Appendix M Integrated Traffic Assessment

Fast Track Approvals Act Application

Foxton Solar Farm

Genesis Energy Limited

SLR Project No.: 810.V14848.00001

13 February 2026

SLR

Integrated Transport Assessment

Foxton Solar Farm
Fast Track Approvals Act Application

Genesis Energy Limited

Prepared by:

SLR Consulting New Zealand

Peer reviewed by:

Don McKenzie Consulting

SLR Project No.: 810.V14848.00001

Client Reference: Foxton Solar Farm

12 February 2026

Revision: 1.5

Revision Record

Revision	Date	Prepared By	Checked By	Authorised By
1.5	12 February 2026	Gareth Davies	Brendyn Rheinberger	Don Mckenzie

Basis of Report

This report has been prepared by SLR Consulting New Zealand Limited (SLR), on the instruction of Genesis Energy (the Client), in accordance with the agreed scope of work. It is intended to support the Client's application under the Fast Track Approvals Act 2024 and may be relied upon by the Expert Panel and relevant administering agencies for the purposes of assessing the application. While SLR has exercised due care in preparing this report, it does not accept liability for any use of the report beyond its intended purpose. Where information has been supplied by the Client or obtained from external sources, it has been assumed to be accurate unless otherwise stated.

Peer Review

This report has been peer reviewed by Don McKenzie Consulting with all reasonable skill, care and diligence, and taking account of the timescale and resources allocated to it by agreement with SLR. Information reported herein is based on the interpretation of data collected, which has been accepted in good faith as being accurate and valid.

As an expert witness I have read, and am familiar with, the Code of Conduct for expert witnesses contained in the Environment Court Practice Note 2023. This report has been prepared in compliance with that Code. In particular, unless I state otherwise, this response is within my area of expertise and I have not omitted to consider material facts known to me that might alter or detract from the opinions I express.

Technical Advice – Transportation Planning

Date	12 February 2026
To	Genesis Energy Limited
From	Gareth Davies, Senior Consultant Transport Advisory SLR Consulting
Project advice provided for	Foxton Solar Farm
Documents referred to	Integrated Transport Assessment Foxton Solar Farm Fast Track Approvals Act Application December 2025 Ref.: Appendix M_Integrated Transport Assessment
Qualifications	I am a Senior Consultant in Transport Advisory at SLR Consulting Australia Pty Ltd. I have 4 years' experience as a specialist traffic and transport engineer in New Zealand and Australia. I hold a Bachelor of Engineering (Hons) from The University of Auckland, and I am a member of the Transport Professionals Association.
Code of Conduct	I have read the Environment Court's Practice Note 2023 Code of Conduct for Expert Witnesses. This statement has been prepared in compliance with that code. I confirm that the report is within my area of expertise. I have not neglected to consider material facts known to me that might alter or detract from the opinions expressed.

Executive Summary

The Genesis Energy Limited is seeking resource consent under the Fast-track Approvals Act 2024 to build and operate an approximately 180 MW_{AC} solar facility that will generate approximately 345 GWh per year of renewable electricity. This will be enough to power the equivalent of 47,000 homes annually.

The site for the proposed solar farm is located at 304 - 508 Wall Road and 447 Motuiti Road, Foxton. The site is situated approximately 4 km north of the Foxton town centre, on 335 hectares of a 488 hectare site currently used for dairy farming and runoff grazing. The solar farm will consist of solar panels and power generation equipment arranged in rows across the site with a Battery Energy Storage System (BESS). The renewable electricity generated will be connected to the National Grid via a new on-site substation and connection assets.

The Project will involve the construction, operation, and eventual decommissioning of the solar farm and BESS, including:

- a 180 MW_{AC} solar farm comprising solar photovoltaic (PV) solar panels.
- a BESS with a proposed capacity of up to 200 MWh.
- a 220/33kVA substation for the solar farm.
- electrical collection and conversion systems, including inverter and transformer units, switchyard, and control room.
- ancillary construction activities, including earthworks, temporary laydown areas, construction compounds, and the like.
- ancillary operational activities, including site office and maintenance storage area, property management, and maintenance.
- rehabilitation of the Project site after decommissioning.

This Integrated Transport Assessment (ITA) has been prepared to inform the preparation of an Assessment of Environmental Effects (AEE) for resource consents required from the Horowhenua District Council and Manawatū-Whanganui Regional Council (Council) for a Resource Consent Application. Based on the analysis and discussion documented in this report, the following is concluded:

- The Project will generate 170 vehicle movements per day during peak construction including 80 heavy vehicles. This is anticipated to be around 50 vehicles in the peak hour during the peak period (including 30 light vehicles, 15 buses, and 5 HCV's)
- Outside of the construction peak, the Project is anticipated to generate up to 80 vehicle movements per day. This is anticipated to be around 35 vehicles in the peak hour (including 20 light vehicles, 10 buses, and 5 HCV's).
- It was identified that the roads and intersections surrounding the Project will continue operating satisfactorily during the construction of the project provided the appropriate mitigation recommended below is implemented.
- Sight distances available at the proposed Project accesses exceed the minimum sight distance requirements of the RTS06.
- The available crash dataset at the access does not indicate any recurring crash type or theme that would preclude or warrant significant safety mitigations.

The following is recommended:

- Access A01 should be formed in general accordance with Diagram 6 in Appendix One of Horowhenua District Council's Engineering Standards, while access A02 should be formed in general accordance with Drawing 5 in Appendix One of Horowhenua District Council's Engineering Standards.
- A Construction Traffic Management Plan (CTMP) is to be prepared following the approval of this application. This includes all northbound construction traffic on SH1 being required to turn right onto Motuiti Road and not use the intersection of SH1 and Wall Road.
- Road dilapidation reports to be prepared for the review of Horowhenua District Council.

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1.0 Introduction

1.1 Context

The Genesis Energy Limited (Genesis) is seeking resource consent under the Fast-track Approvals Act 2024 to build and operate an approximately 180 MW_{AC} solar facility that will generate approximately 345 GWh per year of renewable electricity. This will be enough to power the equivalent of 47,000 homes annually.

The site for the proposed solar farm is located at 304 - 508 Wall Road and 447 Motuiti Road, Foxton. The site is situated approximately 4 km north of the Foxton town centre, on 335 hectares of a 488 hectare site currently used for dairy farming and runoff grazing. The solar farm will consist of solar panels and power generation equipment arranged in rows across the site with a Battery Energy Storage System (BESS). The renewable electricity generated will be connected to the National Grid via a new on-site substation and connection assets.

The Project will involve the construction, operation, and eventual decommissioning of the solar farm and BESS. The relevant traffic and transport components include:

- a 180 MW_{AC} solar farm comprising solar photovoltaic (PV) solar panels.
- a BESS with a proposed capacity of up to 200 MWh.
- a 220/33kVA substation for the solar farm.
- electrical collection and conversion systems, including inverter and transformer units, switchyard, and control room.
- ancillary construction activities, including earthworks, temporary laydown areas, construction compounds, and the like.
- ancillary operational activities, including site office and maintenance storage area, property management, and maintenance.
- rehabilitation of the Project site after decommissioning.

More detailed concept plans of the Project are included in **Appendix A**.

1.2 Application

SLR Consulting Pty Ltd (SLR) has been engaged by Genesis to provide traffic and transport engineering advice for the proposed Foxton Solar Farm and BESS.

This Integrated Transport Assessment (ITA) has been prepared to inform the preparation of an Assessment of Environmental Effects (AEE) required for the resource consent application under the *Horowhenua District Plan* and the *Horizons One Plan*.

1.3 Assessment Scope

This report assesses the consistency of the Project with the traffic and transport aspects of the *Horowhenua District Council's Operative District Plan* (ODP) and evaluates the effects of the Project on the surrounding transport network. This ITA report identifies the transport infrastructure required to support the Project and provides an assessment of the traffic and transport-specific aspects of the Project against the requirements of the following relevant authorities:

- Horowhenua District Council (Council).
- Waka Kotahi New Zealand Transport Agency (NZTA).

1.4 Report Structure

The structure of this ITA is summarised in Table 1.

Table 1 ITA Structure

Section	Title	Description
1	Introduction	Identifies the context of the project.
2	Existing Transport Network	Describes the existing transport network, including traffic volumes, crash history, bus service, and heavy vehicle routes.
3	Proposed Development	Describes the project, including location, site design, and access arrangements.
4	Project Traffic Demands	Details the project generated traffic demands and assessed traffic volumes.
5	Site Access	Outlines the technical analysis considerations to confirm the appropriateness of the Project's access.
6	Site Car Parking and Loading	Outlines the technical analysis considerations to confirm the appropriateness of the Project's car parking and loading arrangements.
7	Road Safety Effects	Outlines the road safety effects of the Project on the surrounding transport network.
8	Construction Traffic Effects	Outlines the traffic effects of the Project on the surrounding transport network.
9	Construction Traffic Mitigation	Outlines the proposed mitigation of the Project on the surrounding transport network to ensure it operates safely and efficiently.
10	Construction Traffic Management Strategies	Outlines the possible strategies for the future construction traffic management plan and provides high-level advice.
11	ODP Assessment	An assessment of the Project against Council's ODP.
12	Recommendations	Outlines the recommended actions for the applicant following the lodgement of the application.
13	Conclusion	Summarises the findings of the assessment and recommends approval conditions.

2.0 Existing Transport Network

2.1 One Network Road Classification

This report refers to NZTA's One Network Road Classification (ONRC). A summary of the classification is provided in Table 2 below.

Table 2: ONRC Movement of People and Goods Functional Criteria

Classification	Typical AADT*	Daily HCV**	Linking Places	Connectivity
National High Volume (meet one high volume criteria)	U+: > 35,000 R++: > 20,000	>1200	>100,000 population	
National (meet 3 criteria)	U+: > 25,000 R++: > 15,000	>800		
Regional (meet 2 criteria including at least 1 AADT)	U: > 15,000 R: > 10,000	>400	>30,000 population	Linking remote regions (regional councils) or sole connectivity in urban areas
Arterial (meet 2 criteria including at least 1 AADT)	U: > 5,000 R: > 3,000	>300	>10,000 population	Critical Connectivity (no alternative routes)
Primary Collector (meet 1 criteria including at least 1 AADT)	U: > 3,000 R: > 1,000	>150	>2,000 population	
Secondary Collector (meet 1 criteria including at least 1 AADT)	U: > 1,000 R: > 200	>25	>250 population	
Access (all other roads)	U: < 1,000 R: < 200	<25	<250 population	
Low Volume (meet low volume AADT)	U: < 200 R:< 50			

*Annual Average Daily Traffic, ** Heavy Commercial Vehicles, +Urban, ++Rural

2.2 Surrounding Road Network

The road network surrounding the Site is shown in Figure 1. The existing road network includes the following key roads:

- SH1 connecting Foxton to the south to State Highway 3 to the north.
- SH56 connecting to Palmerston North to the north.
- Rangiotu Road connecting to SH56 to the east.
- Himatangi Block Road connecting Rangiotu Road to the north.
- Motuiti Road connecting SH1 to the west to Himatangi Block Road to the east.

