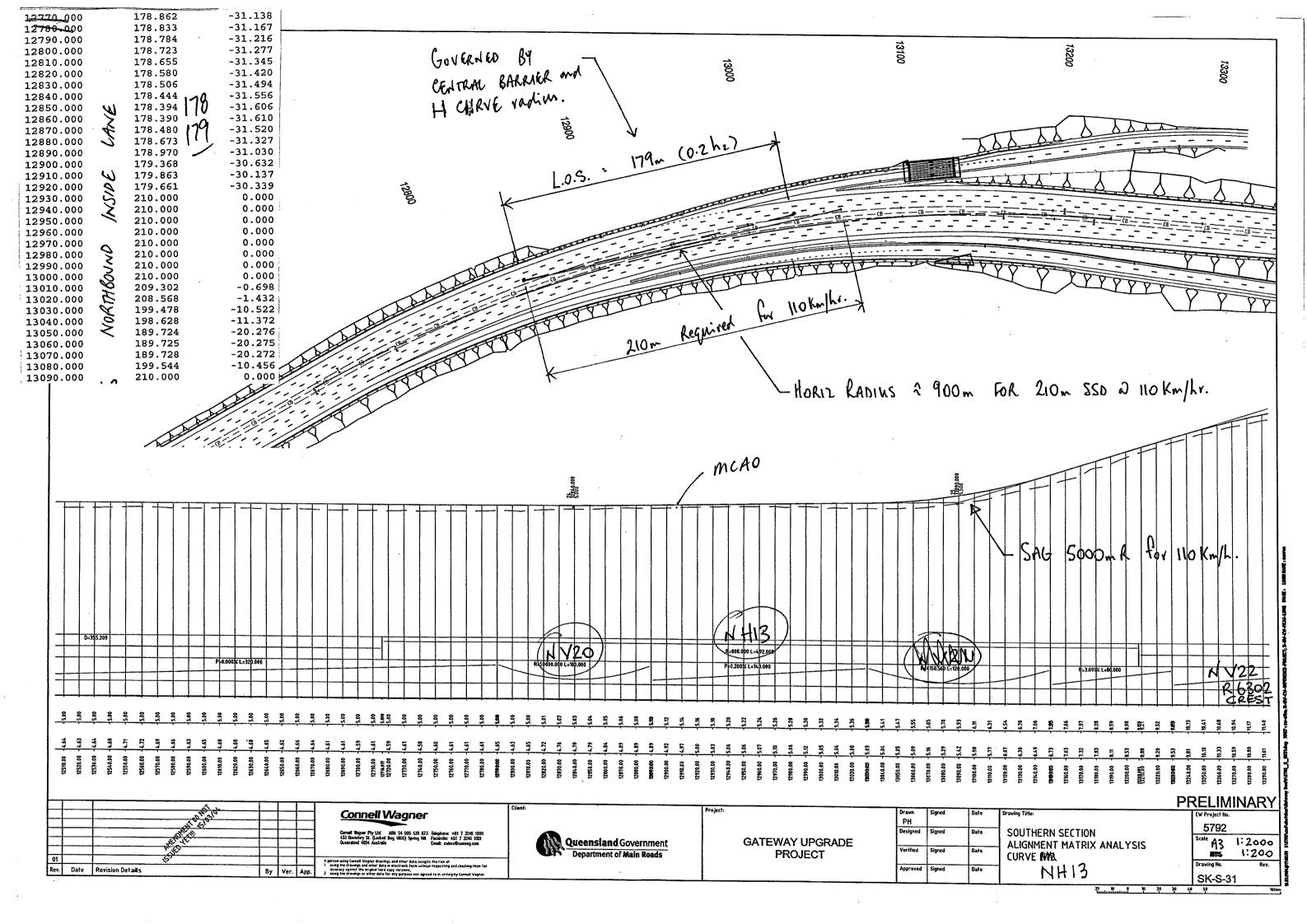
Appendix C

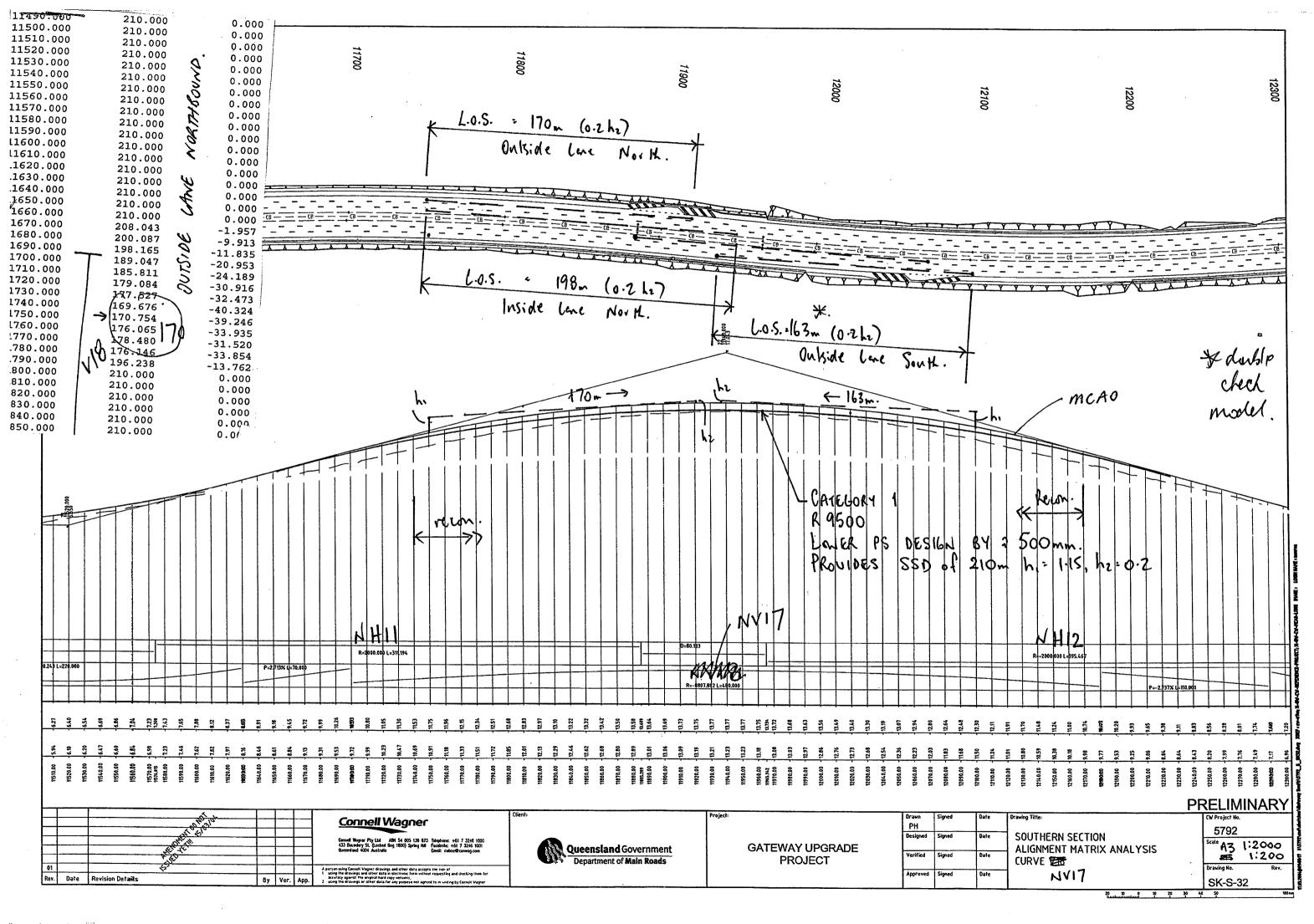
Concept Development Options- Northbound & Southbound