- Wall Road connecting SH1 to the west to Himatangi Block Road to the east.

Figure 1 Surrounding Road Network

The road network characteristics are summarised in Table 3 and have been retrieved from MobileRoad[1] and site observations.

Table 3: Road Network Characteristics

Road	Limit (km/hr)	AADT (vpd)	Classification	Carriageway Width	Date
SH1	100	9,526 (13% HCV)	State Highway National (ONRC)	10m	29/12/2022
SH56	100	6,740 (4.7% HCV)	State Highway Arterial (ONRC)	8.9	31/12/2023
Rangiotu Road	100	3,660 (11% HCV)	Arterial (ONRC)	9.4m	16/02/2023
Himatangi Block Road	80	898 (9.5% HCV)	Collector (ODP)	7m	23/05/2023
Motuiti Rd	80	399-383 (12%, 12% HCV)	Collector (ODP)	6.5m	23/05/2023
Wall Rd	80	82 (22% HCV)	Local (ODP)	6.5m	23/05/2023

2.2.1 State Highway 1

SH1 is classified by Waka Kotahi New Zealand Transport Agency's (NZTA) One Network Road Classification (ONRC) as a National (State Highway) Road. The current reported Annual Average Daily Traffic (AADT) is around 9,500 vehicles per day, including 13% of heavy

[1] MobileRoad collates Council RAMM data and Waka Kotahi NZTA TMS data.

commercial vehicles. The existing sealed width is around 10 m, comprising 3.5 m width lanes. A 1 km overtaking lane is present northbound from Motuiti Road and ends around 600 m south of the Wall Road/SH1 intersection. Figure 2 shows the general layout of SH1 at the Motuiti Road intersection.

Figure 2 SH1 Northbound from the Intersection with Motuiti Road

2.2.2 State Highway 56

The ONRC classifies SH56 as an Arterial (State Highway) road. The current reported AADT is around 6,700 vehicles per day, including 4.7% of heavy commercial vehicles. The existing sealed width is around 8.9 m, comprising 3.5 m width lanes. The estimated peak hour volume is 10% of the AADT, which is around 670 vehicles per hour.

2.2.3 Rangiotu Road

The ONRC classifies Rangiotu Road as an Arterial road. The current reported AADT is around 3,660 vehicles per day, including 11% of heavy commercial vehicles. The existing sealed width is around 9.4 m, comprising 3.5 m width lanes. The estimated peak hour volume is 10% of the AADT, which is around 370 vehicles per hour.

2.2.4 Himatangi Block Road

The ODP classifies Himatangi Block Road as a Collector, whereas the ONRC identifies it as a Secondary Collector. The current reported AADT is around 900 vehicles per day, including 9.5% of heavy commercial vehicles. The existing sealed width is around 7 m, comprising 3.3 m wide lanes with a marked centreline and edges. Figure 3 shows the general layout of Himatangi Block Road at the midblock between Motuiti Road and Wall Road.

Figure 3 Himatangi Block Road northbound at the midblock between Motuiti Road and Wall Road

2.2.5 Motuiti Road

The ODP classifies Motuiti Road as a Collector, whereas the ONRC identifies it as a Secondary Collector. The current reported AADT is around 400 (West of Hickford Road) to 380 (east of Hickford Road) vehicles per day, including 12% heavy commercial vehicles. The existing sealed width is around 6.5 m, comprising 3 m wide lanes with a marked centreline and edges. Figure 4 shows the general layout of Motuiti Road at the intersection with Himatangi Block Road.

Figure 4 Motuiti Road eastbound at the Intersection with Himatangi Block Road

2.2.6 Wall Road

The ODP classifies Wall Road as a Local Road, whereas the ONRC classifies it as an Access Road, 2 km from the intersection with SH1. Its classification then changes to Low Volume. The current reported AADT is around 80 vehicles per day, including 22% of heavy commercial vehicles. The existing sealed width is around 6.5 m, comprising 3 m wide lanes, including a centreline and unmarked edges.

It has been identified that Wall Road has recently been sealed between 439 Wall Road and 349 Wall Road, along with the intersection with Himatangi Block Road, and is being upgraded to include line marking and signage to improve priority. Figure 5 shows the general layout of SH1 at the intersection with Wall Road.

Figure 5 SH1 Northbound at the Intersection with Wall Road

2.2.7 Wall Road / SH1 Intersection

The existing Wall Road / SH1 Intersection is shown in Figure 6. The current form is a stop-controlled three-leg priority intersection with shoulder widening on the western shoulder of the northbound lane.

Figure 6: Existing SH1/Wall Road Layout

2.2.8 Wall Road / Himatangi Block Road Intersection

The existing Wall Road / Himatangi Block Road Intersection is shown in Figure 7. The current form is a give-way controlled three-leg priority intersection with shoulder widening on the eastern edge of the southbound lane. An existing vehicle crossing serving the access needs of the rural property on the eastern side of Himatangi Block Road is present opposite the Wall Road leg.

Figure 7: Existing Wall Road / Himatangi Block Road Layout

2.2.9 Motuiti Road / SH1 Intersection

The existing Motuiti Road / SH1 Intersection is shown in Figure 8. The current form is a give-way controlled three-leg priority intersection with a right turn bay on SH1.

Figure 8: Existing SH1/Motuiti Road Layout

2.2.10 Motuiti Road / Himatangi Block Road Intersection

The existing Motuiti Road / Himatangi Block Road Intersection is shown in Figure 9. The current form is a priority controlled three-leg priority intersection with no turning treatment.

Figure 9: Existing Motuiti Road / Himatangi Block Road Layout

2.2.11 Himatangi Block Road / Rangiotu Road Intersection

The existing Himatangi Block Road / Rangiotu Road Intersection is shown in Figure 10. The current form is a stop-controlled three-leg priority intersection with shoulder widening adjacent to the eastbound lane.

Figure 10: Existing Himatangi Block Road / Rangiotu Road Layout

2.2.12 Rangiotu Road / SH56 Intersection

The existing Rangiotu Road / SH56 Intersection is shown in Figure 11. The intersection is in the form of a low entry angle y-shaped tee intersection with Stop control priority and a right turn bay for turns into Rangioutu Road from the east. A 500m acceleration/auxiliary lane is present for northbound vehicles travelling from Rangiotu Road into SH56 and effectively provides a slip-lane for this movement across the northern edge of the intersection.

Figure 11: Existing Rangiotu Road / SH56 Layout

2.3 Public Transport, Walking and Cycling

Due to the area's rural nature, the Project will have limited access to public transport. Shannon Train Station is located approximately 20km and a 15-minute drive from the Project site. Levin Train Station is located approximately 30km to the east of the Project site and is within a 30-minute drive. However, the trains servicing these stations run once per day from Palmerston North to Wellington in the morning, and once from Wellington to Palmerston North in the evening.

Due to the rural nature of the Project site, there is no formalised active transport infrastructure on State Highway 1, Wall Road or Motuiti Road.

2.4 General Traffic

2.4.1 Traffic Surveys

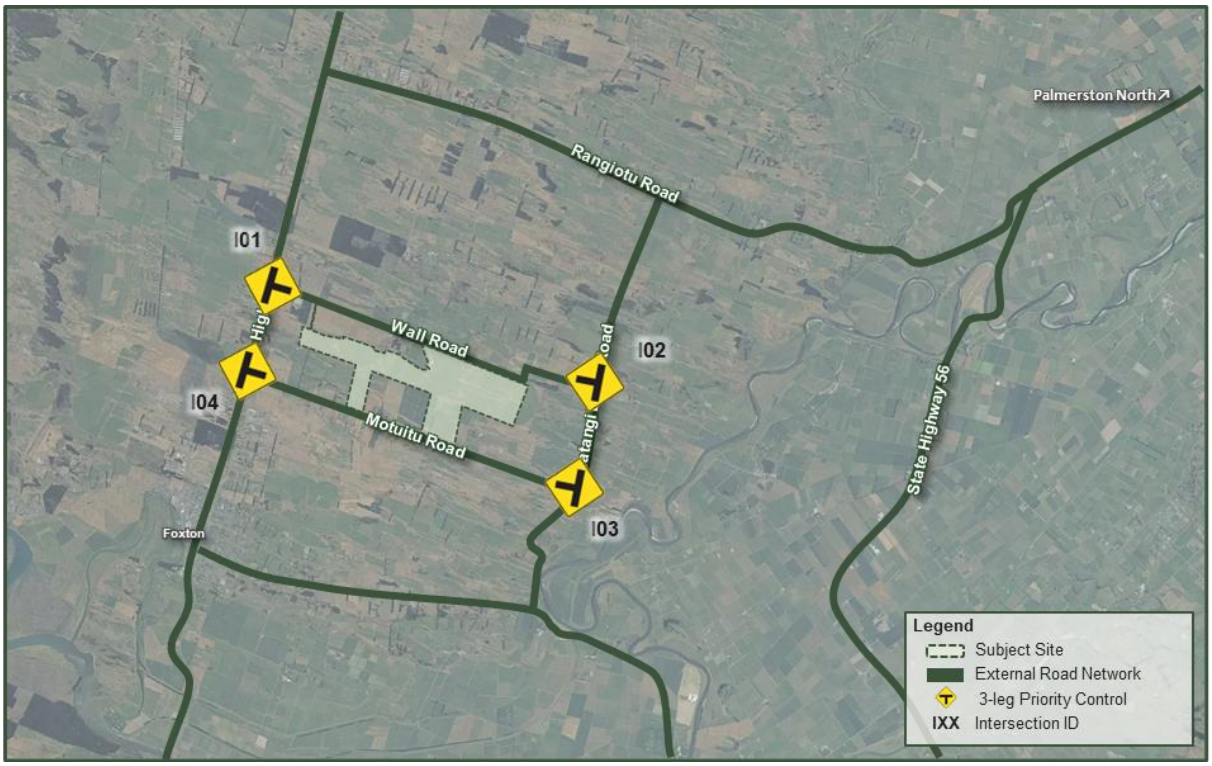
To ascertain the existing traffic demands of the road network surrounding the site, SLR commissioned intersection count (IC) surveys on Tuesday, 5 November 2024 (see **Appendix B**).

IC surveys were conducted at the intersections of:

- Wall Road / SH1 Intersection
- Wall Road / Himatangi Block Road Intersection
- Motuiti Road / SH1 Intersection
- Motuiti Road / Himatangi Block Road

All survey locations are illustrated in Figure 12.

Figure 12 Intersection Count Survey Locations



A review of the intersection count survey data collected from the intersections indicated that the peak hours of traffic activity were as follows:

- Weekday AM peak: 9:00am – 10:00am.
- Weekday PM peak: 4:15pm – 5:15pm.

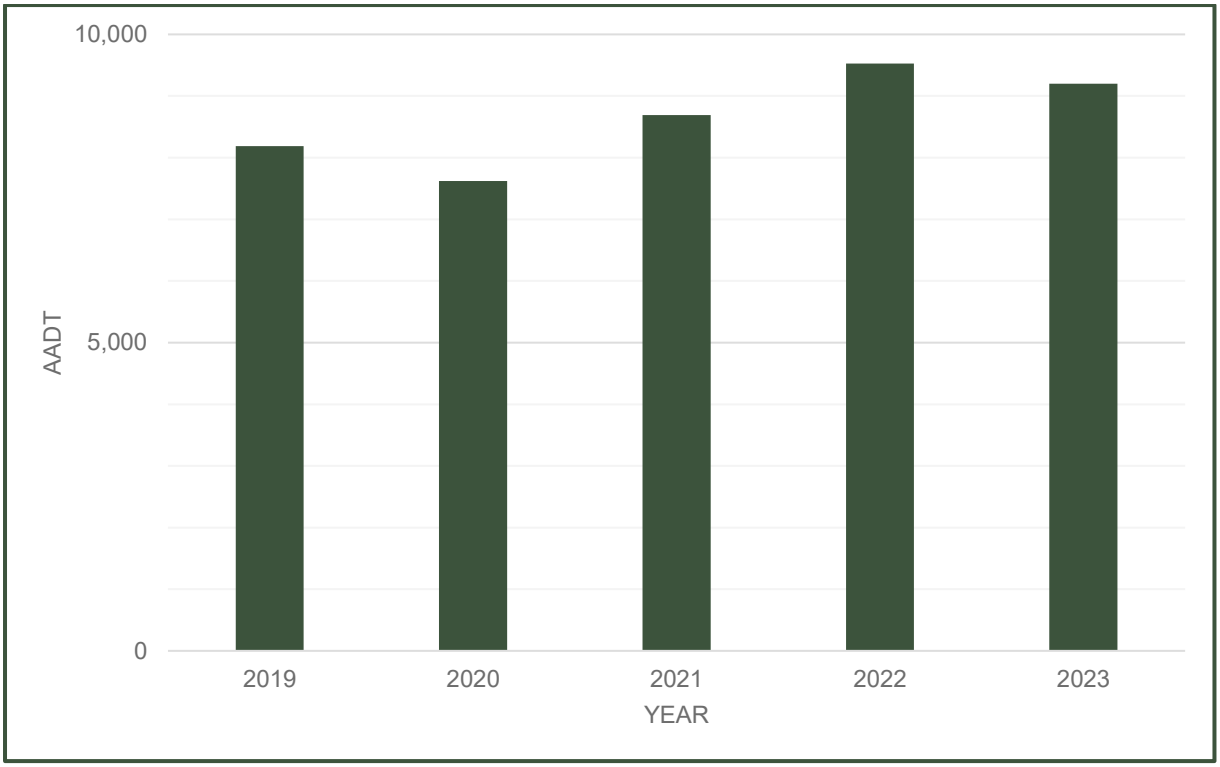
2.4.2 Background Traffic Growth

The linear growth rate to be applied to the background traffic movements to account for growth before the site generates traffic, is based on information contained in NZTA's Annual Average Daily Traffic (AADT) Traffic Data Booklets for the following sites, as extracted from TMS:

- Himatangi – SH1 (Site 01N00955) – located 1.9 km north of Wall Road.
- Longburn – SH56 (Site 05600019) – located 4.5 km north-east of Rangiotu Road.

Figure 13 shows the last five years of AADT for SH1.

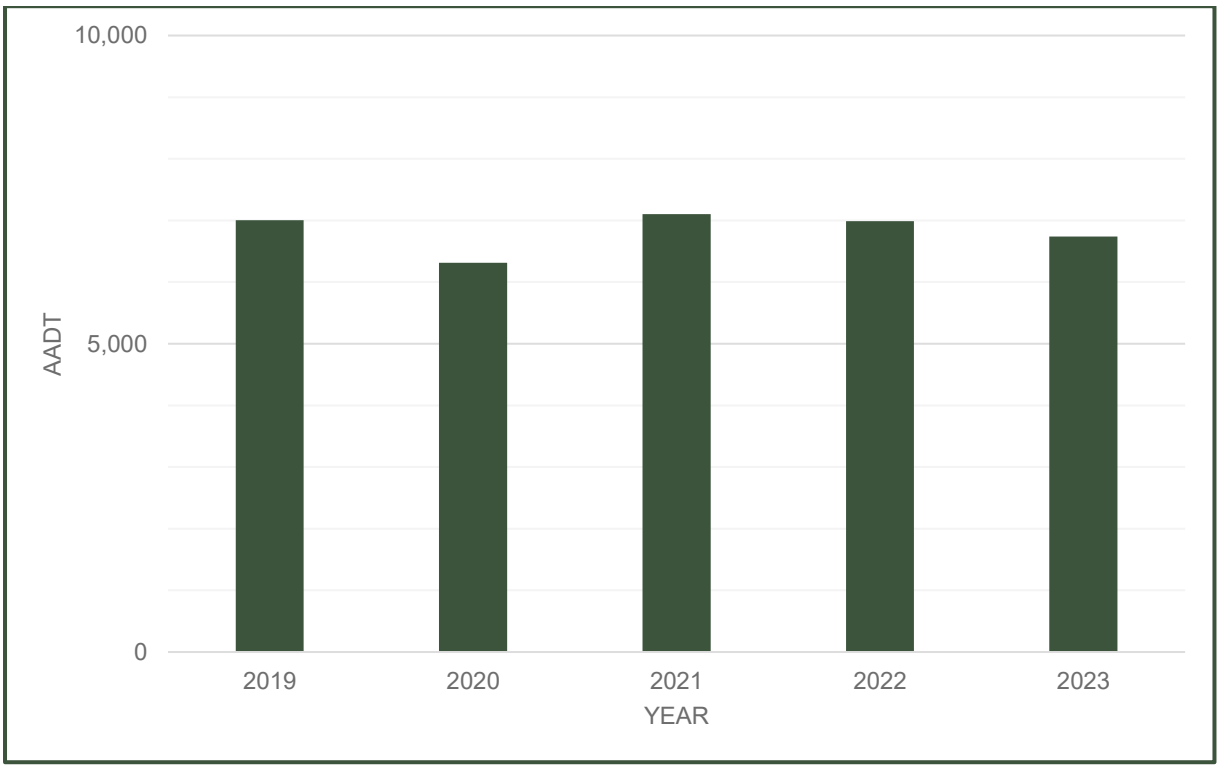
Figure 13: Historic AADT on SH1



The current AADT recorded approximately 9,200 vehicles per day including 13% heavy vehicles.

Figure 14 shows the last five years of AADT for SH56.

Figure 14: Historic AADT on SH56



The current AADT recorded approximately 6,700 vehicles per day, including 4.7% of heavy vehicles.

The annualised growth rate has been derived by averaging the 5-year growth from the latest 5-year period available i.e. 2019 to 2023**.** The resulting linear growth rate is calculated to be 2.5% per annum for SH1 and -0.4% for SH56 (assumed no growth to be conservative).

Construction is estimated to start in late 2026 and finish in early 2028. It is conservatively assumed that all works will be completed by mid-2028, and hence, 4 years of growth is assumed for the respective through movements on the State Highways.

2.5 Road Safety Record

Historical crash data has been extracted from the NZTA's Crash Analysis System (CAS) to highlight any safety deficiencies in the surrounding road network in proximity to the Project site. The search area includes SH1, Motuiti Road, Wall Road, Himatangi Block Road, Rangiotu Road (between SH56 and Himatangi Block Road) and the intersection of SH56 and Rangiotu Road. Crashes are reported for the latest five-year period (between 2019 - 2023).

The locations of the reported crashes are illustrated in Figure 15 and details summarised in

Table 4 by crash road and severity.

Figure 15 Crash History & Locations (2019 – 2023)

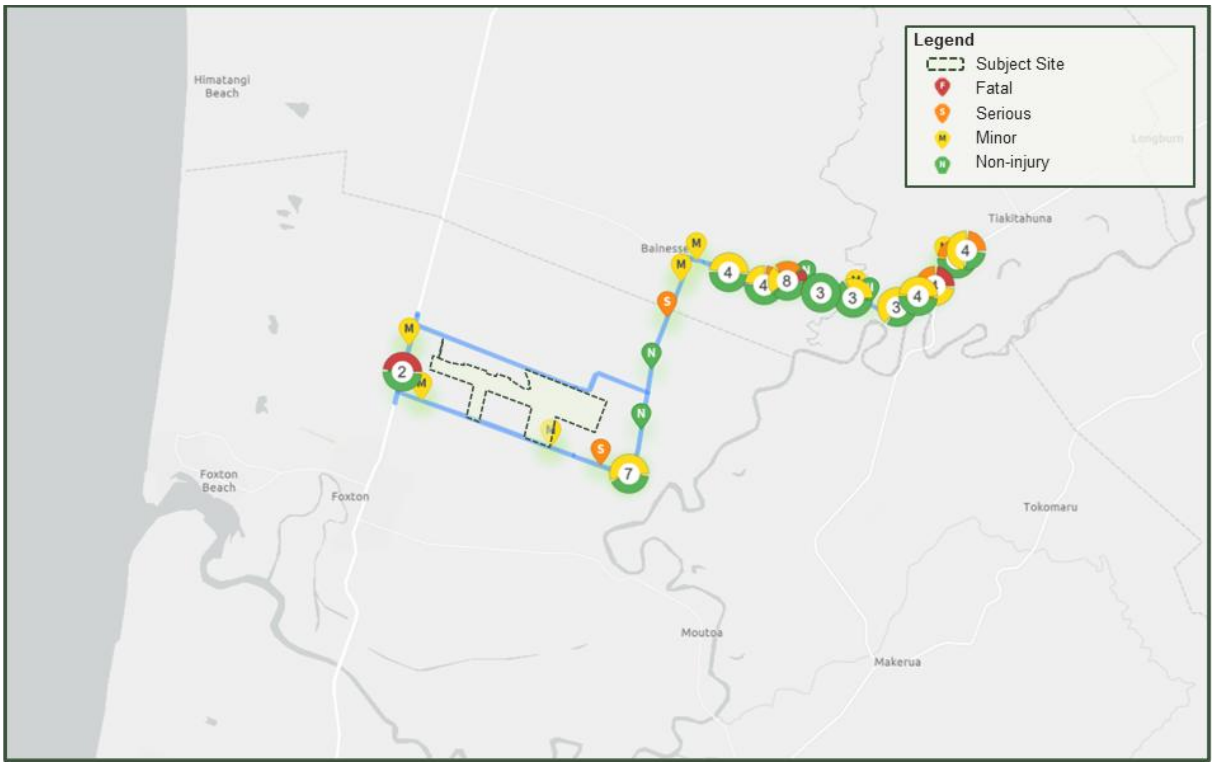


Table 4 Crash History & Locations (2019 – 2023)

Crash road	Fatal Crash	Serious Crash	Minor Crash	Non-Injury Crash	Totals
Himatangi Block Road	0	1	3	4	8
Motuiti Road	0	1	4	1	6
Rangiotu Road	2	7	14	17	40
SH56	1	0	2	3	6
SH 1	1	0	1	2	4
Totals	4	9	24	27	64

The locations of each recorded crash, injury severity level (non-injury, minor, serious and fatal) and other factors such as crash year, weather conditions and road conditions were considered. Crashes are summarised below with further detail provided in **Appendix C**.