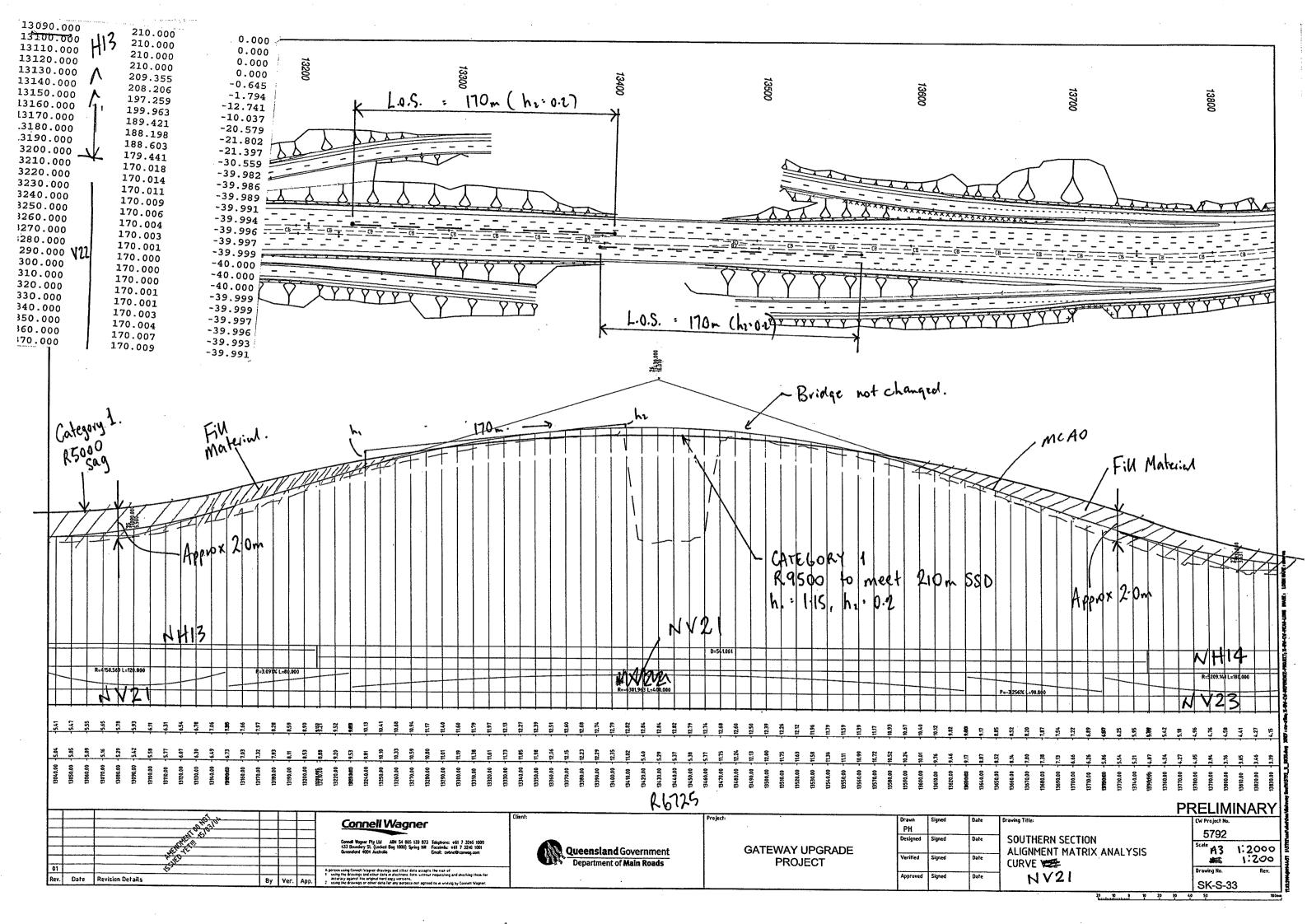


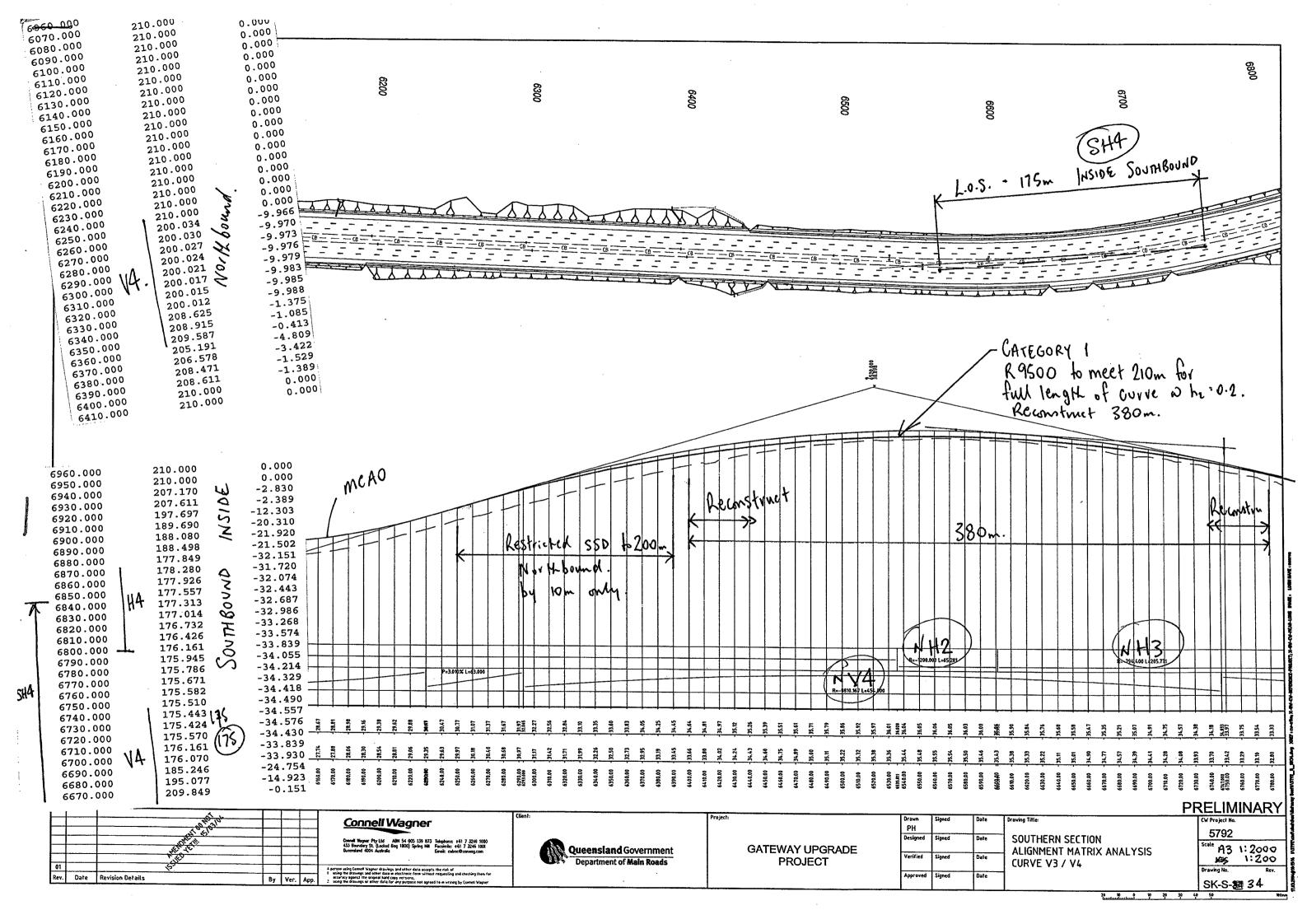


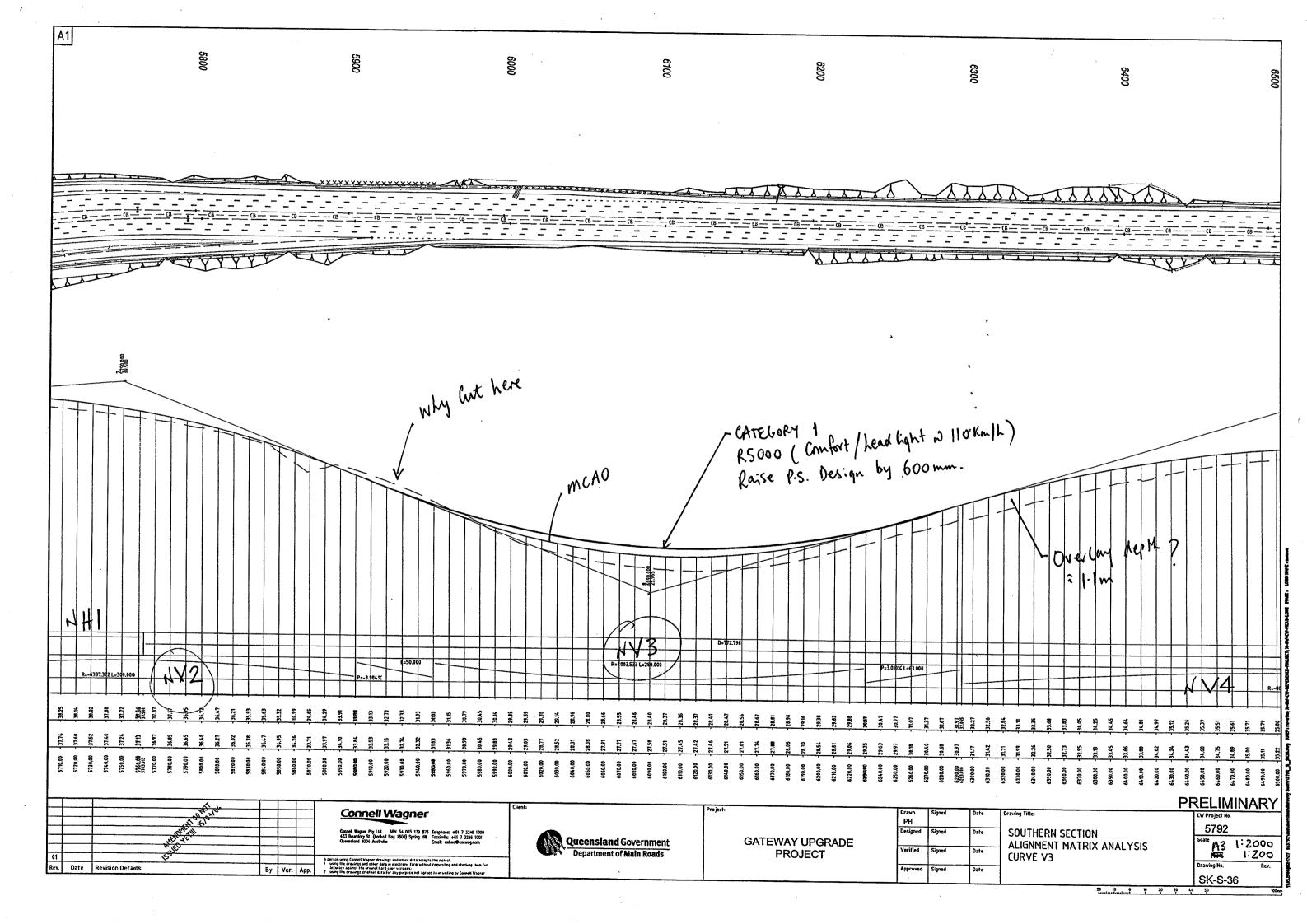


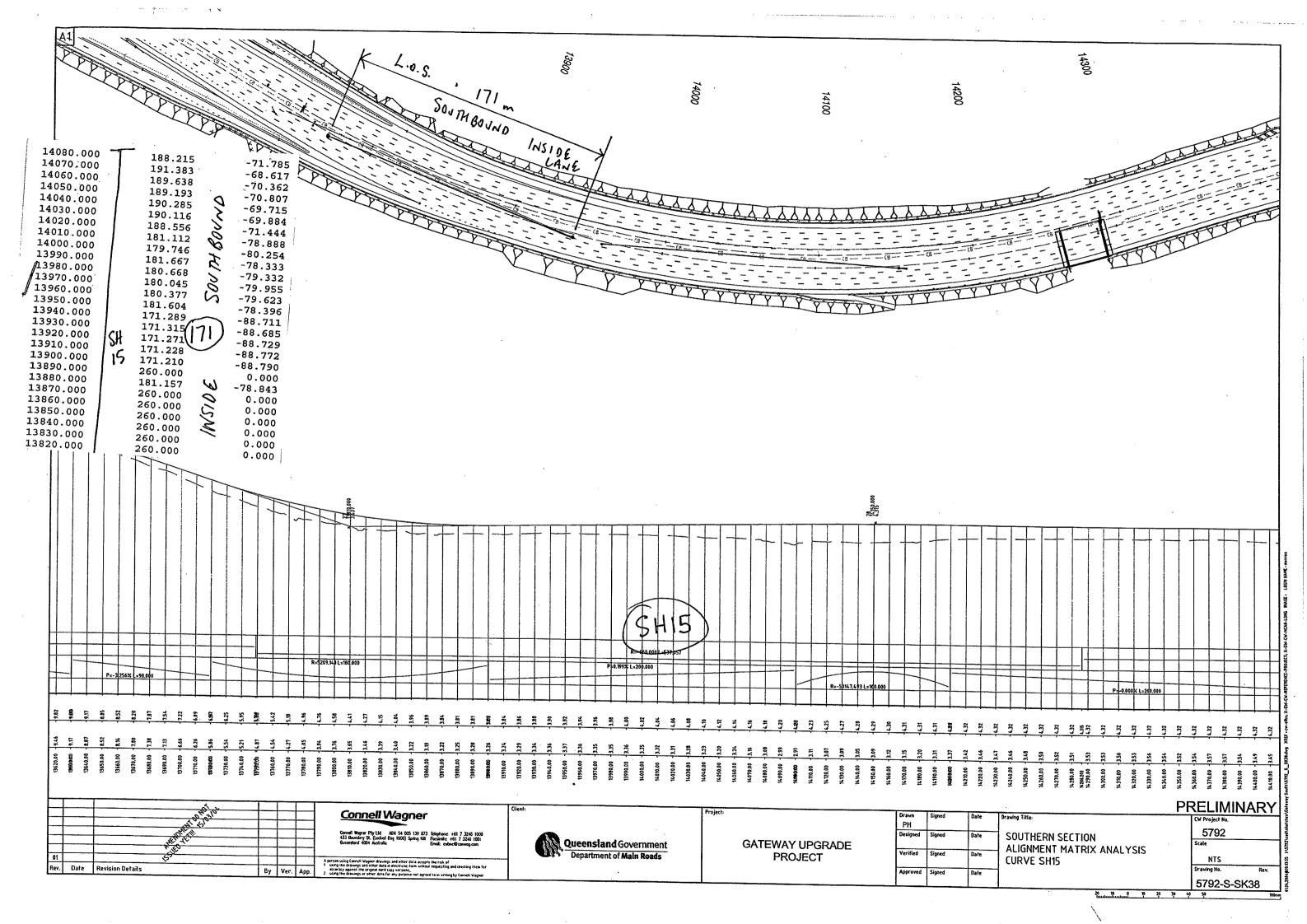


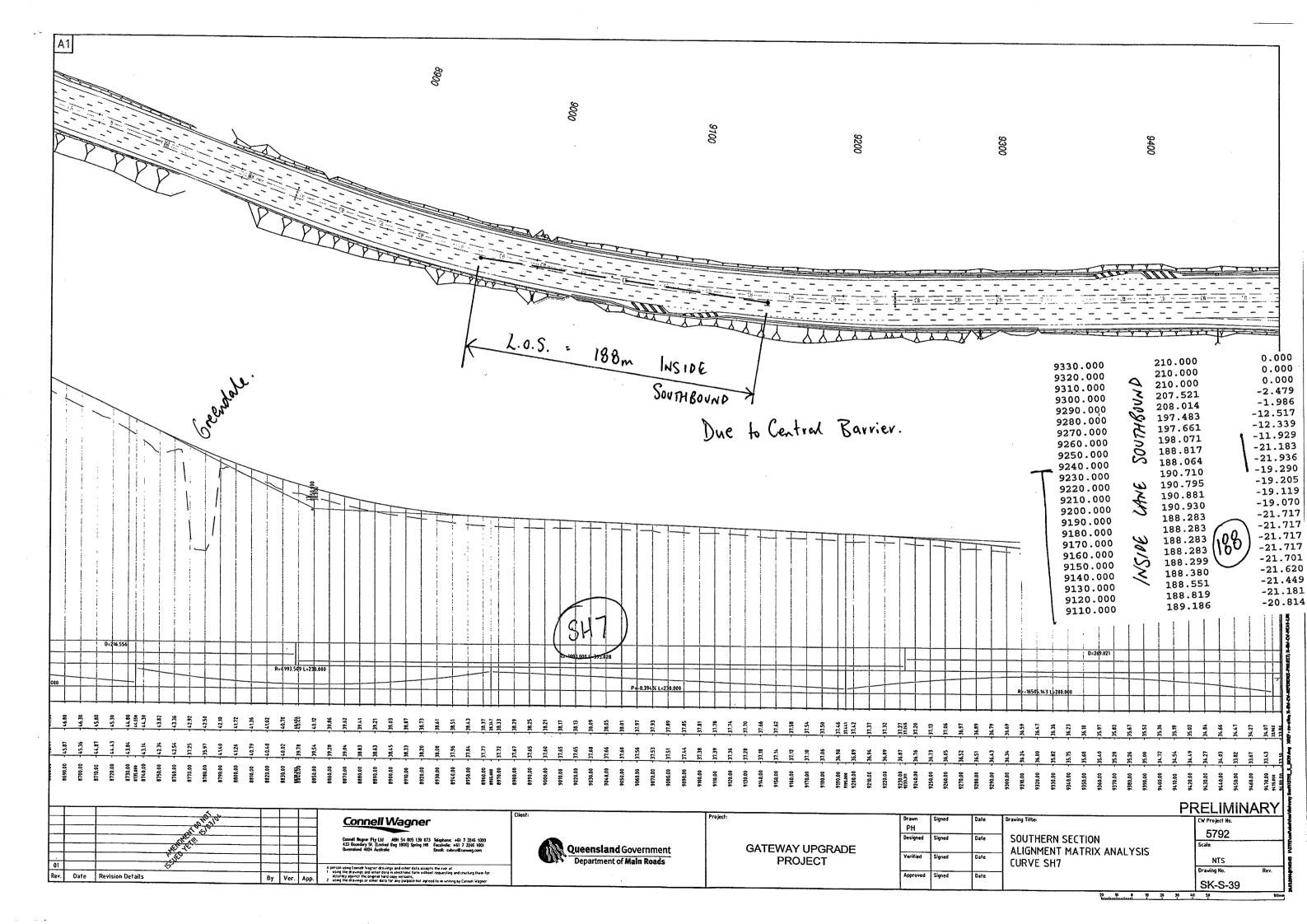












Appendix D

Traffic Accident Statistics

)	DEFIN	ONS FOR	CODING A		S NOTE :-	🔛 Key vehi	cle direction.	ie; The directi	on in which the	key Filcle wa
	00	10	20	30.	40	50	60	travelling as it	t approached ti	he crash locatio
	PEDESTRIAN on foot or in toy / pram	INTERSECTION vehicles from adjacent approaches	VEHICLES from opposing directions	VEHICLES from one direction	MANOEUVRING	1	ON PATH	OFF PATH ON STRAIGHT	OFF PATH ON CURVE	PASSENGERS & MISCELLANEOUS
		2	1_2	VEHICLES IN THE SAME LANE		2		1999	1 00 1	
1	NEAR SIDE 001	THRU - THRU 101	HEAD-ON 201	REAR END 301	LEAVING PARKING 401	HEAD- ON SOL	PARKED OUT	OFF CARRIAGIONAY TOLEFT 70	OFE CARRIAGEWAY	FELL IN / FROM
_		2	2	2		بكوو		OFF CARRIAGENAY	OFF CARRIAGEWAY	
2	EMERGING 002	RIGHT-THRU 102	THRU - RIGHT 202	LEFT REAR 302	PARKING: 402	OUT OF CONTROL 502	DOUBLE PARKED 002	OFF CARRIAGEVAY TO RIGHT 702	LEFT BEND 802	4 •
3	FAR SIDE 003	1 LEFT-THRU 103	RIGHT-LEFT 203	RIGHT REAR 203	PARKING VEHICLES ONLY 403	PULLING OUT 503		LEFT OFF CARRIAGEWAY NTO OBJECT 703	OFF RIGHT BEND ON NTO OBJECT MOS	STRUCKTRAIN DOS
1	PLAYING WORKING LYING STANDING ON CARRIAGEWAY 004	THRU-RIGHT 104	1 2 Right - Right 204		1 REVERSINGIN TRAFFIC 404		1 CAR DOOR . 604		OFFLETT BEND	
	1	2	2	VEHICLESIN PARALLEL DANES		2		INTO OBJECT 704	INTO OBJECT BOA	1 A ST
5	WALKING WITH TRAFFIC 005	RIGHT- RIGHT 105	THRU-LEFT 205	LANE SIDE SWIPE , 305	REVERSING INTO FIXED OBJECT 405	PULLING OUT REAR END 505	DERMANENT OBSTRUCTION 605	OUT OF CONTROL ON CARRIAGEVINY 705	OUT OF CONTROL ON CARRIAGEWAY 805	HIT ANIMAL OFF CARRIAGEWAY 805
	FACING TRAFFIC 000	1	12	2			TEMPORARY ROADWORKS 800	2025B		PARKED CAR
		LEFT-RIGHT 108	2 2	LANE CHANGE RIGHT 308		RIGHT TURN 506	ROADWORKS 606	TOTORN 708		RANAWAY, 905
-	DRIVEWAY 007	THRU-LEFT 107	U TURN 207	LANE CHANGE LEFT. 307	FROM LOADING BAY 407	· · · · · · · · · · · · · · · · · · ·	TEMPORARY OBJECT ON CARRIAGEWAY 607	RIGHT TURN 707	RIGHT TURN 807	VEHICLE MOVEMENTS NOT KNOWN 907
	ON FOOTWAY 008	2 1 Right-LEFT 108				· · · · · ·	ACCIDENT OR BROKEN DOWN COS	1	MOUNTS	. /
	STRUCK WHILE BOARDING	2					1- m		TRAFFIC ISLAND 808	
		LEFT-LEFT 109	OTHER	LEFT TURN SIDE SWIPE 309	OTHER	OTHER	ANIMAL	OTHER	OTHER	OTHER
	000	100	200	PULLING OUT 310	400	500	LOADHITS VEHICLE 610	,700	500	909

oril:1999

·			~	N					1	1				o ,	
∑.	st	< <	Vehicle	Vehicle	Ø	~		Dir. Maximu	Feature	L	1	st 2	Severity	Kille(Alconol (Speed?
Cway	Tdist	DCA	hid	hid	Date	Day	ቷ	Dir.	att	Inter	Street	0	S S	2 3	
0	F		K	<e></e>	. 🖬	-		ž	ц Ц	-	St.	St	s 2	2	10 F
North	5.100	307	Truck	Car, SWag	29-MAY-03	THU	10	N ADMT TO HOSPITAL	Bridae.	, Causeway	GWay MWY			0	NN
North	5.100							N PROPERTY DAMAGE ONLY		, Causeway	GWay MWY				NN
North				Car, SWag				E Recd MEDICAL TRMT - NOT ADMT	Cross		GWay MWY RAMP XH	MT GRAVATT - CAPAL			NN
North			Special Purpose Vehicle					N MINOR INJURY - FIRST AID OR NO TRMT	N/A		GWay MWY				NN
South			Utility, Panel Van	con, crrug				S PROPERTY DAMAGE ONLY	I/C		GWay MWY	GWay MWY RAMP XJ			NN
				Car, SWag	12-DEC-00			S PROPERTY DAMAGE ONLY	N/A		GWay MWY				N N
			Car, SWag	Car, Orrag	11-JAN-94			S Recd MEDICAL TRMT - NOT ADMT	N/A		GWay MWY				N N
South			Articulated Vehicle	4				S PROPERTY DAMAGE ONLY	N/A		GWay MWY GWay MWY				N N
South			Utility, Panel Van		18-DEC-99			S PROPERTY DAMAGE ONLY	N/A						N N
											GWay MWY		i		N N
North				and the second sec				N PROPERTY DAMAGE ONLY	N/A		GWay MWY				
North								N MINOR INJURY - FIRST AID OR NO TRMT	N/A		GWay MWY				NN
North			Car, SWag		01-JUN-02			N ADMT TO HOSPITAL	N/A		GWay MWY				N N
				Car, SWag	17-JAN-97	FRI		S ADMT TO HOSPITAL	N/A		GWay MWY				N N
North			Car, SWag					N PROPERTY DAMAGE ONLY	N/A		GWay MWY				N N
North				· · · · · · · · · · · · · · · · · · ·	02-JUN-03			N MINOR INJURY - FIRST AID OR NO TRMT	N/A		GWay MWY				N N
North			Car, SWag		27-OCT-02			N Recd MEDICAL TRMT - NOT ADMT	N/A		GWay MWY				N N
North			Car, SWag		17-JUL-92	FRI	19		I/C		GWay MWY	GWay MWY RAMP XK			N N
North				Car, SWag	11-APR-97			N PROPERTY DAMAGE ONLY	N/A		GWay MWY	·			N N
			Car, SWag		03-NOV-95			S ADMT TO HOSPITAL	N/A		GWay MWY		2		N N
South	5.300	702	Car, SWag		12-FEB-95	SUN	13	S MINOR INJURY - FIRST AID OR NO TRMT	N/A		GWay MWY		4		N N
South	5.300	805	Car, SWag		15-MAY-02	WED	19	S Recd MEDICAL TRMT - NOT ADMT	N/A		GWay MWY		3	0	NY
North	5.330	306	Car, SWag	Car, SWag	08-MAR-00	WED	23	S PROPERTY DAMAGE ONLY	N/A		GWay MWY		5	0	NN
South	5.330	703	4-wheel drive		23-APR-02	TUE	05	S MINOR INJURY - FIRST AID OR NO TRMT	N/A		GWay MWY		4	0	NN
South	5.330	607	Car, SWag		09-JUN-99	WED	07	S PROPERTY DAMAGE ONLY	N/A		GWay MWY		5	0	N N
			Car, SWag		28-JAN-99			S Recd MEDICAL TRMT - NOT ADMT	N/A		GWay MWY		3	0	N N
North			Car, SWag					N PROPERTY DAMAGE ONLY	N/A		GWay MWY		5	0	N N
North			Car, SWag		02-MAY-96			N PROPERTY DAMAGE ONLY	N/A		GWay MWY				N N
South			4-wheel drive		14-MAY-00			S Recd MEDICAL TRMT - NOT ADMT	N/A		GWay MWY				YY
South			Car, SWag		30-AUG-98			S PROPERTY DAMAGE ONLY	N/A		GWay MWY				N N
South			Car, SWag		17-NOV-00			S Recd MEDICAL TRMT - NOT ADMT	N/A		GWay MWY				NY
South			Car, SWag		20-NOV-93			S Recd MEDICAL TRMT - NOT ADMT	N/A		GWay MWY				N N
North			Car, SWag					N Recd MEDICAL TRMT - NOT ADMT	N/A		GWay MWY RAMP XH		~~~		N N
			Car, SWag					S PROPERTY DAMAGE ONLY	N/A		GWay MWY RAMP XH				N N
				Car, SWag				S PROPERTY DAMAGE ONLY	N/A		GWay MWY				N N
	5.500			Truck				N PROPERTY DAMAGE ONLY	N/A		GWay MWY				N N
			Car, SWag	TIUCK	21-FEB-92			S PROPERTY DAMAGE ONLY			GWay MWY RAMP XI				N N
			Car, SWag Car, SWag					N PROPERTY DAMAGE ONLY	N/A N/A	· ·	GWay MWY RAMP AT	· · · · · · · · · · · · · · · · · · ·			N N
			Articulated Vehicle					N PROPERTY DAMAGE ONLY	N/A N/A						N N
											GWay MWY				N N
			Car, SWag	Cor SMICT				N PROPERTY DAMAGE ONLY	N/A		GWay MWY				
				Car, SWag				S PROPERTY DAMAGE ONLY	N/A		GWay MWY				N N
				Car, SWag				N PROPERTY DAMAGE ONLY	N/A		GWay MWY				N N
				Car, SWag				S PROPERTY DAMAGE ONLY	N/A		GWay MWY				N N
				4-wheel drive				S PROPERTY DAMAGE ONLY	N/A		GWay MWY				N N
	5.500							S PROPERTY DAMAGE ONLY	N/A	1	GWay MWY				N N
				Car, SWag				S PROPERTY DAMAGE ONLY	N/A		GWay MWY				Y N
			Car, SWag	· · · · · · · · · · · · · · · · · · ·				N PROPERTY DAMAGE ONLY	N/A		GWay MWY				N N
			Car, SWag	Utility, Panel Van				S PROPERTY DAMAGE ONLY	N/A		GWay MWY				N N
			Car, SWag				1	S PROPERTY DAMAGE ONLY	N/A		GWay MWY		5		N N
			Car, SWag					N PROPERTY DAMAGE ONLY	N/A		GWay MWY				N N
Ramp	5.564	306	Car, SWag	Truck	23-FEB-01	FRI	06	N ADMT TO HOSPITAL	I/C		GWay MWY RAMP XK				N N
North	5.600	803	Car, SWag					N Recd MEDICAL TRMT - NOT ADMT	N/A		GWay MWY				N N
North	5.600	703	Car, SWag		03-NOV-91	SUN	06	S ADMT TO HOSPITAL	N/A		GWay MWY		2	0	N N
·			· · · · · · · · · · · · · · · · · · ·	·											