A total of 64 incidents were recorded: 4 fatal, 9 serious injury, 24 minor injury, and 27 non-injury incidents were reported including:

- 7 (11%) incidents occurred at the intersection of SH56/Rangiotu Road
- 4 (6%) incidents occurred at the intersection of Himatangi Block Road/Motuiti Road
- 6 (9%) occurred at various intersections along Rangiotu Road
- 34 (53%) occurred on the midblock on Rangiotu Road
    - 8 are related to a horizontal curve east of Pyke Road including 1 fatal and 2 serious injury incidents
    - 4 are related to a horizontal curve north of Alve Road including 1 fatal and 2 serious injury incidents
- 4 (6%) occurred on the midblock on SH1 between Motuiti Road and Wall Road
- 7 (11%) occurred at the midblock on Himatangi Block Road
- 3 (4%) occurred at the midblock on Motuiti Road
- 1 (1%) occurred at the midblock on SH56.

The crash history indicates an existing road safety issue within the study area, with loss of control crashes (64%) being a moderate proportion of crashes, particularly along Rangiotu Road.

The identified crash pattern along Rangiotu Road includes:

- 25 (64%) lost control crashes generally relating to road users (speeding and/or impaired driving) including the 2 fatalities occurring at night.
- 6 (15%) involved overtaking.

Of the 40 incidents along Rangiotu Road:

- 15 (38%) occurred during the site's identified peak construction traffic periods during the morning and evening peak times (6-9am and 3-6pm).
- 2 resulted in serious injuries.
- 9 (60%) incidents occurred during rain or foggy conditions.

It is noted that no incidents occurred involving heavy vehicles, and incidents are generally attributed to road user factors, including speeding and driver impairment.

2.6 Cumulative Traffic Impacts

To determine the location and nature of any planned upgrades of the surrounding road network, a review of publicly available material[2], particularly NZTA's current projects website was undertaken. The review indicated that there are no major transport infrastructure upgrades planned by NZTA and/or Council in the surroundings of the study area.

A review of the publicly available information also identified that no other proposed large-scale projects would commence construction or operation in the surrounds of the Project site that could result in exponential traffic growth in the vicinity.

[2] https://www.nzta.govt.nz/projects/listview

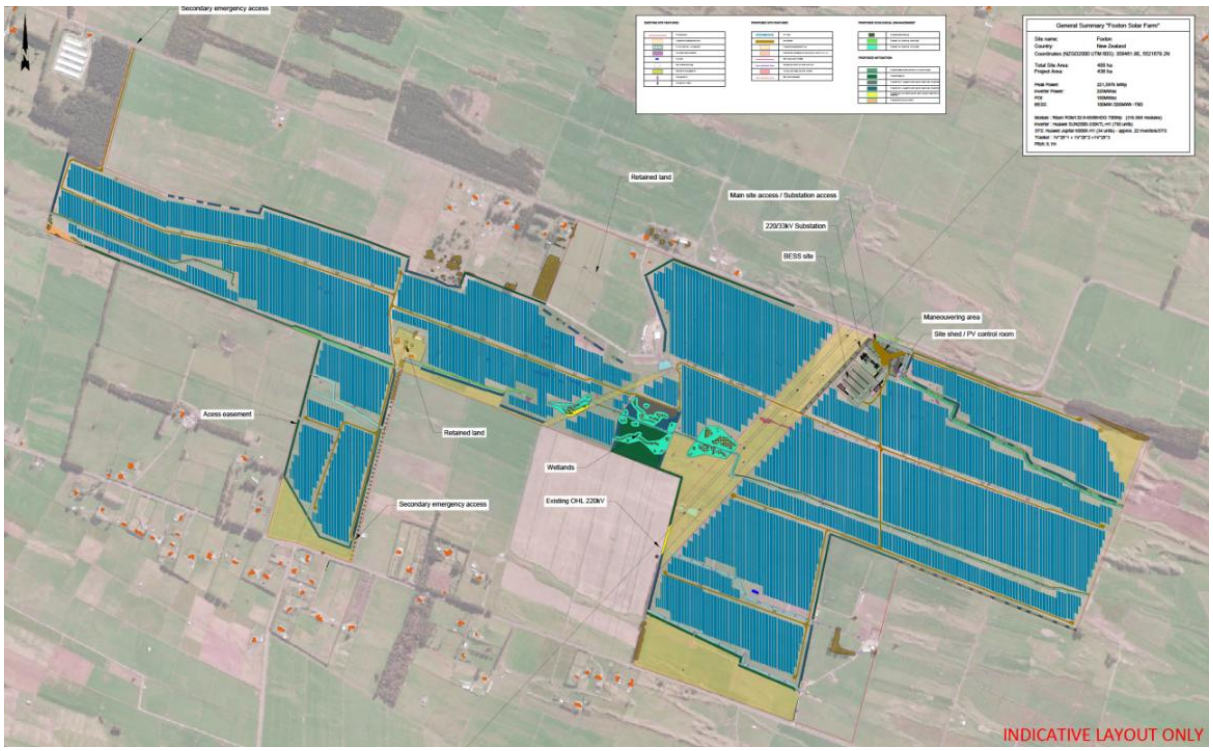
3.0 Proposed Development

3.1 Overview

Genesis proposes to construct and operate a solar farm with a peak output of 180 MW_{AC} to the national grid. The solar farm will occupy approximately 436 ha of the subject site. The whole site area is 488 ha with the balance of the land being retained for farming, restoration or landscaping purposes.

Figure 16 shows the proposed development while concept plans are provided in **Appendix A**.

Figure 16 Proposed Development



3.2 Project Program

3.2.1 Construction Phase

Genesis has advised that the Project is expected to be constructed over an 18-month period, with construction commencing in late 2026. A non-linear traffic generation estimate has been considered for construction movements associated with material, equipment, and workforce mobilisation and decommissioning to determine the peak construction traffic effect of the Project.

3.2.2 Operation & Decommissioning Phase

Once established, the Project is expected to operate for at least 40 years, providing short-, medium- and long-term local employment and procurement opportunities.

The Project's operational phase will have significantly lower traffic generation than the construction period, with only 4-6 operational staff members and infrequent additional vehicles associated with maintenance, services, minor works, and delivery of parts.

Genesis has committed to decommissioning and rehabilitating the site at the end of its operational life. Decommissioning would include disassembly and removal of the associated infrastructure, returning the land to agricultural use.

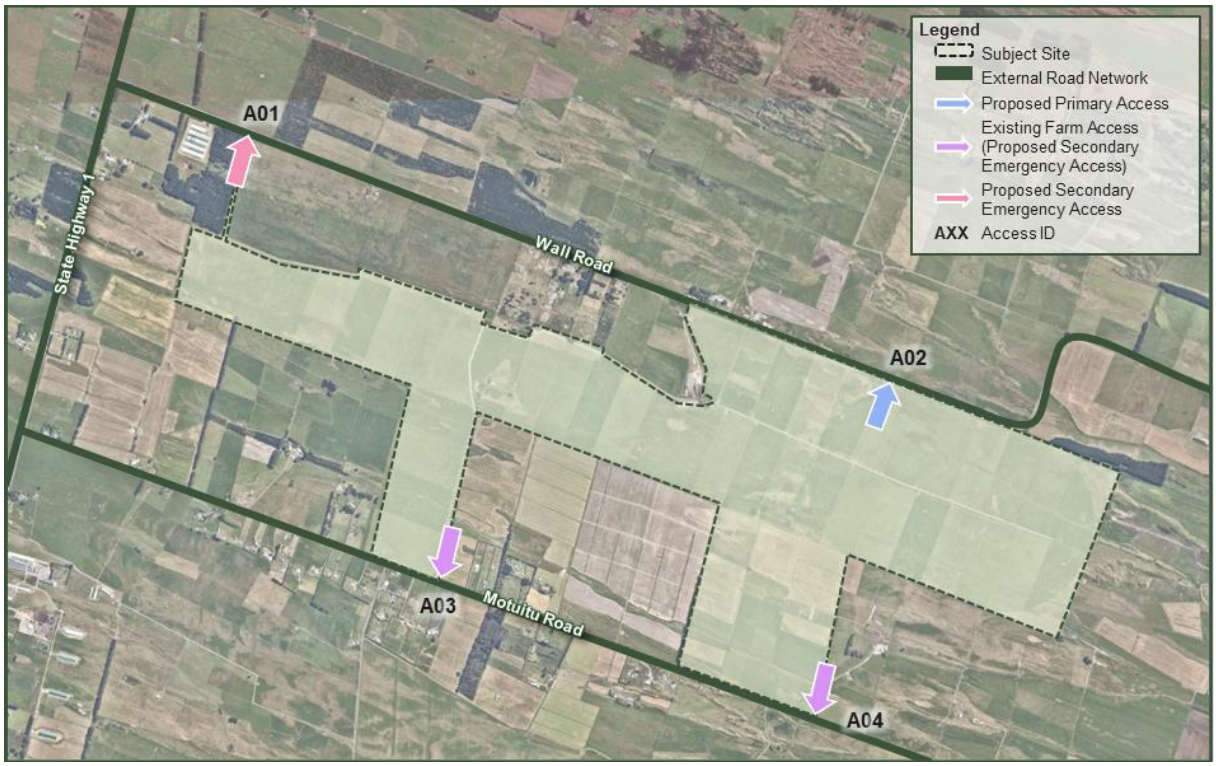
Detailed assessment has not been undertaken for the operational phase of the Project, as traffic volumes would fall well below those assessed by this report associated with the Project's Construction Phase. Similarly, detailed assessment has not been undertaken for the decommissioning phase of the Project as it occurs beyond the typical design horizon considered in transport assessments.

3.3 Site Access

The Project will be located on land with frontage to both Wall Road and Motuiti Road. The site is proposed to have two new access locations along Wall Road and two accesses on Motuiti Road via existing farm accesses. This is assessed in further detail in Section 4.0 of this report. Figure 17 provides an overview of the Project site access locations.

As the Project is at a conceptual level, no procurement has been considered in relation to workers accommodation, or material origins. Section 5.2 considers two scenarios to assess an estimated upper limit traffic effect on site access arrangements.

Figure 17 Project Access Locations



3.4 Construction Vehicle Route

3.4.1 Workforce Origins

Given the estimated size of the construction workforce during the peak construction period, it is unlikely that all workers can be sourced from the local labour market. Workers sourced from further afield would likely utilise existing accommodation at Foxton and Levin to the south and/or Palmerston North to the north-east.

Therefore, a conservative assessment has been undertaken assuming two scenarios:

- Scenario 1: 100% of workers travelling to site from the south (Foxton & Levin).
- Scenario 2: 100% of workers travelling to site from the north-east (Palmerston North).

These Scenarios are detailed further in Section 5.2.

3.4.2 Heavy and Light Vehicle Routes

The solar panels, other materials, and construction machinery will be transported to the site via the State Highway Network most likely from CentrePort or Manawatū Inland Port.

There will be one or two trips oversize and over-mass (OSOM) vehicles required during the construction period for the delivery of the transformer and the switch room under escort (assessed in Section 3.4.3). in addition, there may be pre-fabricated structures exceeding the permitted width and length of vehicles requiring permits.

Other than OSOM vehicles, the largest vehicle used during construction would be B-Train vehicles, up to 22 m in length. Other vehicles that may form part of the construction fleet are outlined in Section 4.0.

Based on review of the High Productivity Motor Vehicle (HPMV) map, it was identified that this route is approved for HPMV B-Train vehicles except for Wall Road. Any vehicles in excess of the standard operating design vehicles will require appropriate permits to access the site. In summary, other than the transformer and switch room, all materials can be transported to the site from the port of origin.

3.4.3 One-Off Transportation of the Transformer

The Project's high-voltage transformer associated with its substation may weigh approximately 148 tonnes. Whilst this delivery will require use of an OSOM vehicle, the precise weight and dimensions for the high-voltage transformer are not yet known, as these details are subject to ongoing design discussions with Transpower regarding connection to the grid.

On this basis, a detailed route study considering vertical and horizontal clearances will be carried out prior to construction to ensure that the transformer can be delivered efficiently and safely at the time of transportation.

3.4.4 Railway Corridors and Level Crossings

The KiwiRail Level Crossings dataset identifies that no rail crossings or corridors would be impacted along the route to/ from the site within the assessment area.

3.5 Construction Phase

3.5.1 Activities

For the purposes of forecasting peak Project traffic demands associated with the construction stage, the following construction activities are anticipated to generate traffic on the external road network:

- Site clearance and establishment.
- Delivery of construction machinery, equipment and materials.
- Workforce transportation.

3.5.2 Workforce

Whilst Genesis estimates a peak construction workforce of approximately 250, it is understood the anticipated workforce will fluctuate during each phase of construction across the 18-month construction duration. The estimated workforce profile is summarised in Table 5.

Table 5 Estimated Construction Workforce Per Phase

Timing	Occupancy	Duration
Months 1-4	50 people	4 months
Months 5-11	250 people	7 months
Months 12-14	150 people	3 months
Months 15-18	50 people	4 months

It is anticipated that a maximum of 250 workers will travel to the site via buses and light vehicles at the peak of construction activities. This represents the highest volume of personnel potentially on-site at a given time. On a typical day, there will likely be fewer workers on site.

3.6 Operations Phase

3.6.1 Workforce

The Project is expected to have between four and six full time staff during the Project's Operational Phase, who would likely travel to and from the Site daily by light vehicle.

3.6.2 Activities

During the Project's Operational Phase, a range of irregular maintenance activities and deliveries would result in a low volume of traffic to and from the site.

The external movements associated with these tasks will generally be performed by vans or utility vehicles, small rigid vehicles (SRVs), and/or long medium rigid vehicles (MRVs). A small number of heavy vehicles would also travel to and from the site during Operations, primarily associated with the transport of replacement/broken parts, maintenance machinery/equipment or any future works that may be permitted on-site without consent.

3.7 Decommissioning Phase

At the end of the Project's operational life, the Applicant will be responsible for the decommissioning and rehabilitation of the solar farm. It is anticipated that the decommissioning processes will generate a similar amount of traffic as the construction period, although this is beyond the design horizon assessed herein.

4.0 Site Access

4.1 Sight Distance Assessment

Under Table 21-1 of the ODP and RTS06[3], the minimum Sight Stopping Distance (SSD) for accessways is based on the posted road speed limit, with both Motuiti Road and Wall Road having 80 km/hr posted speed limits.

Based on the above guidance, the minimum SSD for an 80km/hr local road would be 115 m for a low-volume driveway (under 200 movements an hour) and 130 m for a high-volume driveway (over 200 movements an hour).

The proposed site accesses have sight distances that meet these minimum requirements, as summarised in the Table 6.

Table 6: Observed Site Access Sight Distance

Access	Sight Distance	
	East	West
A01	1,500m	750m
A02	400m	400m
A03	1,500m	320m
A04	1,500m	450m

Access A01 to A04 sight distances are shown in Figure 18 to Figure 21, respectively.

Figure 18 Existing Roadside Conditions A01 Westbound (Left) and Eastbound (Right)

[3] Road Traffic Standards 06 Guidelines for Visibility at Driveways

Figure 19 Existing Roadside Conditions near A02 Westbound (Left) and Eastbound (Right)

Figure 20 Existing Roadside Conditions near A03 Westbound (Left) and Eastbound (Right)

Figure 21 Existing Roadside Conditions A04 Westbound (Left) and Eastbound (Right)

Dashboard camera images and photos captured on 23/04/2024 illustrate that Council undertakes regular maintenance of the vegetation (i.e. trimming) which maximises the sight distance available. During this site inspection, no issues were identified in relation to the road furniture and carriageway conditions.

4.2 Separation Distance

The separation distance prescribed by the ODP is summarised in Table 7.

Table 7: ODP Separation Distance

85th %tile speed	Separation Distance			
	Vehicle crossing spacing from intersections		Vehicle crossing spacing	
	Arterial & Collector	Local	Arterial & Collector	Local
80 km/hr	100	40	100	70

The separation distance of each vehicle crossing is assessed in Table 8.

Table 8: ODP Separation Distance Assessment

Access	Separation Distance					
	Vehicle crossing spacing from intersections			Vehicle crossing spacing		
	Required	Proposed	Assessment	Required	Proposed	Assessment
A01	40m	750m	Complies	70m	180m	Complies
A02	40m	2.8km	Complies	70m	80m	Complies
A03	100m	260m	Complies	100m	100m	Complies

Access	Separation Distance					
	Vehicle crossing spacing from intersections			Vehicle crossing spacing		
	Required	Proposed	Assessment	Required	Proposed	Assessment
A04	100m	100m	Complies	100m	100m	Complies

4.3 Site Accessways

Compacted, metalled access tracks will be created throughout the solar farm area as shown on the Layout Plan in **Appendix A**. These are to provide access around the solar farm for operation, maintenance, and emergency purposes. These tracks are proposed on existing farm tracks where possible. The upgrading and creation of these access tracks will require minimal earthworks due to the existing flat nature of the farm. Principal tracks within the site will be 6m wide and secondary tracks will be 4m wide. The total combined length of the finished access tracks will be approximately 14.3 km although the nearest access to the public road is always less than 3km.

4.4 Vehicle Crossings

Both new access points on Wall Road would be constructed in general accordance with Council's Subdivision and Development Principles and Requirements (Version: July 2014) Appendix One - Vehicle Crossings (Appendix One).

The primary vehicle crossing onto Wall Road (A02) will be designed in general accordance with Figure 22 while the secondary emergency vehicle crossing onto Wall Road (A01) will be designed in general accordance with Figure 23.

The primary access point (A02) may require widening to allow the delivery of the transformer. The final dimensioned width will be informed by a swept path analysis.

Figure 22 Drawing 5 of Appendix One Rural Crossings

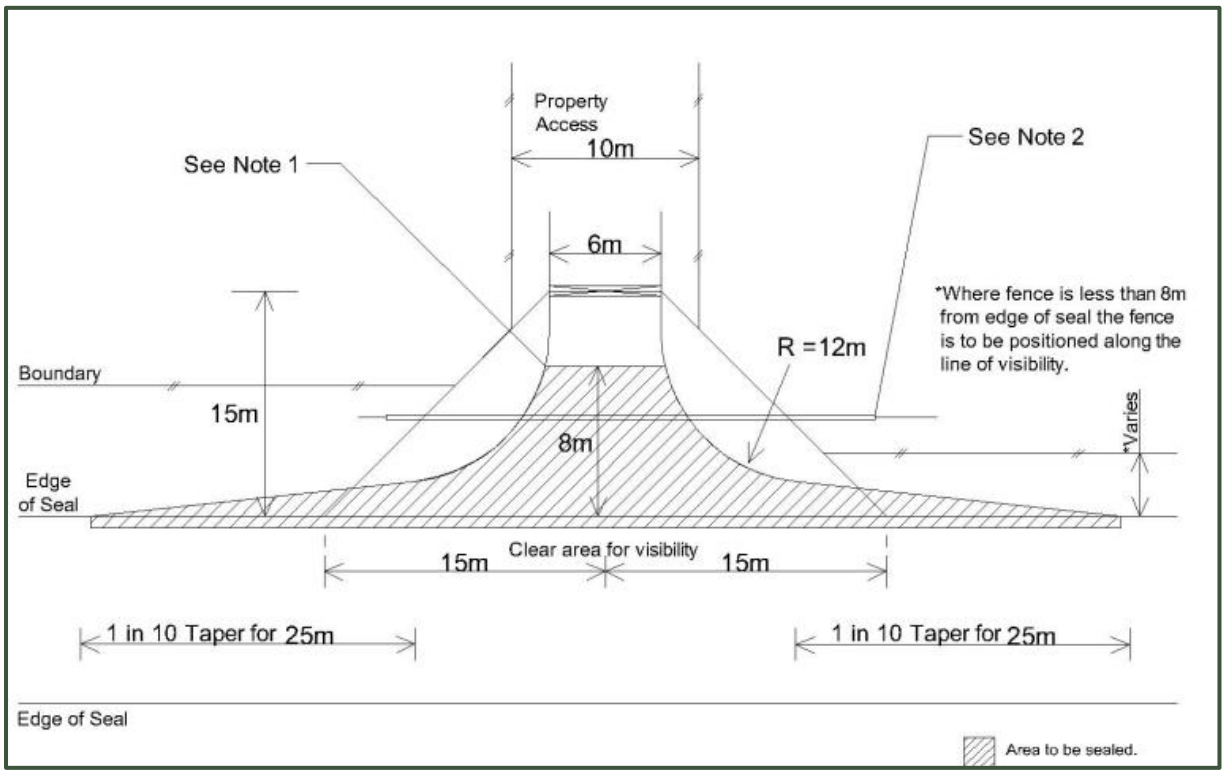
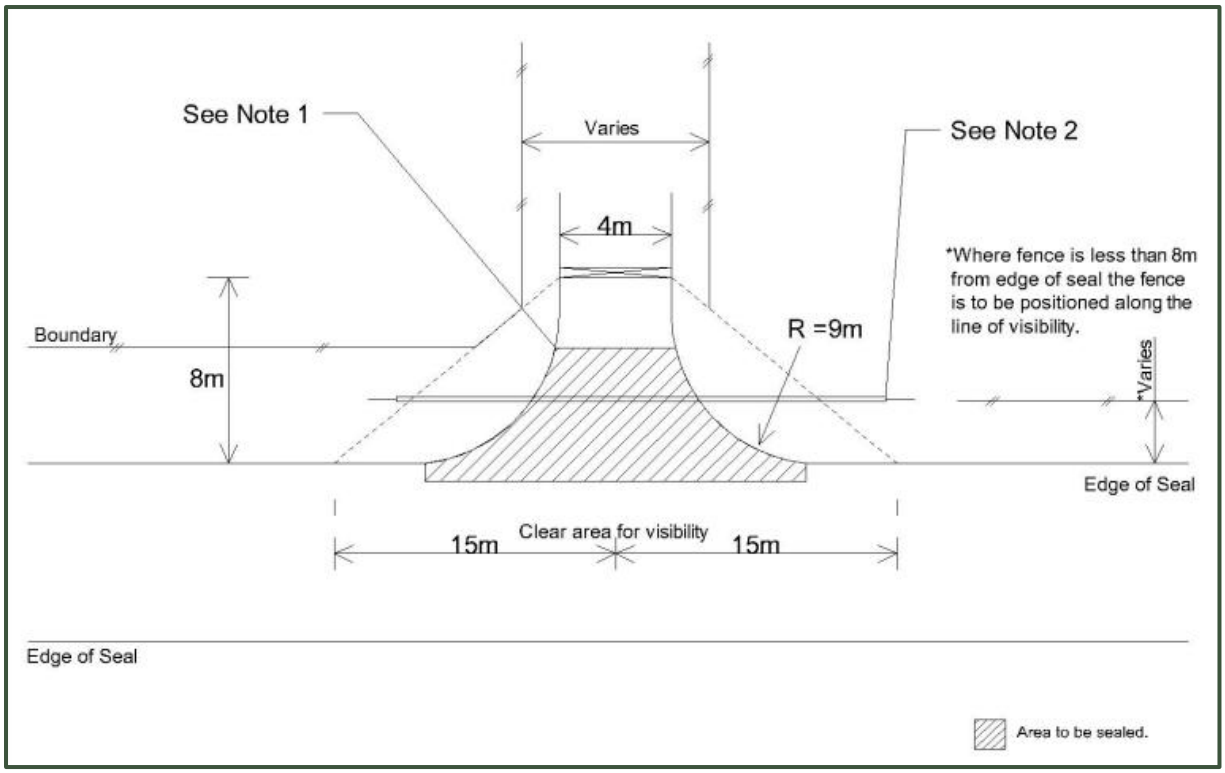