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North 5.600 607 Car, SWag				N PROPERTY DAMAGE ONLY	N/A		GWay MWY		5	0	NN
North 5.600 705 Car, SWag				N ADMT TO HOSPITAL	N/A		GWay MWY		+		N N
North 5.600 705 Car, SWag		14-AUG-98 FRI 1	19 1	N ADMT TO HOSPITAL	N/A		GWay MWY		2		N N
South 5.600 800 Car, SWag		23-APR-99 FRI (00 3	S PROPERTY DAMAGE ONLY	N/A		GWay MWY		+		
South 5.600 305 Car, SWag	Articulated Vehic	01-MAY-96 WED ()8 3	S PROPERTY DAMAGE ONLY	N/A		GWay MWY				N N
South 5.600 607 Utility, Panel Van		05-MAY-94 THU 1	1 5	S ADMT TO HOSPITAL	N/A						N N
South 5.600 301 Articulated Vehicle	Articulated Vehic			S MINOR INJURY - FIRST AID OR NO TRMT			GWay MWY				NN
South 5.600 607 Truck			2 0	BRODERTY DAMAGE ONLY	N/A		GWay MWY		4		NN
South 5.600 305 Car, SWag	Articulated Vahia			S PROPERTY DAMAGE ONLY	N/A		GWay MWY		5	0	NN
South 5.600 805 Motor Cycle	Articulated vehicl			ADMT TO HOSPITAL	N/A		GWay MWY		2	0	N N
		10-MAY-99 MON 1	4 3	S Recd MEDICAL TRMT - NOT ADMT	N/A		GWay MWY				N N
North 5.650 607 Car, SWag				N ADMT TO HOSPITAL	I/C		GWay MWY	GWay MWY RAMP XK			N N
South 5.650 702 Car, SWag		25-OCT-93 MON 0)7 5	Recd MEDICAL TRMT - NOT ADMT	N/A		GWay MWY				N N
South 5.700 800 Car, SWag				PROPERTY DAMAGE ONLY	N/A		GWay MWY		5		N N
South 5.700 607 Car, SWag		08-FEB-99 MON 2	22 8	Recd MEDICAL TRMT - NOT ADMT	N/A		GWay MWY	+			
North 5.800 607 Car, SWag				PROPERTY DAMAGE ONLY	N/A		GWay MWY		3		N N
North 5.800 607 Car, SWag				V PROPERTY DAMAGE ONLY	N/A				5		N N
South 5.810 607 Car, SWag				B PROPERTY DAMAGE ONLY	N/A		GWay MWY				N N
North 5.821 700 Car, SWag				ADMT TO HOSPITAL			GWay MWY				N N
North 5.828 703 Car, SWag				ADMITTO HOSPITAL	N/A		GWay MWY				NN
South 5.830 607 Car, SWag					N/A		GWay MWY		2		N N
South 5.830 607 Car, SWag					N/A		GWay MWY		5	0	N N
				S PROPERTY DAMAGE ONLY	N/A		GWay MWY		5		N N
	T			B PROPERTY DAMAGE ONLY	N/A		GWay MWY				N N
	Truck	16-MAY-98 SAT 0	7 N	PROPERTY DAMAGE ONLY	I/C		GWay MWY	GWay MWY RAMP XK			N N
Ramp 5.918 202 Car, SWag	Bicycle	24-FEB-99 WED 0	7 V	V Recd MEDICAL TRMT - NOT ADMT	Cross		GWay MWY RAMP XJ	MT GRAVATT - CAPAL			N N
Ramp 5.918 302 Truck	Car, SWag	21-OCT-98 WED 0	N 8	MINOR INJURY - FIRST AID OR NO TRMT	I/C	MtGrav W I/S	GWay MWY RAMP XJ	REDLAND SUB-ARTER			N N
Ramp 5.918 302 Truck	Car, SWag	07-OCT-02 MON 1	6 E	Recd MEDICAL TRMT - NOT ADMT	I/C	MtGray Weedd	GWay MWY RAMP XK	REDLAND SUB-ARTER			
South 5.920 703 Car, SWag				ADMT TO HOSPITAL	N/A		GWay MWY	INCOLAND SOB-ARTER			N N
North 5.928 202 Car, SWag	Utility, Panel Van			PROPERTY DAMAGE ONLY	I/C		GWay MWY RAMP XK				N N
North 5.928 302 Utility, Panel Van	Car, SWag			ADMT TO HOSPITAL	1/C			REDLAND SUB-ARTER			N N
North 5.928 202 Car, SWag	Car, SWag			PROPERTY DAMAGE ONLY		MiGrav W 1/S	GWay MWY RAMP XJ	REDLAND SUB-ARTER			N N
North 5.928 202 Car, SWag	4-wheel drive			PROPERTY DAMAGE ONLY			GWay MWY RAMP XK	REDLAND SUB-ARTER		0	N N
North 5.928 104 Car, SWag	Car, SWag	03-JUN-99 THU 2					GWay MWY RAMP XK	REDLAND SUB-ARTER	5	0	N N
North 6.000 704 Car, SWag	Car, Sway	03-JUN-99 THU 2		MINOR INJURY - FIRST AID OR NO TRMT	I/C	MtGrav W I/S	GWay MWY RAMP XJ	REDLAND SUB-ARTER	4	0	N N
North 6.014 301 Articulated Vehicle	Antiouslate of Martin	16-JAN-94 SUN 0		PROPERTY DAMAGE ONLY	N/A		GWay MWY		5	0	Y N
	Articulated Vehicle		7 N	PROPERTY DAMAGE ONLY	N/A		GWay MWY		5		N N
North 6.100 704 Car, SWag		19-JAN-99 TUE 0	0 N	PROPERTY DAMAGE ONLY	N/A		GWay MWY				N N
North 6.100 804 Car, SWag		24-SEP-98 THU 1	3 N	PROPERTY DAMAGE ONLY	N/A		GWay MWY				N N
North 6.100 607 Car, SWag	Utility, Panel Van	30-NOV-02 SAT 1	4 N	PROPERTY DAMAGE ONLY	N/A		GWay MWY				N N
North 6.100 703 Car, SWag		21-JUN-98 SUN 1	9 S	PROPERTY DAMAGE ONLY	N/A		GWay MWY				N N
North 6.100 703 Utility, Panel Van		14-FEB-98 SAT 2	1 N	PROPERTY DAMAGE ONLY	N/A		GWay MWY				N N
North 6.100 704 Car, SWag				PROPERTY DAMAGE ONLY	N/A		GWay MWY				
South 6.100 702 Car, SWag		30-JUL-95 SUN 0	0 S	ADMT TO HOSPITAL	N/A		GWay MWY				N N
South 6.100 607 Car, SWag		01-JUL-99 THU 0	6 5	PROPERTY DAMAGE ONLY	N/A		GWay MWY				Y N
South 6.100 607 Utility, Panel Van					N/A						N N
South 6.100 704 Utility, Panel Van			7 9	Recd MEDICAL TRMT - NOT ADMT			GWay MWY				N N
South 6.100 704 Car, SWag				Recd MEDICAL TRMT - NOT ADMT	N/A		GWay MWY				N N
South 6.100 802 Car, SWag	· · · · · · · · · · · · · · · · · · ·		2 0		N/A		GWay MWY	·	3		N N
South 6.100 703 Truck			3 3	PROPERTY DAMAGE ONLY	N/A		GWay MWY		5	0	N N
		01-WAR-94 1UE 1	4 5	Recd MEDICAL TRMT - NOT ADMT	N/A		GWay MWY				N N
South 6.100 607 Utility, Panel Van				PROPERTY DAMAGE ONLY	N/A		GWay MWY				N N
South 6.100 301 Car, SWag	Utility, Panel Van		6 S	PROPERTY DAMAGE ONLY	N/A		GWay MWY				N N
South 6.100 305 Utility, Panel Van	4-wheel drive	01-JUN-02 SAT 1	6 S	PROPERTY DAMAGE ONLY	N/A		GWay MWY				N N
South 6.100 702 Utility, Panel Van				PROPERTY DAMAGE ONLY	N/A		GWay MWY				N N
South 6.100 700 Car, SWag				PROPERTY DAMAGE ONLY	N/A		GWay MWY	<u> </u>			N N
South 6.100 607 Car, SWag	Car, SWag			PROPERTY DAMAGE ONLY	N/A		GWay MWY				
South 6.100 704 Car, SWag					N/A			+			N N
South 6.170 607 Car, SWag		07-DEC-01 FRI 0	6 5		N/A		GWay MWY	<u> </u>			N N
South 6.200 201 Truck	Car, SWag	08-NOV-03 SAT 1	3 9			and the second s	GWay MWY				N N
na na hara a sana daga ka ka sa k	, , 				N/A		GWay MWY		3	0	N N

Accident Statistcs

North 6.230 301 Car, SWag	Car, SWag			N/A	GWay MWY	3 0 N N
North 6.500 000 Car, SWag	Pedestrian		N ADMT TO HOSPITAL	N/A	GWay MWY	2 0 N N
North 6.514 804 Car, SWag				N/A	GWay MWY	4 0 N N
North 6.600 301 Articulated Vehicle	Articulated Vehicl	29-MAR-99 MON 06	N PROPERTY DAMAGE ONLY	N/A	GWay MWY	5 0 N N
North 6.600 702 Car, SWag		18-AUG-91 SUN 19	S PROPERTY DAMAGE ONLY	N/A	GWay MWY	5 0 N N
North 6.600 301 Car, SWag	Car, SWag	13-JUN-96 THU 22	N PROPERTY DAMAGE ONLY	N/A	GWay MWY	5 0 N N
South 6.600 703 Car, SWag			S PROPERTY DAMAGE ONLY	N/A	GWay MWY	5 0 N N
South 6.600 703 Utility, Panel Van				N/A	GWay MWY	4 0 N N
South 6.830 704 Car, SWag				N/A	GWay MWY	5 0 N N
South 6.830 305 Car, SWag	Truck		S PROPERTY DAMAGE ONLY	N/A	GWay MWY	5 0 N N
South 6.920 703 Car, SWag			S Recd MEDICAL TRMT - NOT ADMT	N/A	GWay MWY	
South 6.920 607 Car, SWag	Articulated Vahiel		S PROPERTY DAMAGE ONLY	N/A		
North 7.100 301 Car, SWag	Car, SWag				GWay MWY	5 0 N N
				N/A	GWay MWY	5 0 N N
	Car, SWag		N PROPERTY DAMAGE ONLY	N/A	GWay MWY	5 0 N N
North 7.100 305 Car, SWag	Car, SWag		N PROPERTY DAMAGE ONLY	N/A	GWay MWY	5 0 N N
North 7.100 702 Car, SWag			N Recd MEDICAL TRMT - NOT ADMT	N/A	GWay MWY	3 0 N N
North 7.100 705 Utility, Panel Van			S Recd MEDICAL TRMT - NOT ADMT	N/A	GWay MWY	3 0 N N
North 7.100 201 Car, SWag				N/A	GWay MWY	4 0 N N
North 7.100 301 Truck	Car, SWag		N Recd MEDICAL TRMT - NOT ADMT	N/A	GWay MWY	3 0 N N
North 7.100 705 Motor Cycle			S ADMT TO HOSPITAL	N/A	GWay MWY	2 0 N N
North 7.100 301 Utility, Panel Van	Car, SWag		N PROPERTY DAMAGE ONLY	N/A	GWay MWY	5 0 N N
North 7.100 201 Car, SWag	Car, SWag	17-MAY-98 SUN 18	N ADMT TO HOSPITAL	N/A	GWay MWY	2 0 N N
North 7.100 701 Car, SWag		03-OCT-03 FRI 23	N PROPERTY DAMAGE ONLY	N/A	GWay MWY	5 0 N N
South 7.100 704 Car, SWag		01-JUL-99 THU 05	S PROPERTY DAMAGE ONLY	N/A	GWay MWY	5 0 N N
South 7.100 803 Car, SWag			S PROPERTY DAMAGE ONLY	N/A	GWay MWY	5 0 Y Y
South 7.100 201 Utility, Panel Van	Car, SWag		S Recd MEDICAL TRMT - NOT ADMT	N/A	GWay MWY	3 0 N N
South 7.100 301 Car, SWag	Car, SWag		S PROPERTY DAMAGE ONLY	N/A	GWay MWY	5 0 N N
South 7.100 803 Utility, Panel Van			S PROPERTY DAMAGE ONLY	N/A	GWay MWY	5 0 N N
South 7.100 805 Motor Cycle		26-AUG-94 FRI 13		N/A	GWay MWY	3 0 N N
South 7.100 805 Motor Cycle		26-AUG-94 FRI 13		N/A	GWay MWY GWay MWY	
South 7.100 306 Car, SWag	Articulated Vehicl			N/A		
South 7.100 701 Truck	Articulated Vehici		S Recd MEDICAL TRMT - NOT ADMT		GWay MWY	5 0 N N
South 7.100 805 Car, SWag				N/A	GWay MWY	3 0 N N
			S ADMT TO HOSPITAL	N/A	GWay MWY	2 0 N N
			S PROPERTY DAMAGE ONLY	N/A	GWay MWY	5 0 N N
North 7.200 301 Car, SWag	Car, SWag			N/A	GWay MWY	4 0 N N
South 7.350 301 Car, SWag	Car, SWag		S PROPERTY DAMAGE ONLY	N/A	GWay MWY	5 0 Y N
North 7.420 702 Car, SWag			N PROPERTY DAMAGE ONLY	N/A	GWay MWY	5 0 Y N
South 7.420 701 Utility, Panel Van			S PROPERTY DAMAGE ONLY	N/A	GWay MWY	5 0 N N
North 7.514 804 Car, SWag			N PROPERTY DAMAGE ONLY	N/A	GWay MWY	5 0 N N
North 7.590 800 Car, SWag			N PROPERTY DAMAGE ONLY	N/A	GWay MWY	5 0 N N
North 7.610 305 Car, SWag	Special Purpose		N Recd MEDICAL TRMT - NOT ADMT	N/A	GWay MWY	3 0 N N
North 7.610 306 Car, SWag	Car, SWag		N PROPERTY DAMAGE ONLY	N/A	GWay MWY	5 0 N N
South 7.805 301 Car, SWag	Car, SWag		S PROPERTY DAMAGE ONLY	N/A	GWay MWY	5 0 N N
South 7.910 703 Car, SWag			S Recd MEDICAL TRMT - NOT ADMT	N/A	GWay MWY	3 0 N N
North 7.920 702 Car, SWag		23-NOV-92 MON 05	N PROPERTY DAMAGE ONLY	N/A	GWay MWY	5 0 N N
North 7.920 301 Car, SWag	Car, SWag		S PROPERTY DAMAGE ONLY	N/A	GWay MWY	5 0 N N
North 7.920 301 Articulated Vehicle	Truck		N PROPERTY DAMAGE ONLY	N/A	GWay MWY	5 0 N N
North 7.920 301 Car, SWag	Car, SWag			N/A	GWay MWY	4 0 N N
North 7.920 305 Car, SWag	Car, SWag			N/A	GWay MWY	4 0 N N
South 7.920 307 Car, SWag	Car, SWag		S PROPERTY DAMAGE ONLY	N/A	GWay MWY	5 0 N N
South 7.920 704 Car, SWag			S PROPERTY DAMAGE ONLY	N/A	GWay MWY	5 0 N N
South 7.920 704 Car, SWag			S PROPERTY DAMAGE ONLY	N/A	GWay MWY	5 0 1 N
South 7.920 703 Utility, Panel Van			S PROPERTY DAMAGE ONLY	N/A	GWay MWY GWay MWY	
South 7.920 502 Car, SWag			S PROPERTY DAMAGE ONLY	N/A N/A		
South 7.920 302 Car, Swag	Omnibus		S Recd MEDICAL TRMT - NOT ADMT		GWay MWY	5 0 N N
South 7.920 601 Articulated Vehicle				N/A	GWay MWY	3 0 N N
Articulated Vehicle	Car, SWag	22-JUN-93 TUE 15	S PROPERTY DAMAGE ONLY	N/A	GWay MWY	50NN

South 7.920 703 Articulated Vehicle				1						
South 7.920 705 Motor Cycle			S S PROPERTY DAMAGE ONLY	N/A		GWay MWY		5	0	NN
			S Recd MEDICAL TRMT - NOT ADMT	N/A		GWay MWY		3		N N
South 7.920 305 Road train/Bdouble/triple	e Car, Swag		S PROPERTY DAMAGE ONLY	N/A		GWay MWY				N N
South 7.920 704 Utility, Panel Van		01-MAY-00 MON 21	S Recd MEDICAL TRMT - NOT ADMT	N/A		GWay MWY				N N
North 8.100 301 Car, SWag	Car, SWag		N ADMT TO HOSPITAL	N/A		GWay MWY		} (N N
South 8.100 301 Car, SWag	Car, SWag		S ADMT TO HOSPITAL	N/A		GWay MWY				N N
South 8.100 608 Truck	Car, SWag	09-MAY-00 TUE 15	S Recd MEDICAL TRMT - NOT ADMT	N/A		GWay MWY				N N
South 8.100 201 Special Purpose Vehicle	Car, SWag	11-JUL-03 FRI 17	S Recd MEDICAL TRMT - NOT ADMT	N/A		GWay MWY				
South 8.100 705 Car, SWag		10-JUN-00 SAT 22	S PROPERTY DAMAGE ONLY	N/A		GWay MWY		i		N N
North 8.190 703 Car, SWag			S Recd MEDICAL TRMT - NOT ADMT	N/A		GWay MWY				<u>N N</u>
South 8.390 703 Articulated Vehicle		23-NOV-96 SAT 11	S ADMT TO HOSPITAL	N/A		GWay MWY				N N
North 8.420 301 Car, SWag	Car, SWag	19-FEB-98 THU 07	N PROPERTY DAMAGE ONLY	N/A		GWay MWY				N N
South 8.420 705 Utility, Panel Van		02-AUG-92 SUN 16	S ADMT TO HOSPITAL	N/A		GWay MWY				N N
North 8.490 703 Car, SWag			N PROPERTY DAMAGE ONLY	N/A						N N
North 8.600 702 Car, SWag			N MINOR INJURY - FIRST AID OR NO TRMT	N/A		GWay MWY				NN
	Utility, Panel Van		S ADMT TO HOSPITAL			GWay MWY				N N
	Utility, Panel Van	25-JUN-99 FRI 12	N ADMT TO HOSPITAL	N/A		GWay MWY				Y N
South 8.730 704 Car, SWag			S MINOR INJURY - FIRST AID OR NO TRMT	N/A		GWay MWY				N N
South 8.755 305 Car, SWag	Car, SWag	29-JUL-03 TUE 14	S PROPERTY DAMAGE ONLY	N/A		GWay MWY				N N
		27-JUI -03 SUN 11	N ADMT TO HOSPITAL	N/A		GWay MWY				N N
North 8.920 708 Car, SWag		08-MAR-98 SUN 13	N ADMIT TO HOSPITAL	N/A		GWay MWY				NN
North 8.920 700 Car, SWag			S PROPERTY DAMAGE ONLY	N/A		GWay MWY				N N
	Utility Panel Van	19-14N-95 THU 07	S PROPERTY DAMAGE ONLY	N/A		GWay MWY		5	0	N N
South 8.920 301 Car, SWag	Car, SWag	29-MAR-00 WED 08	S MINOR INJURY - FIRST AID OR NO TRMT	N/A		GWay MWY		5	0	NN
South 8.920 704 Car, SWag	oar, orrag	26-1111-00 MONI 08	S PROPERTY DAMAGE ONLY	N/A		GWay MWY		4	0	NN
South 8.920 305 Car, SWag	Car, SWag			N/A		GWay MWY		5	0	NN
South 8.960 702 Truck	Car, Oway			N/A		GWay MWY		4	0	NN
North 9.000 703 Car, SWag				N/A		GWay MWY		5	0	N N
North 9.010 703 Car, SWag			S ADMT TO HOSPITAL	N/A		GWay MWY		2	0	N N
North 9.080 302 Car, SWag	Cor SWee	13-APR-97 SUN 13		N/A		GWay MWY		4		NN
North 9.100 705 Car, SWag	Car, SWag			N/A		GWay MWY		5		N N
North 9.150 700 Car, SWag		07-NOV-96 THU 19		N/A		GWay MWY		3		N N
South 9.200 301 Car, SWag	Car CM/ar	11-JAN-93 MON 07		N/A		GWay MWY		3		N N
South 9.230 800 Car, SWag	Car, SWag	11-JUL-00 TUE 15		N/A		GWay MWY				NN
	0	10-0CT-95 TUE 15		N/A	1	GWay MWY				YN
	Car, SWag	15-SEP-97 MON 04		N/A		GWay MWY				NN
North 9.290 301 Car, SWag	Car, SWag	12-MAR-99 FRI 13	N Recd MEDICAL TRMT - NOT ADMT	N/A	1	GWay MWY				N N
South 9.300 703 Car, SWag			S ADMT TO HOSPITAL	N/A		GWay MWY				N N
North 9.320 705 Car, SWag			N PROPERTY DAMAGE ONLY	N/A		GWay MWY				N N
South 9.320 601 Car, SWag				N/A		GWay MWY				N N
South 9.320 305 Truck				N/A		GWay MWY				N N
North 9.340 301 Truck				N/A		GWay MWY				N N
North 9.370 305 Car, SWag				N/A		GWay MWY				N N
South 9.400 307 Truck	Car, SWag	17-NOV-01 SAT 16		N/A		GWay MWY				NN
North 9.420 703 Car, SWag		22-AUG-91 THU 00		N/A		GWay MWY				NN
North 9.420 704 Articulated Vehicle		06-OCT-00 FRI 04		N/A		GWay MWY				NN
North 9.420 805 Car, SWag		17-AUG-03 SUN 15	N PROPERTY DAMAGE ONLY	N/A		GWay MWY				N N
North 9.420 805 Car, SWag		16-OCT-95 MON 20	N FATAL	N/A		GWay MWY				N N
South 9.420 301 Car, SWag	Utility, Panel Van	08-MAR-93 MON 17	S PROPERTY DAMAGE ONLY	N/A		GWay MWY				N N
	4-wheel drive	29-OCT-03 WED 10	S ADMT TO HOSPITAL	N/A		GWay MWY	+			N N
Ramp 9.430 101 Car, SWag	Car, SWag		N ADMT TO HOSPITAL	Cross	·····	GWay MWY RAMP XA	GWay MWY RAMP XM			N N
North 9.490 805 Car, SWag		07-JUL-96 SUN 10	N PROPERTY DAMAGE ONLY	I/C		GWay MWY	GWay MWY RAMP XM			N N
South 9.520 703 Car, SWag		21-DEC-02 SAT 03	S PROPERTY DAMAGE ONLY	N/A		GWay MWY				Y N
	Car, SWag	09-MAR-02 SAT 05	E PROPERTY DAMAGE ONLY			GWay MWY RAMP VB	GWay MWY RAMP VF			
			E PROPERTY DAMAGE ONLY			GWay MWY RAMP VB	GWay MWY RAMP VF			
			E PROPERTY DAMAGE ONLY			GWay MWY RAMP VB	GWay MWY RAMP VF			
Ramp 9.520 101 Truck	Car, SWag			Cross Old	d Clev N E	GWay MWY RAMP XH	OLD CLEVELAND RD	5		N N
								5	0	