Figure 23 Diagram 6 of Appendix One Rural Crossings



The existing vehicle crossings onto Motuiti Road were observed to be designed in general accordance with Figure 22.

5.0 Project Traffic Demands

5.1 Traffic Generation

5.1.1 Construction Phase Traffic

A traffic generation exercise has been undertaken to estimate the construction traffic required to construct the 200 MW solar farm based on the Applicant's and SLR's experience of similar-scale solar farms.

The construction traffic generation and the associated project schedule are detailed in **Appendix D**, Table 9 summarises the traffic movements expected during the construction phase of the solar farm.

Table 9 Summary of Construction Traffic

Vehicle Type	Average Movements per Day		Peak Movements per Day	
	Daily (vpd)	Peak Hour (vph)	Daily (vpd)	Peak Hour (vph)
Light Vehicles	40	20	60	30
Buses	20	10	30	15
Heavy Vehicles	20	5	80	5
Total	**80**	**35**	**170**	**50**

Accordingly, during the peak construction times, the site will have around 170 vehicle movements each day. In the earlier and later stages of construction, this will decrease to about 80 vehicle movements per day.

5.1.2 Operational Phase Traffic Generation

Solar farms and BESS facilities typically comprise limited equipment that requires regular maintenance. Therefore, the operational traffic demands associated with the Project are expected to be minimal and limited to minor servicing activities. Based on this, the operational traffic of the Project is not considered a critical element within this ITA.

Nonetheless, the operational workforce assumptions were provided by the Applicant and are summarised below in Table 10 for completeness of this report.

Table 10 Operational Workforce

Element	Assumption	Source
Workforce	4 persons maximum on-site	Genesis
Roster	5 days on / 2 days off	
Permanent Workforce	None	
Contractor Workforce	10 persons (conservative maximum)	SLR assumption
Anticipated Fleet	Light vehicles, disposal trucks (Small and Medium Rigid Vehicles)	SLR assumption
Distribution	100% to/ from Foxton (South)	SLR assumption

Note: The maximum operational workforce was identified above by adopting a 'worst case' scenario with all permanent and sub-contracted personnel being on-site at any given time.

5.1.3 Decommissioning Phase Traffic Generation

The project would be decommissioned at the end of its operational life, including the removal of project-related infrastructure and re-establishment of the site for agricultural use. Traffic demands associated with decommissioning are anticipated to result slightly lower daily traffic volumes than those during construction, and over a much shorter duration of time.

5.2 Construction Traffic Distribution

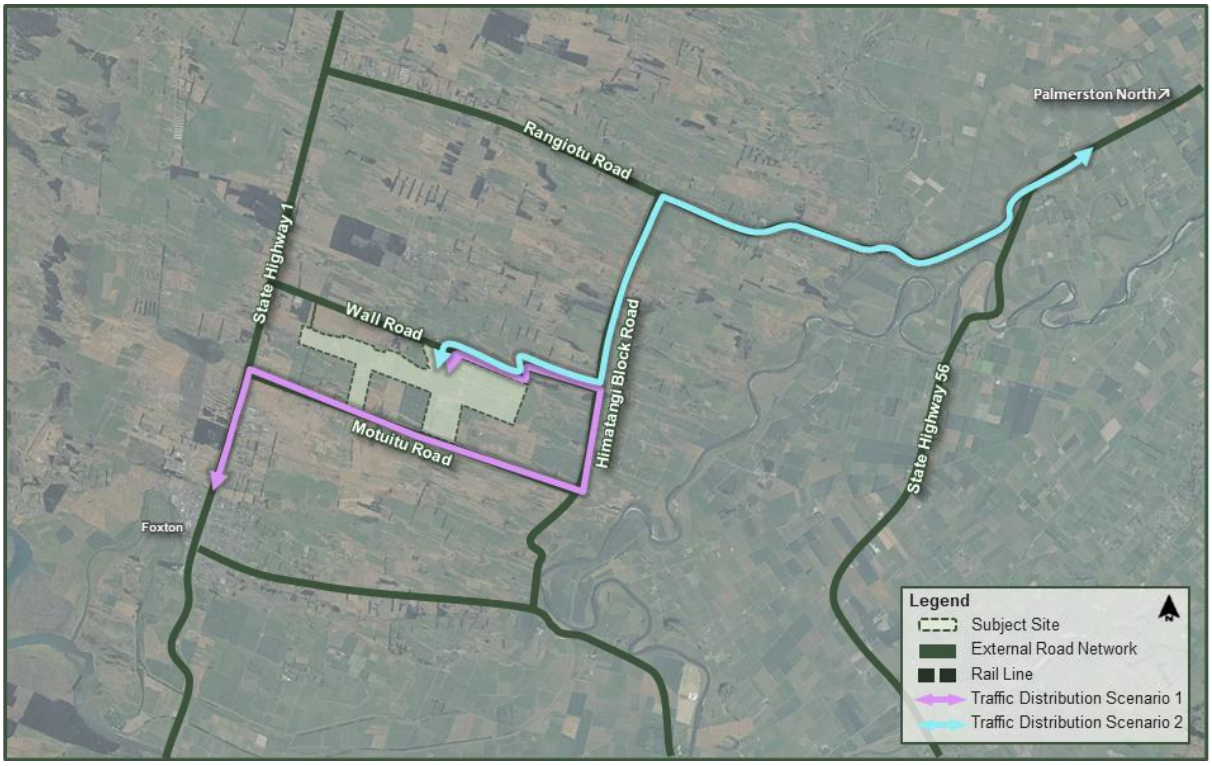
Given the estimated size of the construction workforce during the peak construction period, it is unlikely that all workers can be sourced from the local labour market. Workers sourced from further afield would likely utilise existing accommodation at Foxton and Levin to the south and/or Palmerston North to the north-east.

Therefore, a conservative assessment has been undertaken assuming two scenarios:

- Scenario 1: 100% from south (Foxton & Levin).
- Scenario 2: 100% from north-east (Palmerston North).

The scenarios assessed are shown in Figure 24.

Figure 24 Traffic Distribution Scenarios



The construction traffic generation was assumed to progress non-linearly over the assumed 18-month construction period, with 100% of materials arriving via SH1 either from the south (Wellington) or north (Manawatū Inland Port). Deliveries of project materials would occur within approved hours of work, Monday to Saturday.

The peak hour movements generated by the construction traffic, the anticipated workforce, and the determined background traffic were collated and summed up in a desktop model, which is provided in **Appendix E**.

6.0 Operational Site Car Parking and Loading

A total of 18 off-street car parking spaces are proposed within the site, inclusive of two mobility car parking spaces. There will be sufficient queuing space for a minimum of 18 x B99 design vehicles (5.2m long).

The design of the proposed car parking and loading elements has been assessed against the requirements within the Council's ODP, A/NZS 2890.1(2004), AS2890.2 and A/NZS 2890.6(2009). This assessment is summarised in Table 11.

Table 11 Car Parking and Loading Compliance Review

Component	AS2890 Suite Requirements	Provision	Compliant
Parking Spaces	2.5m wide x 5.0m long with 5.8m wide aisle (User Class 2)	2.5m wide x 5.0m long with 5.8m wide aisle	Complies
Mobility Spaces	2.4m x 5.0m space plus 1.1m x 5.0m adjacent area	2.4m x 5.0m space plus 2.6m x 5.0m adjacent area	Complies
Blind Aisle End Space	Aisle length extended by 1m	No blind Aisle.	NA
Parking Spaces Next to Walls	300mm parking space extension	No parking spaces next to walls.	NA
Loading Bays	3.5m wide	Approx. 15m wide.	Complies
Access Driveway Width	ODP: Minimum 6.0m (HDC Engineering Appendix One Vehicle Crossings Drawing 5) AS2890.2: The swept path of the largest design vehicle may be allowed to occupy the entire width of a two-way access driveway when the vehicle is entering or leaving the minor road.	Consistent with the swept path assessments by the Applicant.	Complies
Parking Module Gradients	1:40 (2.5%) maximum – any direction.	Not provided in concept plans but must comply in the detailed design drawings.	NA
Driveway Grade Transitions	1 in 8 for a minimum 2.0m	No significant grade changes required.	Complies

The proposed development plans satisfy the requirements of the items listed in Table 11. In addition, the proposed development provides sufficient car parking spaces and access arrangements with adequate separation from intersections.

All driveways are expected to have a width larger than or equal to the minimum dimensions specified as per the ODP.

The proposed access designs comply with the requirements specified in AS/NZS 2890.2 and consideration has been given to the largest vehicle accessing the site.

7.0 Road Safety Effects

Appendix C summarises the existing road safety record. In general, road user factors are considered the primary contributing factor in the reported incidents presented in Section 2.5 above.

Section 2.5 identified an existing safety issue on Rangiotu Road. The increased risk is limited, as the project represents a 5% increase in AADT, and crashes are generally attributed to road user factors. It should be reiterated that this risk is temporary while the project is constructed. The minor risk can be mitigated with the implementation of a CTMP in general accordance with the Construction Traffic Management Strategy outlined in Section 10.0. This includes a driver code of conduct requiring all drivers to observe NZ road rules, particularly posted speed and advisory speeds. Additionally, it is recommended that this driver code of conduct educates the construction workforce of the existing safety deficiencies on the road network, particularly, Rangiotu Road.