Ramp 9.520	101 C	Car, SWag	Jtility. Panel Van	29-JUL-03 TUE	09	E ADMT TO HOSPITAL	I/C	Old Clev N E	GWay MWY RAMP VB	GWay MWY RAMP VF 2	2 0	N N
							I/C	Old Clev N E	GWay MWY RAMP VB	GWay MWY RAMP VF	1 1	N N
							I/C	Old Clev N E	GWay MWY RAMP VB	GWay MWY RAMP VF	5 0	N N
			Y							GWay MWY RAMP VF		N N
						E PROPERTY DAMAGE ONLY				GWay MWY RAMP VF		N N
		· •				E PROPERTY DAMAGE ONLY				GWay MWY RAMP VG		
							<u>//C</u>			GWay MWY RAMP VF		
			· · · · · · · · · · · · · · · · · · ·							GWay MWY RAMP XL		
			······							GWay MWY RAMP VF		
Ramp 9.520	101 L		· · · · · · · · · · · · · · · · · · ·			E ADMT TO HOSPITAL				· · · · · · · · · · · · · · · · · · ·		
Ramp 9.520	101 L	Jnknown/Not stated	<u> </u>			E PROPERTY DAMAGE ONLY	· ···	Old Clev N E		OLD CLEVELAND RD		
Ramp 9.520	101 0	Car, SWag 🛛 🛛	Car, SWag	21-SEP-00 THU		E PROPERTY DAMAGE ONLY	I/C		· · · · · · · · · · · · · · · · · · ·	GWay MWY RAMP VE		
Ramp 9.520	101 0	Car, SWag				E PROPERTY DAMAGE ONLY				GWay MWY RAMP VF		
			Car, SWag	20-FEB-97 THU	11	E PROPERTY DAMAGE ONLY	I/C	Old Clev N E	GWay MWY RAMP VB	GWay MWY RAMP VF		
				15-APR-98 WED	12	E PROPERTY DAMAGE ONLY	I/C	Old Clev N E	GWay MWY RAMP VB	GWay MWY RAMP VF	5 0	
						E ADMT TO HOSPITAL	I/C	Old Clev N E	GWay MWY RAMP VB	GWay MWY RAMP VF	2 0	N N
						E ADMT TO HOSPITAL	I/C			GWay MWY RAMP VF	2 0	N N
						E PROPERTY DAMAGE ONLY	I/C		GWay MWY RAMP VB	GWay MWY RAMP VF		N N
						E PROPERTY DAMAGE ONLY	Cross			GWay MWY RAMP VF		
			Y			N ADMT TO HOSPITAL				GWay MWY RAMP XL		
			· · · · · · · ·			E PROPERTY DAMAGE ONLY				OLD CLEVELAND RD		
						E PROPERTY DAMAGE ONLY				GWay MWY RAMP VF		NN
	101 1								CLEVELAND SUB-ARTER			NN
	705 T					S PROPERTY DAMAGE ONLY	I/C				~	N N
			A CONTRACT OF A			E PROPERTY DAMAGE ONLY	I/C			GWay MWY RAMP VF		
Ramp 9.520	101 (E Recd MEDICAL TRMT - NOT ADMT		Old Clev N E		OLD CLEVELAND RD		
Ramp 9.520	302 4	4-wheel drive				S PROPERTY DAMAGE ONLY	I/C			· · · · · · · · · · · · · · · · · · ·	5 0	
Ramp 9.520	101 l	Jtility, Panel Van	Car, SWag			E MINOR INJURY - FIRST AID OR NO TRMT	Cross					NN
Ramp 9.520	101 (Car, SWag	Car, SWag	28-SEP-93 TUE	17	E PROPERTY DAMAGE ONLY	Cross		· · · · · · · · · · · · · · · · · · ·	GWay MWY RAMP VG		N N
	101 /	Articulated Vehicle	Truck	13-JUN-01 WED	17	E Recd MEDICAL TRMT - NOT ADMT	I/C	Old Clev N E	GWay MWY RAMP VB	GWay MWY RAMP VF) N N
		·····	Car, SWag	19-OCT-94 WED	17	E Recd MEDICAL TRMT - NOT ADMT	I/C	Old Clev N E	GWay MWY RAMP VF	OLD CLEVELAND RD) N N
		· · · · · · · · · · · · · · · · · · ·		26-JUN-98 FRI	17	E Recd MEDICAL TRMT - NOT ADMT	I/C	Old Clev N E	GWay MWY RAMP VB	GWay MWY RAMP VG		
						W Recd MEDICAL TRMT - NOT ADMT	Cross	Old Clev N W	GWay MWY	OLD CLEVELAND RD	3 0) N M
			Car, SWag			E ADMT TO HOSPITAL	I/C	Old Clev N E	CLEVELAND SUB-ARTEF	GWay MWY RAMP VF	2 0) N M
and the second s			Car, SWag	03-JAN-94 MON		E PROPERTY DAMAGE ONLY	Cross			GWay MWY RAMP VF	5 0) N M
						E PROPERTY DAMAGE ONLY	I/C			GWay MWY RAMP VF		
			Car, SWag			E PROPERTY DAMAGE ONLY	Cross		CLEVELAND SUB-ARTER			
1			Car, Sway			S MINOR INJURY - FIRST AID OR NO TRMT			GWay MWY RAMP VG	GWay MWY RAMP XC	4 C) N '
Ramp 9.520						N MINOR INJURY - FIRST AID OR NO TRMT			GWay MWY			D N I
North 9.560		· · · · · · · · · · · · · · · · · · ·					N/A		GWay MWY			D Y I
North 9.560			Truck			N Recd MEDICAL TRMT - NOT ADMT	I/C		GWay MWY	GWay MWY RAMP XM		D N I
		Utility, Panel Van				N Recd MEDICAL TRMT - NOT ADMT						D N I
		· · · · · · · · · · · · · · · · · · ·	Truck				N/A		GWay MWY			D N I
			Car, SWag				N/A		GWay MWY	1		D N I
		Articulated Vehicle				N PROPERTY DAMAGE ONLY	I/C		GWay MWY	GWay MWY RAMP XM		
			Articulated Vehicle			N PROPERTY DAMAGE ONLY	I/C		GWay MWY	GWay MWY RAMP XM		0 N I
		Car, SWag				S Recd MEDICAL TRMT - NOT ADMT	N/A		GWay MWY			0 Y I
		Utility, Panel Van	Utility, Panel Van	12-MAR-01 MON	06	N PROPERTY DAMAGE ONLY	N/A		GWay MWY			0 N
			Car, SWag	14-JUN-95 WED	10	S ADMT TO HOSPITAL	N/A		GWay MWY			0 N
		Utility, Panel Van				S ADMT TO HOSPITAL	N/A		GWay MWY			0 N
South 9.620			Pedestrian			S Recd MEDICAL TRMT - NOT ADMT	N/A		GWay MWY		3 (0 N
		Road train/Bdouble/triple		31-JUL-00 MON			N/A		GWay MWY		1 1	1 N
North 9.625			Jai, Orray			N ADMT TO HOSPITAL	N/A		GWay MWY	1	2 (0 N
						N PROPERTY DAMAGE ONLY	N/A		GWay MWY			0 N
		Car, SWag				S Recd MEDICAL TRMT - NOT ADMT	N/A		GWay MWY			0 N
South 9.670							N/A		GWay MWY	-		0 N
North 9.690						N PROPERTY DAMAGE ONLY			GWay MWY			0 N
							N/A		IPSWICH - CUNNINGHAI			0 N
North 9.720			Car, SWag			S PROPERTY DAMAGE ONLY	N/A				5 (
North 9.720	702	Utility, Panel Van		01-JUL-91 MON	12	S PROPERTY DAMAGE ONLY	N/A		GWay MWY	1		

	0.000	1									
North 9.720 704 (14-DEC-94 V	NED 16	N PROPERTY DAMAGE ONLY	N/A		GWay MWY			
	Utility, Panel Van		29-MAR-94	TUE 17	N PROPERTY DAMAGE ONLY	N/A	-	GWay MWY) N N
South 9.720 703 0	Car, SWag		15-MAY-95 N	MON 03	S ADMT TO HOSPITAL	N/A) N N
Ramp 9.755 101 (Car, SWag	Utility, Panel Van			S Recd MEDICAL TRMT - NOT ADMT			GWay MWY) N N
Ramp 9.755 101 0	Car, SWag	Car, SWag	26-AUG-95	SAT 02	S Recd MEDICAL TRMT - NOT ADMT			GWay MWY RAMP VG	GWay MWY RAMP XC	3 0) Y N
					S ADMT TO LIOSDITAL	Cross	Old Clev S E	CLEVELAND SUB-ARTE	R GWay MWY RAMP VC	30) N N
		Udi, Oway	01-110/-93		S ADMT TO HOSPITAL	Cross	Old Clev S E	GWay MWY RAMP VG	GWay MWY RAMP XC		
		Ounty, Paner van	23-INOV-93	TUE 09	S ADMT TO HOSPITAL	Cross	Old Clev S E	GWay MWY RAMP VG	GWay MWY RAMP XC		
		Car, SWag	25-JAN-93 N	MON 09	S MINOR INJURY - FIRST AID OR NO TRMT	Cross	Old Clev S E	GWay MWY RAMP VG	OLD CLEVELAND RD		
			21-MAY-95 S	SUN 09	S MINOR INJURY - FIRST AID OR NO TRMT	I/C	Old Clev S F	GWay MWY RAMP VG			
		Car, SWag	25-FEB-95	SAT 09	S PROPERTY DAMAGE ONLY	I/C	Old Clev S E	GWay MWY RAMP VG	GWay MWY RAMP XC		
Ramp 9.755 101 C	Car, SWag	Car, SWag	27-DEC-93 N	10N 09	S Recd MEDICAL TRMT - NOT ADMT		Old Clov S E	GWay MWY RAMP VG	GWay MWY RAMP XC	5 0	N N
Ramp 9.755 101 C		Car, SWag	02-AUG-95 V	VED 10	S PROPERTY DAMAGE ONLY			GWay MWY RAMP VG	GWay MWY RAMP XC	3 0) <u>N</u> N
		Car, SWag	29-JUN-96 S		S Recd MEDICAL TRMT - NOT ADMT	Cross	Old Clev S E	GWay MWY RAMP VG	GWay MWY RAMP XC	5 0	N N
		Car, SWag			S Reed MEDICAL TRIMT - NOT ADMT	Cross	Old Clev S E	GWay MWY RAMP VG	GWay MWY RAMP XC	3 0	N N
			06 MAD 00 N		S Recd MEDICAL TRMT - NOT ADMT	I/C	Old Clev S E	GWay MWY RAMP VG	GWay MWY RAMP XC		
		Car, SWag	00-MAR-00 N		S PROPERTY DAMAGE ONLY	I/C	Old Clev S E	GWay MWY RAMP VG	GWay MWY RAMP XC	5 0	N N
			06-AUG-94 S		S PROPERTY DAMAGE ONLY	Cross	Old Clev S E	GWay MWY RAMP VG	GWay MWY RAMP XC		
			05-AUG-99 T		S ADMT TO HOSPITAL	Cross	Old Clev S E	GWay MWY RAMP VF	OLD CLEVELAND RD	2 0	N N
			23-MAY-98 S	and the second s	S ADMT TO HOSPITAL			GWay MWY RAMP VG	GWay MWY RAMP XC		
			14-AUG-00 M		S ADMT TO HOSPITAL		Old Clev S F	GWay MWY RAMP VG			
		Car, SWag	26-DEC-92 S		S PROPERTY DAMAGE ONLY		Old Clay S E	GWay MWY RAMP VG	GWay MWY RAMP XC		
Ramp 9.755 101 C			25-SEP-02 V		S ADMT TO HOSPITAL			CWay WWYT KAMP VG	GWay MWY RAMP XC		
			03-DEC-93		S PROPERTY DAMAGE ONLY	Cross	Old Claure E	GWay MWY RAMP VG	GWay MWY RAMP XC		
			26-AUG-94		S PROPERTY DAMAGE ONLY	Cross	Old Clev S E	GWay MWY RAMP VG	GWay MWY RAMP XC		N N
			29-JUN-98 M			Cross	UID Clev S E	GWay MWY RAMP VG	GWay MWY RAMP XC	5 0	N N
Ramp 9.755 101 T					S PROPERTY DAMAGE ONLY	I/C	Old Clev S E	GWay MWY RAMP VG	GWay MWY RAMP XC	5 0	NN
					S ADMT TO HOSPITAL	I/C	Old Clev S E	GWay MWY RAMP VG	GWay MWY RAMP XC		
			05-NOV-97 W		S MINOR INJURY - FIRST AID OR NO TRMT	I/C	Old Clev S E	GWay MWY RAMP VG	GWay MWY RAMP XC		
	-		13-DEC-92 S		S ADMT TO HOSPITAL	Cross	Old Clev S E	GWay MWY RAMP XA	OLD CLEVELAND RD		
			06-DEC-99 N		S MINOR INJURY - FIRST AID OR NO TRMT	I/C	Old Clev S E	GWay MWY RAMP VG	GWay MWY RAMP XC		
		Car, SWag	24-APR-00 N	10N 16	S Recd MEDICAL TRMT - NOT ADMT		Old Clev S F	CLEVELAND SUB-ARTER	GWay MWY DAMP VC	2 0	N N
		Car, SWag	10-JUL-99 S	SAT 16	S Recd MEDICAL TRMT - NOT ADMT	Cross	Old Clev S F	GWay MWY RAMP VG	CWay WWYT KAWP VG		
		Car, SWag	19-DEC-94 M	10N 17	S ADMT TO HOSPITAL			GWay MAY DAMP VG	GWay MWY RAMP XB	1	
Ramp 9.755 101 C					S PROPERTY DAMAGE ONLY	Croco	Old Clay S E	GWay MWY RAMP VF	OLD CLEVELAND RD		
			07-AUG-95 M	ION 18	S PROPERTY DAMAGE ONLY		Old Clev S E		OLD CLEVELAND RD		
		Car, SWag	13-JUN-01 W		S PROPERTY DAMAGE ONLY			GWay MWY RAMP VG	GWay MWY RAMP XC		N N
					S PROPERTY DAMAGE ONLY	1/0	Old Clev S E	GWay MWY RAMP VG	GWay MWY RAMP XC		Y N
Ramp 9.755 101 4			14 IAN 02 T		S PROPERTY DAMAGE UNLY	Cross	Old Clev S E	GWay MWY RAMP XC	OLD CLEVELAND RD		
Ramp 9.755 101 C			14-JAN-03		S PROPERTY DAMAGE ONLY	I/C	Old Clev S E	GWay MWY RAMP VG	GWay MWY RAMP XC		
	and the second sec	Car, SWag	24-JUN-96 M	IUN 19	S PROPERTY DAMAGE ONLY	I/C	Old Clev S E	GWay MWY RAMP VG	GWay MWY RAMP XC		
Ramp 9.755 101 U		Car, SWag	21-APR-99 W	/ED 19	S Recd MEDICAL TRMT - NOT ADMT	Cross	Old Clev S E		GWay MWY RAMP XC	3 0	N N
Ramp 9.755 101 C		Car, SWag	12-AUG-00 S	SAT 19	S Recd MEDICAL TRMT - NOT ADMT	I/C	Old Clev S F	GWay MWY RAMP VF			
Ramp 9.755 703 C			27-JAN-95 F	-RI 19	S PROPERTY DAMAGE ONLY	I/C	Old Clev S F	GWay MWY RAMP VG	GWay MWY RAMP XC		
Ramp 9.755 101 C		Car, SWag	11-JAN-98 S	UN 20	S ADMT TO HOSPITAL	1/C	Old Clev S E	GWay MWY RAMP VG	GWay MWY RAMP XB		
Ramp 9.755 101 C					S ADMT TO HOSPITAL	I/C	Old Clove E	GWay MIAN DAMP VG	GWay MWY RAMP XC		
			13-JUN-95 T	UE 21	S PROPERTY DAMAGE ONLY			GWay MWY RAMP VG	GWay MWY RAMP XC		
			25-APR-02 T	HU 22	E Recd MEDICAL TRMT - NOT ADMT	LIOSS	Old Clev S E	CLEVELAND SUB-ARTER		5 0	N N
			13_ALIC_06 T			I/C	Uld Clev S E	GWay MWY RAMP VG	GWay MWY RAMP XC	3 0	N N
					S MINOR INJURY - FIRST AID OR NO TRMT	I/C	Old Clev S E	GWay MWY RAMP XB	GWay MWY RAMP XM		
		Cor SW/cr	00-APR-93 M		S PROPERTY DAMAGE ONLY	Cross	Old Clev S E	GWay MWY RAMP VG	GWay MWY RAMP XC		
		Car, SWag	01-AUG-00 T	UE 23	S ADMT TO HOSPITAL	I/C	Old Clev S E		GWay MWY RAMP XC		
North 9.800 705 B			29-MAR-92 S	UN 11	S ADMT TO HOSPITAL	N/A			M 2004)	2 0	
	Car, SWag		29-MAR-95 W	/ED 16	S ADMT TO HOSPITAL	N/A		GWay MWY			
	Car, SWag	Utility, Panel Van	05-OCT-01 F	RI 07	N ADMT TO HOSPITAL	N/A	······	GWay MWY			
	car, SWag		07-NOV-99 S	UN 02	N PROPERTY DAMAGE ONLY	N/A			· · · · · · · · · · · · · · · · · · ·	2 0	
North 9.820 306 U	Itility, Panel Van	Utility, Panel Van	20-FEB-92 T	HU 13	S PROPERTY DAMAGE ONLY	N/A		GWay MWY		5 0	
North 9.820 701 C	Car, SWag		20-JUN-94 M	ON 17	N ADMT TO HOSPITAL			GWay MWY		5 0	
	lotor Cycle		17-OCT-95 T			N/A		GWay MWY		2 0	
	Car, SWag					N/A		GWay MWY		3 0	N N
		Car, SWag	28_1AN_02 M	/FD 12 0		N/A		GWay MWY		5 0	N N
		cal, orvay	20-07-11-30 VV	ED 13	S PROPERTY DAMAGE ONLY	N/A		GWay MWY		5 0	
					·,						