It is not anticipated that the Project would exacerbate the existing transport safety issues, as the identified crash patterns are generally attributed to road user factors, and most incidents occurred outside of the construction traffic peak periods, with over half of those occurring in adverse weather conditions. Further, all construction-related traffic will have an obligation to follow a site-specific Driver Code of Conduct, which will form part of the *Construction Traffic Management Plan*. The Driver Code of Conduct will present any areas of the road network where safety deficiencies exist to achieve this objective.

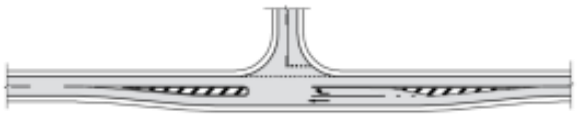
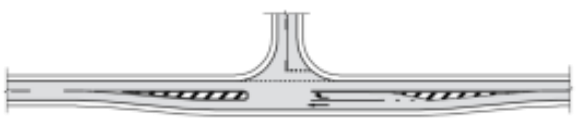
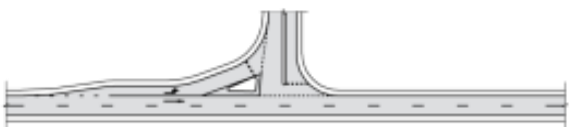
7.1 Turn Lane Warrant Assessment

A turn warrant assessment has been undertaken for the SH1/Wall Road intersection.

The turn warrant assessment determines the desirable form of the assessed intersection in accordance with the industry research summarised within Austroads Guide to Traffic Management Part 6 (2020).

The warrants provide guidance on where turning lanes should be provided based on the design traffic volumes and consideration for crash reduction. To aid the reader's interpretation of the assessment, Table 12 provides a pictorial description of the various turn treatments considered.

Table 12: Turn Treatment Types

Right Turn Treatment	Left Turn Treatment
 Basic Right Turn (BAR)	 Basic Left Turn (BAL)
 Channelised Right Turn [Short] (CHR[S])	 Auxiliary Left Turn [Short] (AUL[S])
 Channelised Right Turn (CHR)	 Auxiliary Left Turn (AUL)

Right Turn Treatment	Left Turn Treatment
	 Channelised Left Turn (CHL)

Source: Austroads Guide to Traffic Management Part 6 (Austroads, 2020)

For this study, they assumed:

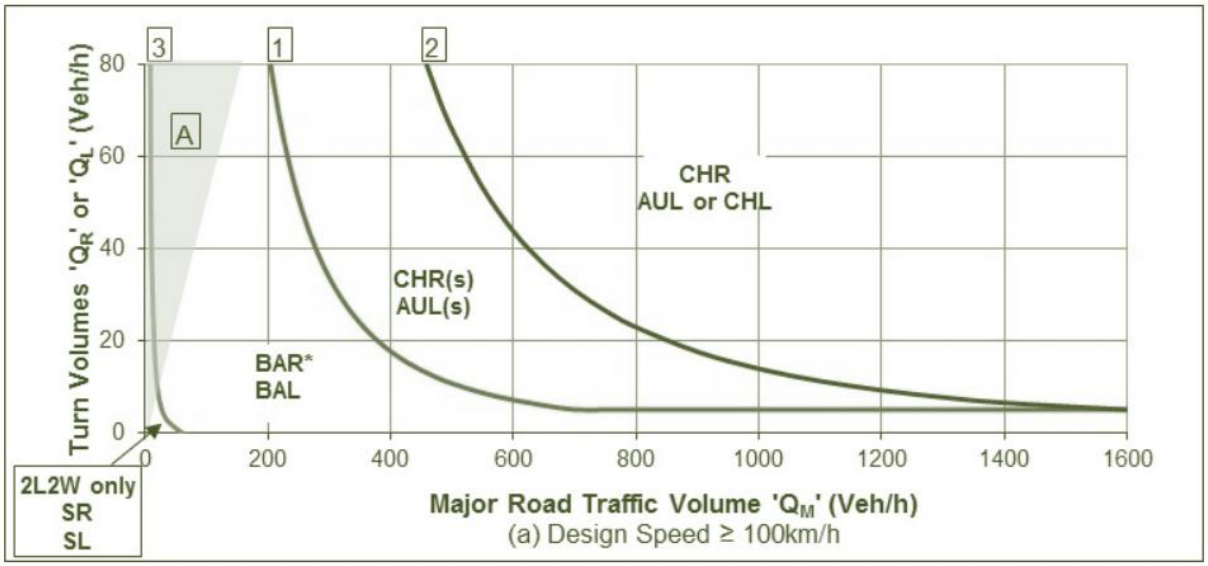
- Normal Design Domain (NDD) guidelines are used for building intersections on new roads (greenfield sites).
- For existing roads, they used Extended Design Domain (EDD) guidelines to avoid overestimating the benefits of better treatments.
- These guidelines help decide the best turn treatments at public road intersections.

7.1.1 Extended Design Domain

As identified in Section 7.1, the NDD Turn Warrant Treatments are generally applicable to greenfield sites. Extended Design Domain (EDD) for intersection turn treatments has been adopted as the assessment considers an existing intersection. In addition, the development construction traffic is temporary (i.e. 7-month duration). A discussion on NDD and EDD is provided in Austroads Guide to Road Design Part 2.

The EDD turn treatments on a major road with a design speed greater than or equal to 100 km/h are shown in Figure 25 for brownfield sites.

Figure 25: EDD Warrants for Turn Treatments (Major Road Design Speed ≥ 100km/h)



Source: Austroads Guide to Road Design – Supplement Part 4A (TMR, 2021)

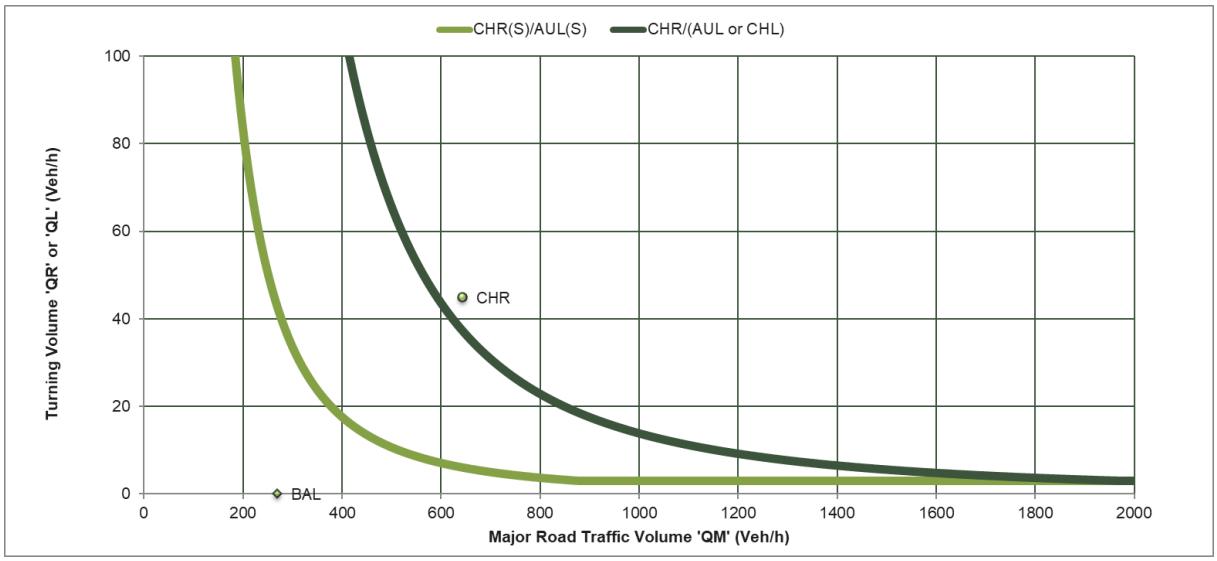
7.1.2 Turn Warrant Assessment

An EDD turn warrant assessment of the existing SH1/Wall Road intersection for the morning peak period is given in Figure 26 below. A detailed output from the assessment is included in **Appendix F**.

Consistent with Austroads Guide to Traffic Management Part 6, the assessment identifies that the existing shoulder widening on the east approach, i.e. a basic left-turn treatment (BAL),

would be sufficient to enable safe left-turn access into Wall Road for vehicles travelling southbound on SH1. The turn warrant assessment also found that a CHR would be required to enable safe right-turn access into Wall Road for vehicles travelling northbound on SH1.

Figure 26: Turn Warrant Assessment – SH1/Wall Road



The outcome of this assessment suggests upgrading the intersection to include a right turn bay on SH1. However, given the existing intersection at Motuiti Road has a right turn bay, it is recommended a right turn ban is enforced in the CTMP requiring all construction traffic to use the existing right turn bay at Motuiti Road.

As approved construction routes would be detailed within the future approved CTMP, this mechanism can be leveraged to prohibit construction vehicles turning right into Wall Road and ensure they adhere with approved construction vehicle routes.

8.0 Construction Traffic Effects

8.1 Effect on Public Transport, Walking and Cycling

The development is unlikely to impact public transport services as there are no bus stops or rail crossovers along or in proximity to the proposed transport route. Also, no school bus routes were identified in the vicinity of the Project. Notwithstanding, the Driver Code of Conduct will require that extra care is taken during school drop-off and pick-up times.

Due to the rural nature of the Project site, there is no formalised active transport infrastructure on State Highway 1, Motuiti Road or Wall Road.

8.2 Effect on General Traffic

Given the estimated size of the construction workforce during the peak construction period, it is unlikely that all workers can be sourced from the local labour market. Workers sourced from further afield would likely utilise existing accommodation at Foxton and Levin to the south and/or Palmerston North to the north-east. Hence, the requirement to prepare a CTMP is recommended to be included in the conditions of consent and for this to be in general accordance with the Construction Traffic Management Strategies provided in Section 10.0.

A conservative assessment has been undertaken based on two scenarios. Scenario 1 assumes the entire workforce will be situated with accommodation in Foxton and will travel to/from the site from this location. Scenario 2 assesses the traffic effects, assuming the workforce travels to/from Palmerston North.

Section 5.1.1 summarises the anticipated construction traffic generated by the Project being 80 additional vehicle movements per day on a typical day. A classification assessment of the surrounding transport network is provided in Table 13 for an average construction day for both scenarios.

Table 13 ONRC Assessment

Road	Functional Classification	Estimated 2026 No Development AADT (vpd)	Forecast 2026 With Development AADT (vpd)	Existing Road Classification Threshold (vpd)	Assessment
Scenario 1					
SH1	State Highway National	9,500	9,600 (+1%)	<20,000	Within threshold
Motuiti Rd	Secondary Collector	400	500 (+20%)	<1,000	Within threshold
Scenario 2					
SH56	State Highway Arterial	6,700	6,800 (+2%)	<10,000	Within threshold
Rangiotu Road	Arterial	3,700	3,800 (+2%)	<10,000	Within threshold
Scenario 1 & 2					
Himatangi Block Road	Secondary Collector	900	1,000	<1,000	At threshold
Wall Rd	Local	80	160 (+100%)	<200	Within threshold

The road network will continue to operate within the acceptable environmental capacities prescribed by the ONRC during the construction of the Project.