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0		704 0 004			OAT	10								
South			Car Dillar	23-DEC-95				I/C		GWay MWY		5 0		N
South			Car, SWag	25-AUG-97			N MINOR INJURY - FIRST AID OR NO TRMT	I/C		SOUTH EAST ARTERIAL		4 0		N
South				14-JUN-99				N/A		GWay MWY			N	
North			Articulated Vehicle					N/A		GWay MWY		2 0		N
North				18-JAN-94	TUE		N Recd MEDICAL TRMT - NOT ADMT	N/A		GWay MWY	· · · · · · · · · · · · · · · · · · ·	3 0		
South		301 Truck	Car, SWag	17-APR-97			S ADMT TO HOSPITAL	N/A		GWay MWY	THE STREET ST	2 0		
North		704 Car, SWag		14-AUG-03			N PROPERTY DAMAGE ONLY	N/A		GWay MWY		5 0		
North		301 Car, SWag	Car, SWag	16-JUN-97			N PROPERTY DAMAGE ONLY	N/A		GWay MWY		50		
North			4-wheel drive	28-JUL-03			N Recd MEDICAL TRMT - NOT ADMT	N/A		GWay MWY		3 0		N
North			Articulated Vehicle			06 I	N ADMT TO HOSPITAL	N/A		GWay MWY		2 0		N
North		307 Special Purpose Vehicle	Truck	03-JUL-00	MON	06 1	N PROPERTY DAMAGE ONLY	N/A		GWay MWY		5 0	N	N
North	9.920		Car, SWag	24-JUN-91	MON	07	S PROPERTY DAMAGE ONLY	Cross		GWay MWY	OLD CLEVELAND RD (5 0	N	I N
North	9.920	301 Car, SWag	Car, SWag	11-SEP-92	FRI	07 \	W PROPERTY DAMAGE ONLY	Merge	Lane	GWay MWY RAMP XA		5 0	N	I N
North	9.920	307 Truck	Car, SWag	10-MAY-03	SAT	07	N ADMT TO HOSPITAL			GWay MWY		2 0	N	I N
North	9.920	101 Car, SWag	Utility, Panel Van	20-JUL-91	SAT	08	E ADMT TO HOSPITAL	I/C		GWay MWY RAMP VA		2 0	N	I N
North	9.920			05-AUG-99			N PROPERTY DAMAGE ONLY	N/A	· ·	GWay MWY		5 0		I N
North	9.920	301 Car, SWag	Car, SWag	08-FEB-00	TUE		N Recd MEDICAL TRMT - NOT ADMT	N/A		GWay MWY		3 0		IN
	9.920		Car, SWag	18-SEP-91			N PROPERTY DAMAGE ONLY	I/C		GWay MWY		5 0		I N
North		301 Articulated Vehicle	Car, SWag	15-JUL-02			N Recd MEDICAL TRMT - NOT ADMT	N/A		GWay MWY		3 0		I N
North			Car, SWag	01-JUL-91			S Recd MEDICAL TRMT - NOT ADMT	Cross		GWay MWY	OLD CLEVELAND RD			I N
North	1		Car, SWag	26-OCT-91			N Recd MEDICAL TRMT - NOT ADMT	Cross		GWay MWY RAMP VB	OLD CLEVELAND RD			I N
North	9.920	301 Utility, Panel Van	Truck				N ADMT TO HOSPITAL			GWay MWY		2 0		N
North			Car, SWag				S PROPERTY DAMAGE ONLY	Cross		GWay MWY	OLD CLEVELAND RD (I N
North			Utility, Panel Van				N PROPERTY DAMAGE ONLY	Cross		GWay MWY	OLD CLEVELAND RD			
North			Car, SWag	19-JUN-91			S PROPERTY DAMAGE ONLY							
North				08-OCT-91				Cross		GWay MWY	GWay MWY RAMP VA			
			Car, SWag					Cross		GWay MWY	OLD CLEVELAND RD			I N
North			Car, SWag	24-MAY-95				Cross		GWay MWY	OLD CLEVELAND RD			I N
North	9.920		Car, SWag				N PROPERTY DAMAGE ONLY	I/C		GWay MWY	GWay MWY RAMP XB	~	-	I N
North	9.920		Car, SWag	22-DEC-91	SUN		N PROPERTY DAMAGE ONLY	I/C		GWay MWY RAMP VA	GWay MWY RAMP XL			I N
North		704 Utility, Panel Van		29-MAR-94	TUE		N PROPERTY DAMAGE ONLY	Cross	•	GWay MWY	OLD CLEVELAND RD			I N
North			Car, SWag	09-NOV-94			W ADMT TO HOSPITAL	Cross		GWay MWY	OLD CLEVELAND RD			I N
North	9.920		Car, SWag	10-AUG-95			N PROPERTY DAMAGE ONLY	I/C		GWay MWY	GWay MWY RAMP VE			I N
North	9.920	703 Car, SWag		18-DEC-96			N PROPERTY DAMAGE ONLY	N/A		GWay MWY		5 (I N
North	9.920		Car, SWag	02-NOV-91	SAT		N Recd MEDICAL TRMT - NOT ADMT	Cross		GWay MWY	OLD CLEVELAND RD	3 (<u>) N</u>	I N
South	9.920	600 Motor Cycle		18-MAR-00	SAT	08	S ADMT TO HOSPITAL	N/A		GWay MWY		2 . 0) N	I N
		702 Car, SWag		04-JAN-03	SAT	16	S Recd MEDICAL TRMT - NOT ADMT	Bridge,	Causeway	GWay MWY	-	3 () N	I N
South	9.920	607 Car, SWag		22-NOV-95	WED	18	S PROPERTY DAMAGE ONLY	Bridge,	, Causeway	GWay MWY		5 () N	I N
North	9.930	805 Car, SWag		19-AUG-94	FRI	06	N ADMT TO HOSPITAL	N/A]	GWay MWY		2 () N	N N
South	9.935	704 Truck		23-DEC-96	MON	13	S PROPERTY DAMAGE ONLY	N/A		GWay MWY		5 (N N
North	9.950	803 Motor Cycle		09-AUG-96			N Recd MEDICAL TRMT - NOT ADMT	N/A		GWay MWY				N N
		301 Articulated Vehicle	Truck				N Recd MEDICAL TRMT - NOT ADMT	N/A	A	GWay MWY				N N
	9.965		Car, SWag				W PROPERTY DAMAGE ONLY			GWay MWY RAMP XB	GWay MWY RAMP XM			
	9.965		Car, SWag				W Recd MEDICAL TRMT - NOT ADMT			GWay MWY RAMP XB	GWay MWY RAMP XM			
	9.965		4-wheel drive				W MINOR INJURY - FIRST AID OR NO TRMT	1/C		GWay MWY RAMP XB	GWay MWY RAMP XM			N N
		101 Car, SWag	Omnibus				W PROPERTY DAMAGE ONLY	1/C		GWay MWY RAMP XB	GWay MWY RAMP XM			N N
		101 Car, SWag	Car, SWag				W Recd MEDICAL TRMT - NOT ADMT	1/C		GWay MWY RAMP XB	GWay MWY RAMP XM			N N
		101 Car, SWag	Car, SWag				W ADMT TO HOSPITAL	1/C		GWay MWY RAMP XB	GWay MWY RAMP XM			N N
	9.965		Car, SWag	15-SEP-01			W Recd MEDICAL TRMT - NOT ADMT	I/C		GWay MWY RAMP XB	GWay MWY RAMP XM			N N
		302 Car, SWag	Car, SWag				N PROPERTY DAMAGE ONLY							
											GWay MWY RAMP XM			N N
	9.965		Truck	11-FEB-00				I/C		GWay MWY RAMP XB	GWay MWY RAMP XM			N N
		101 Motor Cycle								GWay MWY RAMP XB	GWay MWY RAMP XM			N N
		102 Car, SWag	Car, SWag					I/C		CLEVELAND SUB-ARTE				N N
		101 Car, SWag								GWay MWY RAMP XB	GWay MWY RAMP XM			N N
		101 Utility, Panel Van	Car, SWag				W PROPERTY DAMAGE ONLY	I/C		GWay MWY RAMP XB	GWay MWY RAMP XM			N N
		101 Truck	Car, SWag				W Recd MEDICAL TRMT - NOT ADMT	I/C		GWay MWY RAMP XB	GWay MWY RAMP XM			
10	9.965	101 Car, SWag	Car, SWag	09-DEC-00	SAT	16 \	W ADMT TO HOSPITAL	I/C	Old Clev S W	GWay MWY RAMP XB	GWay MWY RAMP XM	2 0	1 L	N N

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Ramp 9.965 3	R01 Car SWag	Car, SWag	25-JUL-03 FRI	17		110						
						I/C			GWay MWY RAMP XM			N N
		Car, SWag	11-AUG-00 FRI	1 1		I/C			GWay MWY RAMP XM			NN
		Car, SWag	11-AUG-00 FRI		W PROPERTY DAMAGE ONLY	1/C			GWay MWY RAMP XM			NN
		Car, SWag	20-SEP-01 THU		W Recd MEDICAL TRMT - NOT ADMT	I/C			GWay MWY RAMP XM	3 0		NN
		Motor Cycle	21-NOV-98 SAT	1		N/A		GWay MWY		3 0		NN
	00 Articulated Vehicle		21-MAR-94 MON	down warmen d		N/A		GWay MWY		5 0)	NN
	05 Special Purpose Vehicle		28-OCT-93 THU			N/A		GWay MWY		2 0		NN
		Car, SWag	11-JUN-97 WED	1		N/A		GWay MWY		3 0)	N N
	04 Articulated Vehicle		03-FEB-03 MON			N/A		GWay MWY		2 0)	NN
Ramp 10.070 1		Car, SWag	24-APR-98 FRI		W Recd MEDICAL TRMT - NOT ADMT	I/C			GWay MWY RAMP XM	3 ()	NN
Ramp 10.070 6			14-SEP-98 MON		N PROPERTY DAMAGE ONLY	I/C	Old Clev S W	GWay MWY RAMP VE		5 0)	NN
North 10.090 7			22-AUG-96 THU			N/A		GWay MWY		2 0) `	YN
North 10.100 7			10-OCT-97 FRI			N/A		GWay MWY		4 C)	NN
North 10.120 3		Car, SWag	23-DEC-96 MON	15	N MINOR INJURY - FIRST AID OR NO TRMT	N/A		GWay MWY		4 (N N
South 10.120 3		Car, SWag	21-AUG-98 FRI	23	S PROPERTY DAMAGE ONLY	N/A		GWay MWY		5 0		N N
		Car, SWag	19-JUL-01 THU			N/A		GWay MWY		3 (N N
North 10.320 3						I/C		GWay MWY				NN
South 10.320 2		Utility, Panel Van		06	S FATAL	N/A		GWay MWY		1 1		NN
North 10.420 3		Truck	26-JUL-94 TUE	10	N MINOR INJURY - FIRST AID OR NO TRMT	N/A		GWay MWY		4 (N N
North 10.420 3		Car, SWag	13-MAY-97 TUE		N PROPERTY DAMAGE ONLY	N/A		GWay MWY	h	5 0		N N
North 10.420 3		Car, SWag	24-MAY-00 WED	10	N ADMT TO HOSPITAL	N/A		GWay MWY	· · · · · · · · · · · · · · · · · · ·	2 0		N N
South 10.420 3		Utility, Panel Van	17-AUG-02 SAT		and the second s	N/A		GWay MWY		3 0		N N
North 10.430 7			18-JUL-02 THU			N/A		GWay MWY		2 (N N
South 10.430 7	01 Special Purpose Vehicle	(Tractor etc)	21-NOV-94 MON	16		N/A		GWay MWY		4 (N N
	00 Utility, Panel Van	· · · · · · · · · · · · · · · · · · ·	23-JAN-03 THU		S PROPERTY DAMAGE ONLY	I/C				5 0		N N
Ramp 10.450 3		Car, SWag	07-JUN-99 MON			I/C		CLEVELAND SUB-ARTER				N N
North 10.520 7			17-FEB-92 MON			Merge		GWay MWY		4 (-	N N
North 10.540 6		Car, SWag	23-DEC-95 SAT		N Recd MEDICAL TRMT - NOT ADMT	N/A		GWay MWY		$\frac{-}{3}$ (N N
South 10.550 7		Q	20-SEP-01 THU			N/A		GWay MWY		3 (N N
North 10.600 3		Car, SWag	12-JUN-03 THU		N PROPERTY DAMAGE ONLY	I/C		GWay MWY	· · · · · · · · · · · · · · · · · · ·	5 (N N
South 10.650 3		Car, SWag	30-SEP-03 TUE			N/A		GWay MWY				N N
North 10.670 8		, <u>-</u> -				N/A		GWay MWY GWay MWY				N N
North 10.686 7			28-FEB-00 MON			I/C	·			2 (
Ramp 10.686 1		Car, SWag				1/C	Rolmont Offra			5 (N N
Ramp 10.686 1		Car, SWag	11-SEP-98 FRI			I/C		GWay MWY RAMP VG	GWay MWY RAMP XC			N N
Ramp 10.686 3						1/C	Deimonit Offra	GWay MWY RAMP VG	GWay MWY RAMP XC	-		N N
Ramp 10.686 7		Ommbua	11-NOV-98 WED					GWay MWY RAMP VF				N N
Ramp 10.700 7			06-MAR-01 TUE		S PROPERTY DAMAGE ONLY							N N
Ramp 10.700 8			19-JUL-01 THU			I/C I/C				5 (N N
Ramp 10.718 3		Car, SWag	12-JAN-95 THU					GWay MWY RAMP VF				Y N
		Car, SWag				N/A		GWay MWY RAMP VF				N N
		Car, SWag	08-JAN-92 WED		W PROPERTY DAMAGE ONLY	N/A	tion	GWay MWY				N N
South 10.750 3		Car, SWag	03-MAY-02 FRI			T juncl		BELMONT RD				N N
Ramp 10.750 1			09-AUG-00 WED			N/A	Delerent Off	GWay MWY		3 (N N
Ramp 10.750 1			20-OCT-94 THU						GWay MWY RAMP XC			N N
Ramp 10.750 3						I/C	Beimont Offrai					N N
								GWay MWY RAMP VF				N N
		Car, SWag	31-OCT-98 SAT			N/A		GWay MWY				N N
South 10.850 6						N/A		GWay MWY				N N
South 10.870 6		4				N/A		GWay MWY		5 (N N
North 10.890 30		4-wheel drive				N/A		GWay MWY		3 (N N
North 10.900 70			29-JUL-00 SAT			N/A		GWay MWY		5 (N N
						N/A		GWay MWY		4 (N N
North 10.920 3		Car, SWag	11-AUG-94 THU			N/A		GWay MWY		5 (0	N N
North 10.920 6		Car, SWag	11-AUG-94 THU			N/A		GWay MWY		5 (0	N N
North 10.920 6		Car, SWag				N/A		GWay MWY		5 (0	NN
South 10.920 6	08 Car, SWag	Car, SWag	15-MAY-97 THU	18	S PROPERTY DAMAGE ONLY	N/A		GWay MWY		5 (NN
											i	

South 10.030	705	Articulated Vehicle		03-MAR-95	FRI	14	S PROPERTY DAMAGE ONLY	N/A			NN
				03-MAR-95 08-OCT-95			N FATAL	N/A N/A	GWay MWY	5 0	N N
Ramp 11.048				30-JUL-01			N FATAL		GWay MWY		
		······································	4-wheel drive	04-NOV-99					Old Clev N W GWay MWY RAMP VA	GWay MWY RAMP XL 1 1	
Ramp 11.048 Ramp 11.048									Old Clev N W GWay MWY RAMP VA	5 0	
				29-NOV-01			E ADMT TO HOSPITAL	I/C	Old Clev N W GWay MWY RAMP VB	GWay MWY RAMP VF 2 0	
Ramp 11.048				03-MAR-00			N MINOR INJURY - FIRST AID OR NO TRMT		Old Clev N W GWay MWY RAMP VA	GWay MWY RAMP XL 4 0	
Ramp 11.048			Car, SWag	05-JAN-94			N PROPERTY DAMAGE ONLY	Cross	Old Clev N W GWay MWY RAMP VA	GWay MWY RAMP XL 5 0	
Ramp 11.048			Car, SWag	16-JUL-93			N Recd MEDICAL TRMT - NOT ADMT	Cross	Old Clev N W GWay MWY RAMP XL	OLD CLEVELAND RD (3 0	
Ramp 11.048				29-NOV-92			E MINOR INJURY - FIRST AID OR NO TRMT	I/C	Old Clev N W GWay MWY RAMP VA	GWay MWY RAMP VB 4 0	
Ramp 11.048			Car, SWag	15-MAY-92			N ADMT TO HOSPITAL	Cross		GWay MWY RAMP VA 2 0	
Ramp 11.048			· · · · · · · · · · · · · · · · · · ·	25-AUG-01			N ADMT TO HOSPITAL	I/C	Old Clev N W GWay MWY RAMP VA	GWay MWY RAMP XL 2 0	
Ramp 11.048			Car, SWag	03-FEB-92	MON	11	N MINOR INJURY - FIRST AID OR NO TRMT	I/C	Old Clev N W GWay MWY RAMP VA	GWay MWY RAMP XL 4 0) N N
Ramp 11.048	101	Car, SWag	Car, SWag				N PROPERTY DAMAGE ONLY	Cross	Old Clev N W GWay MWY RAMP VA	GWay MWY RAMP XL 5 0) N N
Ramp 11.048	101	Car, SWag	Truck	04-JUL-01	WED	11	N PROPERTY DAMAGE ONLY	I/C	Old Clev N W GWay MWY RAMP VA	GWay MWY RAMP XL 5 0) N N
Ramp 11.048	101	Car, SWag	Car, SWag	31-OCT-99	SUN	11	N Recd MEDICAL TRMT - NOT ADMT	I/C	Old Clev N W GWay MWY	GWay MWY RAMP VA 3 0) N N
Ramp 11.048	101	Articulated Vehicle	Car, SWag	27-JUL-00	THU	12	N ADMT TO HOSPITAL	I/C	Old Clev N W GWay MWY RAMP VA	GWay MWY RAMP XL 2 0) N N
Ramp 11.048	101	Special Purpose Vehicle	Truck	21-MAY-03	WED	12	N ADMT TO HOSPITAL	I/C	Old Clev N W GWay MWY RAMP VA	GWay MWY RAMP XL 2 0	
Ramp 11.048			Car, SWag				N PROPERTY DAMAGE ONLY	Cross	Old Clev N W GWay MWY	OLD CLEVELAND RD (5 0	
Ramp 11.048			Car, SWag	11-OCT-92			N PROPERTY DAMAGE ONLY	Cross	Old Clev N W GWay MWY RAMP VA	GWay MWY RAMP VE 5 0	
		······································	Truck	16-MAY-95			N MINOR INJURY - FIRST AID OR NO TRMT	I/C	Old Clev N W GWay MWY RAMP XL	OLD CLEVELAND RD 4 0	
				07-APR-98			N Recd MEDICAL TRMT - NOT ADMT	I/C	Old Clev N W GWay MWY RAMP VA	GWay MWY RAMP XL 3 0	
				11-NOV-92			N ADMT TO HOSPITAL	1/C	Old Clev N W GWay MWY RAMP XL	OLD CLEVELAND RD (2 0	
Ramp 11.048			······································	04-AUG-94			N MINOR INJURY - FIRST AID OR NO TRMT	Cross	Old Clev N W GWay MWY RAMP VA	GWay MWY RAMP XL 4 0	
Ramp 11.048							N PROPERTY DAMAGE ONLY	Cross		OLD CLEVELAND RD (5 0	
Ramp 11.048				25-MAY-92			N Recd MEDICAL TRMT - NOT ADMT	Cross		OLD CLEVELAND RD (3 0	
Ramp 11.048			· · · ·	05-NOV-99			N ADMT TO HOSPITAL	I/C	Old Clev N W GWay MWY RAMP VA	GWay MWY RAMP XL 2 0	
Ramp 11.048			Truck	18-MAR-92			N PROPERTY DAMAGE ONLY	Cross		OLD CLEVELAND RD (5 0	
Ramp 11.048				27-APR-92			N PROPERTY DAMAGE ONLY				
Ramp 11.048				11-AUG-00					Old Clev N W GWay MWY RAMP VA	GWay MWY RAMP XL 5 0	
the second secon	<u>.</u>						E MINOR INJURY - FIRST AID OR NO TRMT		Old Clev N W GWay MWY RAMP VA	GWay MWY RAMP VE 4 0	
Ramp 11.048			Car, SWag	16-MAR-94			N ADMT TO HOSPITAL	Cross		OLD CLEVELAND RD (2 0	
Ramp 11.048			Car, SWag	14-APR-94			N MINOR INJURY - FIRST AID OR NO TRMT	Cross		GWay MWY RAMP XL 4 0	
Ramp 11.048			Car, SWag	09-MAY-92			N PROPERTY DAMAGE ONLY	Cross		OLD CLEVELAND RD 5 0	
			Car, SWag	26-JUN-96			N Recd MEDICAL TRMT - NOT ADMT	I/C	Old Clev N W GWay MWY RAMP VA	GWay MWY RAMP XL 3 0	
Ramp 11.048			Car, SWag		WED		N Recd MEDICAL TRMT - NOT ADMT	I/C	Old Clev N W GWay MWY RAMP VA	GWay MWY RAMP XL 3 0	
Ramp 11.048			Car, SWag	24-AUG-95			N PROPERTY DAMAGE ONLY	I/C	Old Clev N W GWay MWY RAMP VA		D N N
Ramp 11.048			Car, SWag				N MINOR INJURY - FIRST AID OR NO TRMT		Old Clev N W GWay MWY RAMP VA	GWay MWY RAMP XL 4 0	
Ramp 11.048			Car, SWag	14-APR-95			N Recd MEDICAL TRMT - NOT ADMT	I/C	Old Clev N W GWay MWY RAMP VA	GWay MWY RAMP XL 3 0	
			Utility, Panel Van				N MINOR INJURY - FIRST AID OR NO TRMT		GWay MWY		D N N
		Articulated Vehicle					S MINOR INJURY - FIRST AID OR NO TRMT		GWay MWY		D N N
			Utility, Panel Van				N Recd MEDICAL TRMT - NOT ADMT	N/A	GWay MWY		0 N N
		Articulated Vehicle					S MINOR INJURY - FIRST AID OR NO TRMT		GWay MWY		D N N
		Utility, Panel Van					S MINOR INJURY - FIRST AID OR NO TRMT	N/A	GWay MWY	- Internet and	0 N N
South 11.170	704	Car, SWag		23-JAN-00	SUN	06	S PROPERTY DAMAGE ONLY	N/A	GWay MWY	5 0	0 N N
South 11.420	705	Utility, Panel Van		09-JUL-94			S PROPERTY DAMAGE ONLY	N/A	GWay MWY	5 0	0 N N
North 11.430			Car, SWag	19-MAY-95			N PROPERTY DAMAGE ONLY	N/A	GWay MWY		0 N N
South 11.430			Car, SWag				S MINOR INJURY - FIRST AID OR NO TRMT	N/A	GWay MWY		0 N N
South 11.430			<u> </u>				S Recd MEDICAL TRMT - NOT ADMT	N/A	GWay MWY		0 N N
South 11.430			Car, SWag				S Recd MEDICAL TRMT - NOT ADMT	N/A	GWay MWY		0 N N
North 11.450		·	Car, SWag	10-AUG-01			S Recd MEDICAL TRMT - NOT ADMT	N/A	GWay MWY		0 N N
		Utility, Panel Van					S PROPERTY DAMAGE ONLY	N/A	GWay MWY		0 N N
North 11.520			Car, SWag				N MINOR INJURY - FIRST AID OR NO TRMT	N/A	GWay MWY		0 N N
		Utility, Panel Van	cui, ottug				N MINOR INJURY - FIRST AID OR NO TRMT	N/A	GWay MW1		0 N N
South 11.520			Articulated Vehicle				S PROPERTY DAMAGE ONLY	N/A	GWay MWY		0 N N
North 11.570			MILICUIALEU VEIIICI				N Recd MEDICAL TRMT - NOT ADMT	N/A N/A	GWay MWY		0 N N
North 11.610							N PROPERTY DAMAGE ONLY	N/A N/A	GWay MWY		0 N N
South 11.620			Car, SWag	26-APR-96				N/A N/A			
U	001	r Eucollian	Jai, Sway	20-45-1-90		19		A'nı	GWay MWY		

	1								
South 11.670 702 Truck			S ADMT TO HOSPITAL	N/A	GWay MWY		2	0	N N
South 11.770 702 Utility, Panel Van		05-MAR-94 SAT 19	S MINOR INJURY - FIRST AID OR NO TRMT	N/A	GWay MWY		h		N N
South 11.880 704 Utility, Panel Van			S ADMT TO HOSPITAL	N/A	GWay MWY				
North 11.920 800 Car, SWag		09-JUL-00 SUN 04	N PROPERTY DAMAGE ONLY	N/A	GWay MWY				N N
North 11.920 305 Articulated Vehicle	Car, SWag		N Recd MEDICAL TRMT - NOT ADMT	N/A					N N
North 11.920 800 Car, SWag	<u> </u>		N Recd MEDICAL TRMT - NOT ADMT		GWay MWY				Y N
South 11.920 704 Car, SWag				N/A	GWay MWY		3	0	NN
South 11.920 702 Car, SWag	· · · ·		S PROPERTY DAMAGE ONLY	N/A	GWay MWY		5	0	NN
	0 014	19-JAN-96 FRI 11		N/A	GWay MWY		5	0	N N
South 11.920 305 Utility, Panel Van	Car, SWag		S PROPERTY DAMAGE ONLY	N/A	GWay MWY				NN
South 11.930 703 Car, SWag			S Recd MEDICAL TRMT - NOT ADMT	N/A	GWay MWY				N N
South 11.930 703 Car, SWag		30-NOV-96 SAT 22	S PROPERTY DAMAGE ONLY	N/A	GWay MWY				
South 12.130 301 Articulated Vehicle	Car, SWag		S Recd MEDICAL TRMT - NOT ADMT	N/A	GWay MWY				N N
South 12.225 301 Utility, Panel Van	Utility, Panel Van		S ADMT TO HOSPITAL	N/A					N N
South 12.230 306 Car, SWag	Truck		S Recd MEDICAL TRMT - NOT ADMT	N/A	GWay MWY				NN
North 12.270 703 Car, SWag			S PROPERTY DAMAGE ONLY		GWay MWY				NN
North 12.430 704 Car, SWag				N/A	GWay MWY		5	0	NN
North 12.430 301 Articulated Vehicle	Truck		N PROPERTY DAMAGE ONLY	N/A	GWay MWY		5	0 1	N N
	Truck	15-SEP-00 FRI 08	N PROPERTY DAMAGE ONLY	N/A	GWay MWY		5		NN
North 12.430 307 Car, SWag	Car, SWag	13-AUG-01 MON 14	N Recd MEDICAL TRMT - NOT ADMT	N/A	GWay MWY				N N
South 12.430 704 Car, SWag			S ADMT TO HOSPITAL	N/A	GWay MWY				N N
South 12.430 704 Car, SWag		18-SEP-02 WED 08	S PROPERTY DAMAGE ONLY	N/A	GWay MWY				N N
South 12.430 702 Articulated Vehicle			S PROPERTY DAMAGE ONLY	N/A	GWay MWY				N N
South 12.480 301 Car, SWag	Car, SWag	16-OCT-01 TUE 09	S ADMT TO HOSPITAL	I/C	GWay MWY	CM/au MM/V DAMP II			
Ramp 12.600 301 Car, SWag	Truck		S ADMT TO HOSPITAL	I/C		GWay MWY RAMP U			NN
North 12.640 306 Car, SWag	Car, SWag		N MINOR INJURY - FIRST AID OR NO TRMT		GWay MWY RAMP U		2		YN
North 12.670 800 Car, SWag	our, orrag		N PROPERTY DAMAGE ONLY	N/A	GWay MWY		4	0 1	NN
South 12.725 704 4-wheel drive				N/A	GWay MWY		5	0 1	N N
Ramp 12.730 300 Articulated Vehicle	Cor SWee		S PROPERTY DAMAGE ONLY	N/A	GWay MWY		5	0 1	NN
	Car, SWag		N PROPERTY DAMAGE ONLY	I/C Wynnum Star	GWay MWY RAMP T	GRAYSTONE ST	.5	0 1	N N
North 12.830 301 Utility, Panel Van	Car, SWag			N/A	GWay MWY				N N
North 12.850 301 Car, SWag	Car, SWag		N ADMT TO HOSPITAL	N/A	GWay MWY				N N
North 12.870 301 Car, SWag	4-wheel drive		N PROPERTY DAMAGE ONLY	N/A	GWay MWY				N N
North 12.870 703 Car, SWag		21-NOV-01 WED 18	N ADMT TO HOSPITAL	N/A	GWay MWY				
South 12.890 301 Car, SWag	Car, SWag			N/A					N N
	Car, SWag				GWay MWY				N N
	Car, SWag	25-NOV-02 MON 06			GWay MWY RAMP U	WYNNUM RD			NN
Ramp 12.890 101 Car, SWag	Car, SWag	16 APP 01 MON 08		I/C Wynnum E I/S	GWay MWY RAMP S	WYNNUM RD	3	0	NN
Ramp 12.890 301 Special Purpose Vehicle					GWay MWY RAMP S	WYNNUM RD	5	0	NN
		07-MAR-03 FRI 08	E MINOR INJURY - FIRST AID OR NO TRMT		GWay MWY RAMP S	WYNNUM RD	4	0	N N
Ramp 12.890 301 Car, SWag	Ounty, Panel Van	29-NOV-01 THU 08	W MINOR INJURY - FIRST AID OR NO TRMT	I/C Wynnum E I/S	GWay MWY RAMP U	WYNNUM RD			NN
Ramp 12.890 302 Car, SWag	Car, SWag	U3-AUG-00 THU 08	W Recd MEDICAL TRMT - NOT ADMT	N/A Wynnum E I/S	WYNNUM RD				NN
Ramp 12.890 104 Car, SWag	Car, SWag		E ADMT TO HOSPITAL		GWay MWY RAMP S	WYNNUM RD			N N
Ramp 12.890 301 Car, SWag	Car, SWag		W Recd MEDICAL TRMT - NOT ADMT	N/A Wynnum E I/S	WYNNUM RD				N N
Ramp 12.890 302 Utility, Panel Van	Car, SWag		S PROPERTY DAMAGE ONLY		GWay MWY RAMP S	WYNNUM RD	-		
Ramp 12.890 302 4-wheel drive	Car, SWag		S Recd MEDICAL TRMT - NOT ADMT	I/C Wynnum E I/S	GWay MWY RAMP S		-		N N
Ramp 12.890 302 Car, SWag	Car, SWag	22-OCT-00 SUN 09	S Recd MEDICAL TRMT - NOT ADMT	I/C Wynnum E I/S	CIVIAY IVIVI FRANCES	WYNNUM RD			N N
Ramp 12.890 302 Truck	Car, SWag		S PROPERTY DAMAGE ONLY		GWay MWY RAMP S	WYNNUM RD			NN
Ramp 12.890 309 Car, SWag	Bicycle		W Recd MEDICAL TRMT - NOT ADMT		GWay MWY RAMP S	WYNNUM RD	5		NN
		27 NOV 02 14/50 40			GWay MWY RAMP U	WYNNUM RD	3	0	N N
	Car, SWag		E MINOR INJURY - FIRST AID OR NO TRMT		GWay MWY RAMP S	WYNNUM RD	4	0 1	NN
	Car, SWag		E PROPERTY DAMAGE ONLY		GWay MWY RAMP U	WYNNUM RD	5		NN
	Car, SWag		E PROPERTY DAMAGE ONLY		GWay MWY RAMP S	WYNNUM RD			N N
	Car, SWag				GWay MWY RAMP S				N N
Ramp 12.890 302 Car, SWag	Car, SWag	10-MAR-00 FRI 15	S Recd MEDICAL TRMT - NOT ADMT		GWay MWY RAMP S	WYNNUM RD			
	Car, SWag		S Recd MEDICAL TRMT - NOT ADMT	I/C Wynnum E I/S	GWay MWY RAMP S		-		N N
	Car, SWag		E PROPERTY DAMAGE ONLY	Crose W/vooum E VC	CWOY MANY DALLO O	WYNNUM RD			N N
	Car, SWag	15-NOV-01 THU 16	E PROPERTY DAMAGE ONLY		GWay MWY RAMP S	WYNNUM RD			N N
	Car, SWag		E Recd MEDICAL TRMT - NOT ADMT	I/C Wynnum E I/S	GWay MWY RAMP S	WYNNUM RD	5		N N
	Utility, Panel Van			I/C Wynnum E I/S	GWay MWY RAMP S	WYNNUM RD	3	0	N N
					GWay MWY RAMP S	WYNNUM RD	4	0 1	N N
	Car, SWag	00-APK-03 IUE 17	E PROPERTY DAMAGE ONLY	I/C Wynnum E I/S	GWay MWY RAMP U	WYNNUM RD	5		NN
								· · ·	

						·			
Ramp 12.890 202 Car, SWag	Car, SWag		E Recd MEDICAL TRMT - NOT ADMT		GWay MWY RAMP U	WYNNUM RD	3 (N
Ramp 12.890 301 Car, SWag	Car, SWag	······································	E Recd MEDICAL TRMT - NOT ADMT	N/A Wynnum E I/S			3 (Ν
Ramp 12.890 301 Car, SWag	Car, SWag		S PROPERTY DAMAGE ONLY	I/C Wynnum E I/S		GWay MWY RAMP S	5 (Ν
Ramp 12.890 302 Car, SWag	Car, SWag		S MINOR INJURY - FIRST AID OR NO TRMT		GWay MWY RAMP S	WYNNUM RD	4 (N
Ramp 12.890 303 Car, SWag	4-wheel drive				GWay MWY RAMP S	WYNNUM RD	4 (
Ramp 12.890 301 Car, SWag	Car, SWag		E PROPERTY DAMAGE ONLY	I/C Wynnum E I/S	GWay MWY RAMP S	WYNNUM RD	5 () N	
Ramp 12.890 607 Motor Cycle			E Recd MEDICAL TRMT - NOT ADMT		GWay MWY RAMP U	WYNNUM RD	3 () N	Ν
Ramp 12.890 104 Car, SWag	Car, SWag		S ADMT TO HOSPITAL	I/C Wynnum E I/S	GWay MWY RAMP S	WYNNUM RD	2 () N	N
Ramp 12.890 704 Car, SWag	Utility, Panel Van	12-OCT-01 FRI 23	S Recd MEDICAL TRMT - NOT ADMT	I/C Wynnum E I/S	GWay MWY	GWay MWY RAMP U	3 () N	Ν
North 12.920 607 Car, SWag		11-OCT-97 SAT 20	N PROPERTY DAMAGE ONLY	N/A	GWay MWY		5 () N	Ν
North 12.920 700 Car, SWag		06-AUG-99 FRI 20	S Recd MEDICAL TRMT - NOT ADMT	N/A	GWay MWY		3 () N	N
North 12.930 700 Truck			N ADMT TO HOSPITAL	N/A	GWay MWY		2 () N	N
North 12.930 307 Utility, Panel Van	Car, SWag	14-NOV-99 SUN 12	S FATAL	N/A	GWay MWY		1 '	1 N	N
North 12.930 705 Car, SWag		02-MAY-99 SUN 15	N ADMT TO HOSPITAL	N/A	GWay MWY		2 () N	N
South 12.930 300 Car, SWag	Car, SWag	11-APR-96 THU 10	S PROPERTY DAMAGE ONLY	N/A	GWay MWY		5 () N	N
South 12.930 704 Truck		08-OCT-99 FRI 16	S ADMT TO HOSPITAL	N/A	GWay MWY		2 () N	N
North 12.970 301 Car, SWag	Car, SWag	27-APR-99 TUE 08	N PROPERTY DAMAGE ONLY	N/A	GWay MWY) N	I N
North 13.020 305 Truck	Truck	13-FEB-97 THU 06	N PROPERTY DAMAGE ONLY	Merge Lane	GWay MWY		5 () N	I N
South 13.030 607 Car, SWag			S PROPERTY DAMAGE ONLY	N/A	GWay MWY		5 () N	ΙY
North 13.070 201 Car, SWag	Car, SWag	10-SEP-99 FRI 07	S Recd MEDICAL TRMT - NOT ADMT		GWay MWY	GWay MWY RAMP T) N	
North 13.070 708 Car, SWag		27-AUG-02 TUE 12	N PROPERTY DAMAGE ONLY	I/C	GWay MWY	GWay MWY RAMP T	5 () N	I N
South 13.080 803 Car, SWag		29-OCT-03 WED 16	S MINOR INJURY - FIRST AID OR NO TRMT	N/A	GWay MWY		4 () N	I N
South 13.080 301 Articulated Vehicl		23-AUG-01 THU 17	S PROPERTY DAMAGE ONLY	N/A	GWay MWY		5 () N	I N
North 13.120 301 Articulated Vehicl	e Car, SWag	19-JAN-01 FRI 07	N MINOR INJURY - FIRST AID OR NO TRMT	N/A	GWay MWY		4 (D N	I N
North 13.120 301 Car, SWag	Utility, Panel Van	17-NOV-03 MON 07	N MINOR INJURY - FIRST AID OR NO TRMT	N/A	GWay MWY		4 (D N	I N
North 13.120 301 Car, SWag	Car, SWag	29-MAY-01 TUE 07	N Recd MEDICAL TRMT - NOT ADMT	N/A	GWay MWY		3 (0 N	I N
South 13.130 703 Car, SWag		22-MAR-02 FRI 00	S PROPERTY DAMAGE ONLY	N/A	GWay MWY		5 (0 Y	'N
South 13.130 703 Car, SWag	Car, SWag	08-DEC-96 SUN 16	S MINOR INJURY - FIRST AID OR NO TRMT	N/A	GWay MWY		4	0 N	I N
South 13.155 700 Truck	Car, SWag	04-OCT-01 THU 16	S PROPERTY DAMAGE ONLY	N/A	GWay MWY		5	0 N	I N
North 13.170 703 Car, SWag		19-DEC-98 SAT 05	N PROPERTY DAMAGE ONLY	N/A	GWay MWY		5	0 N	I N
South 13.230 802 Utility, Panel Van		22-SEP-95 FRI 09	S PROPERTY DAMAGE ONLY	N/A	GWay MWY		5	0 N	I N
South 13.230 301 Car, SWag	Car, SWag	19-JUL-00 WED 16	S MINOR INJURY - FIRST AID OR NO TRMT	Merge Lane	GWay MWY		4	0 N	I N
North 13.270 803 Articulated Vehicl	e	16-DEC-98 WED 16	S PROPERTY DAMAGE ONLY	N/A	GWay MWY		5	0 N	I N
South 13.305 301 Car, SWag	Car, SWag	26-JUL-01 THU 17	S MINOR INJURY - FIRST AID OR NO TRMT	N/A	GWay MWY		4		I N
Ramp 13.310 704 Car, SWag		09-JUN-94 THU 07	N PROPERTY DAMAGE ONLY	I/C Wynnum Stant		GWay MWY RAMP T	5	0 N	I N
Ramp 13.310 102 Car, SWag	Car, SWag	21-JUL-95 FRI 08	E PROPERTY DAMAGE ONLY	I/C Wynnum Stant	GWay MWY RAMP T	WYNNUM RD	5	0 N	I N
Ramp 13.310 302 Car, SWag	Car, SWag	20-JUN-94 MON 08	N MINOR INJURY - FIRST AID OR NO TRMT	I/C Wynnum Stant	GWay MWY RAMP T	WYNNUM RD			I N
Ramp 13.310 107 Utility, Panel Van	Bicycle			I/C Wynnum Stant	GWay MWY RAMP T	WYNNUM RD	4	0 N	I N
Ramp 13.310 202 Car, SWag	Car, SWag		W PROPERTY DAMAGE ONLY	Cross Wynnum Stan	GWay MWY RAMP R	WYNNUM RD	5	0 N	I N
Ramp 13.310 202 Car, SWag	Car, SWag		W Recd MEDICAL TRMT - NOT ADMT	T juncti Wynnum Stant	GWay MWY RAMP R	WYNNUM RD	3	0 N	I N
Ramp 13.310 302 Utility, Panel Van	Car, SWag		N MINOR INJURY - FIRST AID OR NO TRMT	I/C Wynnum Stant	GWay MWY RAMP T	WYNNUM RD	4	0 N	I N
Ramp 13.310 202 Motor Cycle	Car, SWag		W PROPERTY DAMAGE ONLY	The second secon	GWay MWY RAMP R	WYNNUM RD			I N
Ramp 13.310 202 Car, SWag	Car, SWag		W Recd MEDICAL TRMT - NOT ADMT		GWay MWY RAMP R	WYNNUM RD			1 N
Ramp 13.310 104 Articulated Vehicl			W PROPERTY DAMAGE ONLY	Cross Wynnum Stan		WYNNUM RD	5		N N
Ramp 13.310 302 Car, SWag	Car, SWag		E PROPERTY DAMAGE ONLY		GWay MWY RAMP R	WYNNUM RD	5		N N
Ramp 13.310 202 Car, SWag	Car, SWag		W MINOR INJURY - FIRST AID OR NO TRMT	Cross Wynnum Stan	GWay MWY RAMP R	WYNNUM RD	4		N N
North 13.330 701 Utility, Panel Van			N PROPERTY DAMAGE ONLY	N/A	GWay MWY		5	0 N	N N
North 13.330 703 Car, SWag			N PROPERTY DAMAGE ONLY	N/A	GWay MWY		5	0 N	N N
South 13.330 301 Car, SWag	Car, SWag		S ADMT TO HOSPITAL	N/A	GWay MWY		2	0 1	N N
South 13.330 301 Articulated Vehic			S Recd MEDICAL TRMT - NOT ADMT	N/A	GWay MWY		3	0 1	N N
South 13.380 301 4-wheel drive	Car, SWag		S PROPERTY DAMAGE ONLY	N/A	GWay MWY	£			N N
Ramp 13.380 301 Utility, Panel Van	Car, SWag		N Recd MEDICAL TRMT - NOT ADMT	I/C	GWay MWY RAMP T				N N
South 13.405 301 Car, SWag	Car, SWag		S MINOR INJURY - FIRST AID OR NO TRMT	N/A	GWay MWY				N N
South 13.410 704 Car, SWag			S Recd MEDICAL TRMT - NOT ADMT	N/A	GWay MWY				N N
South 13.425 704 Car, SWag	Car, SWag	12-APR-01 THU 16	S MINOR INJURY - FIRST AID OR NO TRMT	Bridge, Causeway	GWay MWY		4	0 N	N I
North 13.430 703 Car, SWag		16-MAR-92 MON 06	N Recd MEDICAL TRMT - NOT ADMT	I/C	GWay MWY	GWay MWY RAMP R	3	0 1	N N

North 13.430 301 Car, SWag	Car, SWag	09-OCT-03 THU 07	N Recd MEDICAL TRMT - NOT ADMT	Pridao Coupourou			
North 13.430 301 Car, SWag	Car, SWag		N PROPERTY DAMAGE ONLY	Bridge, Causeway	GWay MWY		3 0 N N
North 13.430 301 Car, SWag	Car, SWag		E PROPERTY DAMAGE ONLY	N/A	GWay MWY		5 0 N N
North 13.430 301 Car, SWag	Car, SWag		N PROPERTY DAMAGE ONLY	Cross	GWay MWY	WYNNUM RD	5 0 N N
North 13.430 301 Car, SWag	Car, SWag			N/A	GWay MWY		5 0 N N
South 13.430 703 Car, SWag	Cal, Sway			Cross	GWay MWY RAMP U	WYNNUM RD	5 0 N N
South 13.430 301 Car, SWag	Truck		S PROPERTY DAMAGE ONLY	Bridge, Causeway	GWay MWY		5 0 N N
South 13.430 301 Truck	Truck	and a second sec	S ADMT TO HOSPITAL	N/A	GWay MWY		2 0 N N
	Utility, Panel Van		S Recd MEDICAL TRMT - NOT ADMT	N/A	GWay MWY		3 0 N N
South 13.430 301 Truck	Car, SWag		S ADMT TO HOSPITAL	N/A	GWay MWY		2 0 N N
South 13.430 301 Car, SWag	Car, SWag		S MINOR INJURY - FIRST AID OR NO TRMT	N/A	GWay MWY		4 0 N N
South 13.430 301 Car, SWag	Car, SWag	28-JUN-01 THU 17		N/A	GWay MWY		3 0 N Y
South 13.430 301 Utility, Panel Van	Car, SWag	24-MAY-01 THU 17		N/A	GWay MWY		3 0 Y N
South 13.430 004 Unknown/Not stated	Pedestrian		S MINOR INJURY - FIRST AID OR NO TRMT	Bridge, Causeway	GWay MWY		4 0 N N
Ramp 13.430 301 Utility, Panel Van	Car, SWag		N PROPERTY DAMAGE ONLY	Cross Wynnum W		WYNNUM RD	5 0 N N
Ramp 13.430 202 Utility, Panel Van	Car, SWag		W MINOR INJURY - FIRST AID OR NO TRMT	Cross Wynnum W		WYNNUM RD	4 0 N N
Ramp 13.430 302 Car, SWag	Motor Cycle	16-DEC-97 TUE 06			/SGWay MWY RAMP T	WYNNUM RD	3 0 N N
Ramp 13.430 202 Articulated Vehicle	Car, SWag		W MINOR INJURY - FIRST AID OR NO TRMT		I/SGWay MWY RAMP R	WYNNUM RD	4 0 N N
Ramp 13.430 104 Car, SWag	Car, SWag		W MINOR INJURY - FIRST AID OR NO TRMT	I/C Wynnum W	I/SGWay MWY RAMP T	WYNNUM RD	4 0 N N
Ramp 13.430 104 Car, SWag	Car, SWag	1	W Recd MEDICAL TRMT - NOT ADMT		/SGWay MWY RAMP S	WYNNUM RD	3 0 N N
Ramp 13.430 202 Car, SWag	Car, SWag		E PROPERTY DAMAGE ONLY		I/SGWay MWY	WYNNUM RD	5 0 N N
Ramp 13.430 202 Articulated Vehicle			N MINOR INJURY - FIRST AID OR NO TRMT		/SGWay MWY RAMP R	WYNNUM RD	4 0 N N
Ramp 13.430 301 Car, SWag	Car, SWag		E PROPERTY DAMAGE ONLY	N/A Wynnum W	I/SWYNNUM RD		5 0 N N
Ramp 13.430 104 Car, SWag	Car, SWag		W PROPERTY DAMAGE ONLY	I/C Wynnum W	/SGWay MWY RAMP T	WYNNUM RD	5 0 N N
Ramp 13.430 202 Car, SWag	Car, SWag		W PROPERTY DAMAGE ONLY	I/C Wynnum W	/SGWay MWY RAMP R	WYNNUM RD	5 0 N N
Ramp 13.430 202 Car, SWag	Car, SWag		E PROPERTY DAMAGE ONLY		/SGWay MWY RAMP R	WYNNUM RD	5 0 N N
Ramp 13.430 202 Car, SWag	Car, SWag		E PROPERTY DAMAGE ONLY		/SGWay MWY RAMP R	WYNNUM RD	5 0 N N
Ramp 13.430 202 Car, SWag	Car, SWag		W Recd MEDICAL TRMT - NOT ADMT		/SGWay MWY RAMP R	WYNNUM RD	3 0 N N
Ramp 13.430 104 Car, SWag			W PROPERTY DAMAGE ONLY	Cross Wynnum W	/SGWay MWY RAMP T	WYNNUM RD	5 0 N N
Ramp 13.440 202 Car, SWag			W PROPERTY DAMAGE ONLY		/SGWay MWY RAMP R	WYNNUM RD	5 0 N N
Ramp 13.440 202 Car, SWag	Utility, Panel Van		W PROPERTY DAMAGE ONLY		/SGWay MWY RAMP R	WYNNUM RD	5 0 N N
Ramp 13.440 302 Car, SWag	Car, SWag		N Recd MEDICAL TRMT - NOT ADMT		SGWay MWY RAMP T	WYNNUM RD	3 0 N N
Ramp 13.440 202 Car, SWag	Car, SWag		E PROPERTY DAMAGE ONLY		/SGWay MWY RAMP T	WYNNUM RD	5 0 N N
Ramp 13.440 202 Utility, Panel Van	Car, SWag		W PROPERTY DAMAGE ONLY		/SGWay MWY RAMP R	WYNNUM RD	5 0 N N
Ramp 13.440 301 Car, SWag			N Recd MEDICAL TRMT - NOT ADMT		/SGWay MWY RAMP S	WYNNUM RD	3 0 N N
Ramp 13.440 302 Car, SWag					/SGWay MWY RAMP T	WYNNUM RD	4 0 N N
Ramp 13.440 302 4-wheel drive	Car, SWag		N Recd MEDICAL TRMT - NOT ADMT	I/C Wynnum W	/SGWay MWY RAMP T	WYNNUM RD	3 0 N N
Ramp 13.440 303 Car, SWag	Car, SWag		W Recd MEDICAL TRMT - NOT ADMT		/SGWay MWY RAMP R	WYNNUM RD	3 0 N N
Ramp 13.440 102 Car, SWag	4-wheel drive		N PROPERTY DAMAGE ONLY		SGWay MWY RAMP T	WYNNUM RD	5 0 N N
Ramp 13.440 302 Car, SWag	Car, SWag		N PROPERTY DAMAGE ONLY		/SGWay MWY RAMP T	WYNNUM RD	5 0 N N
Ramp 13.440 302 Car, SWag	Car, SWag		N Recd MEDICAL TRMT - NOT ADMT		/SGWay MWY RAMP T	WYNNUM RD	3 0 N N
Ramp 13.440 301 Unknown/Not stated	Car, SWag				/SWYNNUM RD		4 0 N N
Ramp 13.440 703 Car, SWag			N Recd MEDICAL TRMT - NOT ADMT		/SGWay MWY RAMP T		3 0 N N
Ramp 13.440 104 Utility, Panel Van			W ADMT TO HOSPITAL		/SGWay MWY RAMP T	WYNNUM RD	2 0 N N
Ramp 13.440 302 4-wheel drive	4-wheel drive		N Recd MEDICAL TRMT - NOT ADMT		/SGWay MWY RAMP T	WYNNUM RD	3 0 N N
Ramp 13.440 104 Car, SWag			W PROPERTY DAMAGE ONLY		/SGWay MWY RAMP T	WYNNUM RD	5 0 N Y
Ramp 13.440 301 Car, SWag	Car, SWag		E ADMT TO HOSPITAL		/SWYNNUM RD		2 0 N N
Ramp 13.440 104 Car, SWag	Car, SWag		W MINOR INJURY - FIRST AID OR NO TRMT		/SGWay MWY RAMP T	WYNNUM RD	4 0 N N
Ramp 13.440 301 Car, SWag	Car, SWag	21-JAN-00 FRI 14	E MINOR INJURY - FIRST AID OR NO TRMT		/SWYNNUM RD		4 0 N N
Ramp 13.440 302 Car, SWag	Car, SWag				/SGWay MWY RAMP T	WYNNUM RD	4 0 N N
Ramp 13.440 104 Car, SWag	Utility, Panel Van		W Recd MEDICAL TRMT - NOT ADMT		/SGWay MWY RAMP T	WYNNUM RD	3 0 N N
Ramp 13.440 202 Car, SWag	Car, SWag		W ADMT TO HOSPITAL		/SGWay MWY RAMP R	WYNNUM RD	2 0 N N
Ramp 13.440 301 Truck	Car, SWag		E PROPERTY DAMAGE ONLY		/SGWay MWY RAMP R	WYNNUM RD	5 0 N N
Ramp 13.440 301 Utility, Panel Van	Car, SWag		E PROPERTY DAMAGE ONLY		/SGWay MWY RAMP R	WYNNUM RD	5 0 N N
Ramp 13.440 301 Car, SWag	Car, SWag		E PROPERTY DAMAGE ONLY		SWYNNUM RD		5 0 N N
Ramp 13.440 301 Truck	Car, SWag		E PROPERTY DAMAGE ONLY		/SWYNNUM RD		5 0 N N
Ramp 13.440 302 Car, SWag			N Recd MEDICAL TRMT - NOT ADMT		/SGWay MWY RAMP T	WYNNUM RD	3 0 N N

Ramp 13.440 302 Utility, Panel Van		26-MAR-97	WED 1	7 1	N Recd MEDICAL TRMT - NOT ADMT	I/C	Wynnum W [°] I/S	GWay MWY RAMP T	WYNNUM RD	3	0	NN
Ramp 13.440 301 Utility, Panel Van	Car, SWag	17-APR-96	WED 1	8 E	MINOR INJURY - FIRST AID OR NO TRMT	Cross	Wynnum W I/S	GWay MWY RAMP R	WYNNUM RD	4	0	NN
Ramp 13.440 102 Car, SWag	Car, SWag	22-MAY-02	WED 2	1 0	N PROPERTY DAMAGE ONLY	I/C		GWay MWY RAMP T	WYNNUM RD			NN
Ramp 13.440 301 Car, SWag	Car, SWag	10-JUN-00	SAT 2	2 E	E MINOR INJURY - FIRST AID OR NO TRMT	I/C		GWay MWY RAMP R	WYNNUM RD			NN
Ramp 13.440 408 Car, SWag	Car, SWag	04-JAN-02	FRI 2	2 E	E PROPERTY DAMAGE ONLY	N/A	Wynnum W I/S					NN
Ramp 13.440 202 Car, SWag	Car, SWag	04-DEC-02	WED 2	3 V	V PROPERTY DAMAGE ONLY	Cross		GWay MWY RAMP R	WYNNUM RD			NN
South 13.445 704 Motor Cycle					S ADMT TO HOSPITAL	N/A		GWay MWY				YN
North 13.450 301 Car, SWag	Car, SWag	08-APR-03			N ADMT TO HOSPITAL	N/A		GWay MWY				N N
North 13.450 301 Car, SWag	Car, SWag	19-JAN-96			N PROPERTY DAMAGE ONLY	N/A		GWay MWY				N N
South 13.455 307 Articulated Vehicle	Car, SWag	05-AUG-03			S Recd MEDICAL TRMT - NOT ADMT	N/A		GWay MWY		· · ·		NN
North 13.480 705 Car, SWag		01-FEB-98			N Recd MEDICAL TRMT - NOT ADMT	N/A		GWay MWY				NI
South 13.530 701 Car, SWag		11-AUG-94			S PROPERTY DAMAGE ONLY	N/A		GWay MWY				N I
Ramp 13.545 703 Car, SWag		26-JUN-98			S PROPERTY DAMAGE ONLY	I/C		GWay MWY RAMP S				N N
South 13.555 301 Motor Cycle	Utility, Panel Van				S Recd MEDICAL TRMT - NOT ADMT	N/A		GWay MWY				N N
Ramp 13.595 202 Car, SWag	Car, SWag				E MINOR INJURY - FIRST AID OR NO TRMT	I/C		GWay MWY RAMP U				
Ramp 13.595 104 Car, SWag					E Recd MEDICAL TRMT - NOT ADMT	I/C						N N
Ramp 13.595 202 Car, SWag	Car, SWag							GWay MWY RAMP S				NN
Ramp 13.595 202 Car, SWag	Truck				S PROPERTY DAMAGE ONLY			GWay MWY RAMP U				N N
Ramp 13.595 301 Car, SWag	Car, SWag				V MINOR INJURY - FIRST AID OR NO TRMT			GWay MWY RAMP U	WYNNUM RD			NI
Ramp 13.595 302 Utility, Panel Van	Car, SWag Car, SWag				S PROPERTY DAMAGE ONLY	N/A	Wynnum E I/S			4		NN
Ramp 13.595 202 Car, SWag	Car, SWag				PROPERTY DAMAGE ONLY	I/C		GWay MWY RAMP S	WYNNUM RD	5		<u>N N</u>
Ramp 13.595 302 Car, SWag					S PROPERTY DAMAGE ONLY	Cross		GWay MWY RAMP U	WYNNUM RD	5		N I
Ramp 13.595 301 Car, SWag								GWay MWY RAMP S	WYNNUM RD	5		NI
Ramp 13.595 303 Car, SWag	Car, SWag	12-FEB-94			Recd MEDICAL TRMT - NOT ADMT	N/A	Wynnum E I/S			3		NI
Ramp 13.595 202 Car, SWag	Car, SWag	23-APR-95				I/C		GWay MWY RAMP U	WYNNUM RD			NI
Ramp 13.595 104 Truck	Car, SWag				V MINOR INJURY - FIRST AID OR NO TRMT	I/C		GWay MWY RAMP U	WYNNUM RD			NI
	Utility, Panel Van					I/C		GWay MWY RAMP S	WYNNUM RD			NI
Ramp 13.595 302 Utility, Panel Van	Car, SWag	18-FEB-99			Recd MEDICAL TRMT - NOT ADMT			GWay MWY RAMP S	WYNNUM RD			ΝΙ
Ramp 13.595 301 Car, SWag	Car, SWag	20-FEB-98	1		V PROPERTY DAMAGE ONLY	N/A	Wynnum E I/S					NI
Ramp 13.595 202 Car, SWag	Truck	04-SEP-94			E PROPERTY DAMAGE ONLY		Transmission of the second sec	GWay MWY RAMP U	WYNNUM RD			<u>N</u> 1
Ramp 13.595 301 Car, SWag	Car, SWag	15-JAN-96			PROPERTY DAMAGE ONLY	I/C		GWay MWY RAMP S	WYNNUM RD	5		NI
Ramp 13.595 302 Car, SWag	Car, SWag	06-JUN-95			S Recd MEDICAL TRMT - NOT ADMT	I/C		GWay MWY RAMP S	WYNNUM RD	3		NI
Ramp 13.595 303 Car, SWag	Utility, Panel Van				MINOR INJURY - FIRST AID OR NO TRMT	N/A	Wynnum E I/S			4		N
Ramp 13.595 202 Car, SWag	Car, SWag	29-JAN-93			E PROPERTY DAMAGE ONLY			GWay MWY RAMP U	WYNNUM RD	5		NI
Ramp 13.595 303 Car, SWag					MINOR INJURY - FIRST AID OR NO TRMT	Cross	Wynnum E I/S	GWay MWY RAMP U	WYNNUM RD	4	0	NI
Ramp 13.595 202 Car, SWag	Car, SWag	27-AUG-93			E PROPERTY DAMAGE ONLY	I/C	Wynnum E I/S	GWay MWY RAMP U	WYNNUM RD	5	0	NI
Ramp 13.595 302 Car, SWag	Car, SWag				S PROPERTY DAMAGE ONLY	I/C	Wynnum E I/S	GWay MWY RAMP S	WYNNUM RD	5	0	NI
Ramp 13.595 303 Car, SWag	Motor Cycle	28-JUN-95			E Recd MEDICAL TRMT - NOT ADMT	N/A	Wynnum E I/S	WYNNUM RD		3	0	NI
Ramp 13.595 102 Car, SWag	Car, SWag				S PROPERTY DAMAGE ONLY	Cross		GWay MWY RAMP S	WYNNUM RD	5	0	NI
Ramp 13.595 202 Car, SWag	Car, SWag				MINOR INJURY - FIRST AID OR NO TRMT	I/C	Wynnum E I/S	GWay MWY RAMP U	WYNNUM RD	4	0	N
Ramp 13.595 202 Car, SWag	Car, SWag				PROPERTY DAMAGE ONLY			GWay MWY RAMP U	WYNNUM RD	5	0	N
Ramp 13.595 202 Car, SWag	Car, SWag				E Recd MEDICAL TRMT - NOT ADMT	I/C		GWay MWY RAMP U	WYNNUM RD			N
Ramp 13.595 202 Car, SWag					V PROPERTY DAMAGE ONLY			GWay MWY RAMP U	WYNNUM RD	5		N
North 13.630 301 Car, SWag					N PROPERTY DAMAGE ONLY	N/A		GWay MWY		5	0	Y
North 13.630 001 Pedestrian	Car, SWag	08-JUL-94				N/A		GWay MWY	,		1	N
North 13.630 703 Car, SWag					PROPERTY DAMAGE ONLY	N/A		GWay MWY		5	0	N
South 13.630 301 Car, SWag	Utility, Panel Van				MINOR INJURY - FIRST AID OR NO TRMT	N/A		GWay MWY				N
North 13.640 802 Car, SWag		30-MAR-00	THU 00		MINOR INJURY - FIRST AID OR NO TRMT	N/A		GWay MWY				N
South 13.640 305 Car, SWag	Car, SWag	02-NOV-01			ADMT TO HOSPITAL	N/A		GWay MWY		2		N
South 13.640 803 Car, SWag		21-APR-97	MON 20	0 5	Recd MEDICAL TRMT - NOT ADMT	N/A		GWay MWY		3	0	Y
South 13.690 608 Car, SWag	Car, SWag				PROPERTY DAMAGE ONLY	I/C		GWay MWY	GWay MWY RAMP R			N
South 13.730 301 Car, SWag	4-wheel drive				PROPERTY DAMAGE ONLY	N/A		GWay MWY				Y
South 13.730 301 Car, SWag	Car, SWag				MINOR INJURY - FIRST AID OR NO TRMT	N/A		GWay MWY	······			N
North 13.830 700 Car, SWag					PROPERTY DAMAGE ONLY	N/A		GWay MWY				N
South 13.830 307 Car, SWag	Car, SWag				PROPERTY DAMAGE ONLY	N/A		GWay MWY	:			N
South 13.830 301 Utility, Panel Van					S Recd MEDICAL TRMT - NOT ADMT	N/A		GWay MWY				Y
North 13.890 703 Utility, Panel Van		27-NOV-94				N/A		GWay MWY				N
				- 1 - 1		1.1/1	1		<u> </u>		1	

North 42.000 204 Con Olden	014/		00		1						
				N PROPERTY DAMAGE ONLY	Merge	Lane	GWay MWY		5 1	1 0	NN
				S PROPERTY DAMAGE ONLY	N/A		GWay MWY		5	1 0	NN
South 13.890 301 Car, SWag Utility				S Recd MEDICAL TRMT - NOT ADMT	N/A		GWay MWY		3	1 0	N N
North 13.920 704 Car, SWag				N PROPERTY DAMAGE ONLY	N/A		GWay MWY				YN
North 13.930 800 Car, SWag		29-MAR-98 SUN	07	N PROPERTY DAMAGE ONLY	N/A		GWay MWY				YN
North 13.930 301 Omnibus Car,	r, SWag	23-JUL-91 TUE	21	N MINOR INJURY - FIRST AID OR NO TRMT	Merge	lane	GWay MWY	· · · · · · · · · · · · · · · · · · ·			N N
				N PROPERTY DAMAGE ONLY	N/A		GWay MWY				
				W PROPERTY DAMAGE ONLY	N/A						N N
				N Recd MEDICAL TRMT - NOT ADMT			GWay MWY				NN
North 14.030 703 Car, SWag				N ADMT TO HOSPITAL	N/A		GWay MWY				NN
South 14.140 700 Car, SWag					N/A		GWay MWY				NY
				S PROPERTY DAMAGE ONLY	N/A		GWay MWY		5		NN
				S Recd MEDICAL TRMT - NOT ADMT	N/A		GWay MWY		3	1 0	NN
South 14.140 607 Car, SWag					N/A		GWay MWY		4	1 0	NN
South 14.140 800 Car, SWag				S PROPERTY DAMAGE ONLY	N/A		GWay MWY		5	1 0	NY
South 14.230 305 Car, SWag Artice			10	S Recd MEDICAL TRMT - NOT ADMT	N/A		GWay MWY		3	0 1	N N
South 14.430 703 Car, SWag		26-JAN-01 FRI	15	S PROPERTY DAMAGE ONLY	Bridge,	Causeway	GWay MWY				YN
South 14.430 301 Utility, Panel Van Car,	r, SWag				N/A	<u> </u>	GWay MWY			-	N N
South 14.430 201 Car, SWag Car,				S ADMT TO HOSPITAL	N/A		GWay MWY				YN
South 14.450 301 Car, SWag Truck				S ADMT TO HOSPITAL	N/A		GWay MWY RAMP XI				
				N Recd MEDICAL TRMT - NOT ADMT	N/A		GWay MWY GWay MWY				
				N PROPERTY DAMAGE ONLY	N/A	· · · · · · · · · · · · · · · · · · ·					NN
North 14.640 607 Car, SWag Car,				N PROPERTY DAMAGE ONLY			GWay MWY				N N
North 14.680 607 Car, SWag					N/A		GWay MWY	-			NN
				N PROPERTY DAMAGE ONLY	N/A		GWay MWY				N N
				S PROPERTY DAMAGE ONLY	N/A		GWay MWY		5		NN
		22-JUL-03 TUE		S Recd MEDICAL TRMT - NOT ADMT	N/A		GWay MWY		3	0 1	NN
				N MINOR INJURY - FIRST AID OR NO TRMT	N/A		GWay MWY		4	0 1	N N
				S PROPERTY DAMAGE ONLY	N/A		GWay MWY				NN
North 14.890 301 Car, SWag Car,	r, SWag	08-MAR-00 WED	07	N MINOR INJURY - FIRST AID OR NO TRMT	N/A		GWay MWY				N N
North 14.890 301 Car, SWag Utility	ity, Panel Van	02-MAY-02 THU	14	N PROPERTY DAMAGE ONLY	N/A		GWay MWY				N N
North 14.890 703 Car, SWag Car,	r, SWag	04-MAY-00 THU	14	N Recd MEDICAL TRMT - NOT ADMT	N/A		GWay MWY				N N
North 14.890 703 Utility, Panel Van				N PROPERTY DAMAGE ONLY		Causeway	GWay MWY				N N
South 14.890 805 Car, SWag				S PROPERTY DAMAGE ONLY	N/A	Causeway	GWay MWY				
					N/A						NY
				S Recd MEDICAL TRMT - NOT ADMT			GWay MWY				NN
South 14.920 703 Car, SWag				S ADMT TO HOSPITAL	N/A		GWay MWY				NN
North 14.990 704 Car, SWag					N/A		GWay MWY		2	0 1	NN
					N/A		GWay MWY				N N
Ramp 15.000 705 Articulated Vehicle				S Recd MEDICAL TRMT - NOT ADMT	I/C		GWay MWY RAMP Q		3	0	NY
North 15.040 705 Car, SWag				N PROPERTY DAMAGE ONLY	N/A		GWay MWY				N N
				S PROPERTY DAMAGE ONLY	N/A		GWay MWY		5	0	N N
	ity, Panel Van			S PROPERTY DAMAGE ONLY	N/A		GWay MWY		5	0 1	NY
					N/A		GWay MWY				NN
					N/A		GWay MWY				N N
South 15.140 705 Utility, Panel Van					N/A		GWay MWY				N N
South 15.190 301 4-wheel drive Utility					N/A		GWay MWY				N N
				N PROPERTY DAMAGE ONLY	N/A		GWay MWY	· · · · · · · · · · · · · · · · · · ·			N N
					N/A		GWay MWY				
				E PROPERTY DAMAGE ONLY		Lutton E 1/C					N N
					-	Lytton E I/S	GWay MWY RAMP Q	PORT OF BRISBANE F			N N
							GWay MWY RAMP O	LYTTON RD (1/95)			N N
						Lytton E I/S	GWay MWY RAMP O				NN
							GWay MWY RAMP Q				N N
						Lytton E I/S	GWay MWY RAMP Q	LYTTON RD (1/95)	5	0	N N
						Lytton E I/S	GWay MWY RAMP Q	LYTTON RD (1/95)			N N
Ramp 15.270 706 Articulated Vehicle					I/C		GWay MWY RAMP O				N N
				S PROPERTY DAMAGE ONLY		Lytton E I/S	GWay MWY RAMP N	LYTTON RD (1/95)			N N
	r, SWag				N/A		GWay MWY				N N
North 15.320 700 Car, SWag					N/A		GWay MWY	•			Y N
			······				L		<u> </u>	-	· _ · ·

Accident Statistcs

North 15.340 307	Cor SWoo	Truck	20 MAD 04	THE	4.4			l			2	0	N	
North 15.340 305		Truck Omnibus					N/A Deidere		GWay MWY	·			N	
							and	Causeway	GWay MWY					
South 15.350 301		Car, SWag				S PROPERTY DAMAGE ONLY	N/A		GWay MWY	-			Y	
North 15.390 701		0.011	10-JUN-94			N PROPERTY DAMAGE ONLY	N/A		GWay MWY				N	
South 15.390 301		Car, SWag					N/A		GWay MWY				N	
North 15.430 404		Car, SWag				N PROPERTY DAMAGE ONLY	N/A		GWay MWY	:			N	-
North 15.430 703			24-FEB-03				N/A		GWay MWY				N	
North 15.430 301		Car, SWag	15-JUN-99			N PROPERTY DAMAGE ONLY	N/A		GWay MWY				N	
	Special Purpose Vehicle	Utility, Panel Van				N Recd MEDICAL TRMT - NOT ADMT	I/C		GWay MWY	GWay MWY RAMP P			N	
Ramp 15.500 703			13-MAY-99			N PROPERTY DAMAGE ONLY	I/C		GWay MWY RAMP P				Y	
North 15.580 307		Car, SWag	18-JAN-01	THU	16	N Recd MEDICAL TRMT - NOT ADMT	N/A		GWay MWY		3		Ν	
North 15.640 301	Car, SWag	Car, SWag	19-NOV-97	WED	07	N Recd MEDICAL TRMT - NOT ADMT	N/A		GWay MWY		3		N	
North 15.640 307		Car, SWag	03-MAR-03	MON	08	N PROPERTY DAMAGE ONLY	N/A		GWay MWY		5		N	
South 15.640 704			21-SEP-01	FRI	15	S Recd MEDICAL TRMT - NOT ADMT	N/A		GWay MWY				N	
South 15.640 301		Car, SWag	03-FEB-00	THU	16	S PROPERTY DAMAGE ONLY	N/A		GWay MWY		5		N	N
North 15.690 703			04-OCT-91	FRI	16	S PROPERTY DAMAGE ONLY	N/A		NEMIES RD		5			Ν
Ramp 15.730 102	Car, SWag	Car, SWag	09-APR-92	THU	07	N PROPERTY DAMAGE ONLY	Cross	Lytton W I/S	GWay MWY RAMP LM	QUEENSPORT RD	5	0	N	N
Ramp 15.730 202		Car, SWag	08-APR-98	WED	07	E Recd MEDICAL TRMT - NOT ADMT	I/C	Lytton W I/S	GWay MWY RAMP P	LYTTON RD (1/95)	3	0	N	N
Ramp 15.730 202			11-MAY-92				I/C	Lytton W I/S	GWay MWY RAMP N	LYTTON RD (1/95)	1	1	N	N
Ramp 15.730 104		Articulated Vehicle	09-APR-98	THU	12	W PROPERTY DAMAGE ONLY	I/C	Lytton W I/S	GWay MWY RAMP P	LYTTON RD (1/95)	5	0	N	N
Ramp 15.730 107		Truck	25-NOV-94	FRI		N PROPERTY DAMAGE ONLY	I/C	Lytton W I/S	GWay MWY RAMP P	QUEENSPORT RD	5	0	N	N
Ramp 15.730 202	Car, SWag	Car, SWag	30-NOV-93			W ADMT TO HOSPITAL	I/C	Lytton W I/S	GWay MWY RAMP N	LYTTON RD (1/95)	2	0	N	N
Ramp 15.730 202	Car, SWag					W PROPERTY DAMAGE ONLY	I/C	Lytton W I/S	GWay MWY RAMP N	LYTTON RD (1/95)	5	0	N	N
Ramp 15.730 202		Utility, Panel Van				W ADMT TO HOSPITAL	I/C	Lytton W I/S	GWay MWY RAMP N	LYTTON RD (1/95)			N	N
Ramp 15.730 202		Car, SWag	18-SEP-97			W MINOR INJURY - FIRST AID OR NO TRMT	1/C	Lytton W I/S	LYTTON RD (1/95)	PORT OF BRISBANE F			N	
Ramp 15.730 803		,	15-FEB-98			S PROPERTY DAMAGE ONLY	I/C	Lytton W I/S	GWay MWY RAMP P	QUEENSPORT RD			Y	
Ramp 15.730 202		Utility, Panel Van				W PROPERTY DAMAGE ONLY	I/C	Lytton W I/S	GWay MWY RAMP N	LYTTON RD (1/95)			N	-
Ramp 15.775 805		·····,				N PROPERTY DAMAGE ONLY	I/C		GWay MWY RAMP P				N	
North 15.790 700			11-AUG-94			S PROPERTY DAMAGE ONLY	N/A		GWay MWY				N	
North 15.790 308		Car, SWag	06-OCT-03			N Recd MEDICAL TRMT - NOT ADMT	N/A		GWay MWY				N	
South 15.790 301		Car, SWag	13-MAY-99			S PROPERTY DAMAGE ONLY	N/A		GWay MWY				N	
South 15.840 301		Car, SWag	21-JAN-02			S MINOR INJURY - FIRST AID OR NO TRMT	N/A		GWay MWY		4		N	
North 15.870 301		Car, SWag	23-DEC-93			N MINOR INJURY - FIRST AID OR NO TRMT	N/A		GWay MWY				N	
South 15.880 301		Articulated Vehicle				S PROPERTY DAMAGE ONLY	N/A		GWay MWY				N	
North 15.890 302		Car, SWag				S Recd MEDICAL TRMT - NOT ADMT	I/C	Lytton E I/S	GWay MWY RAMP O	PORT OF BRISBANE			N	
North 15.890 302		Car, SWag	· · · · · · · · · · · · · · · · · · ·		1	S PROPERTY DAMAGE ONLY	N/A		GWay MWY		5		N	
North 15.890 104		Car, SWag			1 +	E Recd MEDICAL TRMT - NOT ADMT		Lytton E I/S	GWay MWY RAMP O	LYTTON RD (1/95)	3	ŏ	N	N
North 15.890 302		Car, SWag				E MINOR INJURY - FIRST AID OR NO TRMT	I/C	Lytton E I/S	GWay MWY RAMP N	LYTTON RD (1/95)			N	_
North 15.890 301		Truck				S Recd MEDICAL TRMT - NOT ADMT	I/C	Lytton E I/S	GWay MWY RAMP Q				N	
North 15.890 104		Car, SWag				E MINOR INJURY - FIRST AID OR NO TRMT	I/C	Lytton E I/S	GWay MWY RAMP O	LYTTON RD			N	
North 15.890 302		Car, SWag Car, SWag				S Recd MEDICAL TRMT - NOT ADMT	1/C	Lytton E I/S	GWay MWY RAMP O	PORT OF BRISBANE			N	
North 15.890 301		Car, SWag				N PROPERTY DAMAGE ONLY	N/A		GWay MWY				N	
North 15.890 104		Articulated Vehicle				E PROPERTY DAMAGE ONLY	I/C	Lytton E I/S	GWay MWY RAMP O	PORT OF BRISBANE			N	
North 15.890 104					; I	E PROPERTY DAMAGE ONLY	I/C	Lytton E I/S	GWay MWY RAMP O	LYTTON RD			N	
South 15.890 301		Car, SWag				N Recd MEDICAL TRMT - NOT ADMT	N/A		GWay MWY				N	
30001 10.080 301	Cai, Sway	Cal, Sway	VI-FED-UI		10				Gway Wiw I		J	v		