8.2.1 Peak Hour Midblock Assessment

Section 5.1.1 summarises the anticipated construction traffic generated by the Project being 50 additional vehicle movements in the peak hour during the peak construction period. The effect on each road and intersection is described below for each scenario.

SH1 (Scenario 1)

Based on the average anticipated traffic generation potential of the Project (80 vehicles per day) and the existing average daily volumes on SH1 (9,500 vehicles per day), it is anticipated that the traffic volumes on SH1 during the construction of the Project will increase on average by around 1% to 9,600 vehicles per day.

Based on a review of ONRC, the anticipated traffic volumes in the construction scenario are consistent with the existing classification (with the expected operating volumes greater than 15,000 vpd with greater than 800 HCV) for SH1 being a National road.

The peak hour construction traffic generation was identified in Section 5.1.1 to be around 50 vehicles in the peak hour (including 30 light vehicles, 15 buses, and 5 HCV's). This is around an 8% increase in the morning peak hour and 6% increase in the evening peak hour compared to the baseline/existing traffic volume in the identified peak hour determined through the IC surveys.

The peak daily construction traffic generation was identified in Section 5.1.1 to be around 170 vehicles per day (including 60 light vehicles, 30 buses, and 80 HCV's). This is around a 1.8% change compared to the current ADT on SH1.

Motuiti Road (Scenario 1)

Based on the average anticipated traffic generation potential of the Project (80 vehicles per day) and the existing average daily volumes on Motuiti Road (400 vehicles per day), it is

anticipated that the traffic volumes on Motuiti Road during the construction of the Project will increase on average by approx. 20% to 480 vehicles per day.

Based on a review of ONRC, the average anticipated traffic volumes in the construction scenario are consistent with the existing classification (greater than 1,000 vpd and less than 3,000 vpd with greater than 25 HCVs) for Motuiti Road being a Secondary Collector road. This is not anticipated to be exceeded with the inclusion of the Project.

The peak hour construction traffic generation was identified in Section 5.1.1 to be around 50 vehicles in the peak hour (including 30 light vehicles, 15 buses, and 5 HCVs). This is around double the traffic compared to the observed traffic in the identified peak hour of the IC surveys; i.e. the total traffic anticipated would be around 75 vph. Although this is a noticeable increase in peak hour traffic, the peak construction period is anticipated to last only 7 months and would remain within the anticipated undivided road, single lane capacity (being 900 vph).

The peak daily construction traffic generation was identified in Section 5.1.1 to be around 170 vehicles per day (including 60 light vehicles, 30 buses, and 80 HCVs). This is around a 42.5% change compared to the usual ADT on Motuiti Road. Although this is a noticeable increase in ADT, the peak construction period is anticipated to last only 7 months and would remain within the expectation of daily volumes carried by a Primary Collector (ADT 1,000 vpd).

SH56 (Scenario 2)

Based on the average anticipated traffic generation potential of the Project (80 vehicles a day) and the existing average daily volumes on SH56 (6,700 vehicles per day), it is anticipated that the traffic volumes on SH56 during the construction of the Project will increase on average by around 1.5% to 6,800 vehicles per day.

Based on a review of ONRC, the average anticipated ADT in the construction scenario is consistent with the existing classification (less than 10,000 vpd and greater than 3,000 vpd with greater than 300 HCVs) for SH56 being an Arterial road. This is not anticipated to be exceeded with the inclusion of the Project.

The peak hour construction traffic generation was identified in Section 5.1.1 to be around 50 vehicles in the peak hour (including 30 light vehicles, 15 buses, and 5 HCVs). This is around a 7.5% increase compared to the estimated peak hour on SH56. Although this is a noticeable increase in peak hour traffic, the peak construction period is anticipated to last only 7 months, and the existing road infrastructure is expected to have sufficient capacity such that the effects of the construction traffic are negligible.

The peak daily construction traffic generation was identified in Section 5.1.1 to be around 170 vehicles per day (including 60 light vehicles, 30 buses, and 80 HCVs). This is around a 2.5% change compared to the usual ADT on SH56.

Rangiotu Road (Scenario 2)

Based on the average anticipated construction traffic generation potential of the Project (80 vehicles a day) and the existing average daily volumes on Rangiotu Road (3,700 vehicles per day), it is anticipated that the traffic volumes on Rangiotu Road during the construction of the Project will increase on average by approximately 2.2% to 3,800 vehicles per day.

Based on a review of ONRC, the existing traffic volumes in the construction scenario are consistent with the existing classification ADT (less than 10,000 vpd and greater than 3,000 vpd with greater than 300 HCVs) for Rangiotu Road being an Arterial road. This is not anticipated to be exceeded with the inclusion of the Project.

The peak hour construction traffic generation was identified in Section 5.1.1 to be around 50 vehicles in the peak hour (including 30 light vehicles, 15 buses, and 5 HCVs). This is around a 13.5% increase compared to the estimated peak hour traffic on Rangiotu Road.

The peak daily construction traffic generation was identified in Section 5.1.1 to be around 170 vehicles per day (including 60 light vehicles, 30 buses, and 80 HCVs). This is around a 5% change compared to the usual ADT on Rangiotu Road. Although this is a noticeable increase in ADT, the peak construction period is anticipated to last only 7 months and would remain within the existing Primary Collector ADT expectation (1,000 vpd).

Section 2.5 identified an existing safety issue on Rangiotu Road. The increased risk is limited, as the project represents a 5% increase in AADT, and crashes are generally attributed to road user factors. It should be reiterated that this risk is temporary while the project is constructed. The minor risk can be mitigated by implementing a CTMP in accordance with the Construction Traffic Management Strategy outlined in Section 10.0. This includes a driver code of conduct requiring all drivers to observe NZ road rules, particularly posted speed and advisory speeds. Additionally, it is recommended that this driver code of conduct educates the construction workforce of the existing safety deficiencies on the road network, particularly, Rangiotu Road.

Himatangi Block Road (Scenario 1 & 2)

Based on the average anticipated traffic generation potential of the Project (80 vehicles a day) and the existing average daily volumes on Himatangi Block Road (900 vehicles per day), it is anticipated that the traffic volumes on Himatangi Block Road during the construction of the Project will increase on average by approximately 9% to 980 vehicles per day.

Based on a review of ONRC, the existing traffic volumes in the construction scenario are consistent with the existing classification ADT (greater than 1,000 vpd and less than 3,000 vpd with greater than 25 HCVs) for Himatangi Block Road being a Secondary Collector road. This is not anticipated to be exceeded with the inclusion of the Project.

The peak hour construction traffic generation was identified in Section 5.1.1 to be around 50 vehicles in the peak hour (including 30 light vehicles, 15 buses, and 5 HCVs). This is around a 66% increase in the morning peak hour and a 69% increase in the evening peak hour compared to the usual traffic in the identified peak hour of the IC surveys.

The peak daily construction traffic generation was identified in Section 5.1.1 to be around 170 vehicles per day (including 60 light vehicles, 30 buses, and 80 HCVs). This is around a 19% change compared to the usual ADT on Himatangi Block Road. Although this is a noticeable increase in ADT, the peak construction period is anticipated to last only 7 months and would remain within the existing Secondary Collector ADT expectation (1,000 vpd).

Wall Road (Scenario 1 & 2)

Based on the average anticipated traffic generation potential of the Project (80 vehicles a day) and the existing average daily volumes on Wall Road (80 vehicles per day), it is anticipated that the traffic volumes on Wall Road during the construction of the Project will increase on average by approximately 100% to 160 vehicles per day.

Based on a review of ONRC, the average anticipated traffic volumes in the construction scenario are consistent with the existing classification (less than 200 vpd with less than 25 HCVs) for Wall Road being an Access road.

The peak hour construction traffic generation was identified in Section 5.1.1 to be around 50 vehicles in the peak hour (including 30 light vehicles, 15 buses, and 5 HCVs). The peak hour traffic observed on Wall Road was one vehicle, representing a noticeable increase in absolute traffic. The peak construction period is anticipated to last only 7 months and would remain within the anticipated undivided road, single lane capacity (900 vph).

The peak daily construction traffic generation was identified in Section 5.1.1 to be around 170 vehicles per day (including 60 light vehicles, 30 buses, and 80 HCVs). This is around a 2-fold increase compared to the usual ADT on Wall Road. Although this is a noticeable increase in

ADT, the peak construction period is anticipated to last only 7 months and can be accommodated within the existing road capacity.

8.2.2 Peak Hour Intersection Assessment

SH1/Motuiti Road Intersection (Scenario 1)

As the use of the right turn bay at the Motuiti Road intersection is recommended, the effect on this turn equates to an anticipated threefold increase in right-turning vehicle movements in the morning peak hour. Although this is a significant absolute change, the capacity of the right-turn lane is around 850 vph, and this proportion of right-turning vehicles can be accommodated within the existing intersection capacity as the existing right-turning volume in the morning peak hour is low (16 vehicles).

SH56/Rangiotu Road Intersection (Scenario 2)

During the peak construction period, the intersection of SH56/Rangiotu Road will include an increase of 50 vehicles in the morning peak hour turning right from SH56. This is expected to be contra-flow to the peak hour traffic travelling to Palmerston North. Conversely, the evening peak hour will include an increase of 50 vehicles using the auxiliary lane travelling north towards Palmerston North. Although this is an increase in peak hour traffic, the peak construction period is anticipated to last only 7 months, and the existing road infrastructure is expected to have sufficient capacity such that the effects of the construction traffic are negligible.

Rangiotu Road/Himatangi Block Road Intersection (Scenario 2)

During the peak construction period, the intersection of Rangiotu Road/Himatangi Block Road will include an increase of 50 vehicles in the morning peak hour turning left from Rangiotu Road. Conversely, the evening peak hour will include an increase of 50 vehicles turning right from Himatangi Block Road. Although this is an increase in peak hour traffic, the peak construction period is anticipated to last only 7 months, and the existing road infrastructure is expected to have sufficient capacity such that the effects of the construction traffic are negligible.

8.2.3 Summary of Effects

The effects of the traffic generated and distributed in Scenario 1 & 2 can be adequately absorbed within the existing roading infrastructure such that the Project has a negligible effect on the safety and efficiency of the transport network provided:

- A CTMP is implemented and aligned with the Construction Management Strategies outlined in Section 10.0 including the requirement that all northbound construction traffic on SH1 uses the right turn bay at the SH1 / Motuiti Road intersection; and
- Any damage caused by the increase in heavy commercial vehicles on the local road network is remedied.

The mitigation requirements are considered in Section 10.5.

The forecast additional traffic has been evaluated as not having a significant impact on the overall operation of the surrounding transport environment.

9.0 Construction Traffic Mitigation

9.1 Construction Traffic Management Plan (CTMP):

A CTMP or equivalent document should be prepared following approval but before the substantial commencement of construction activities. It would be appropriate for the CTMP to be prepared in general accordance with the strategy set out in the Section 10.0.

9.2 Dilapidation Surveys:

As the construction of the project requires a high proportion of heavy vehicles. it is recommended that road dilapidation surveys be undertaken to assess the conditions of Wall Road and Motuiti Road to identify changes prior to and following the proposed construction works.

10.0 Construction Traffic Management Strategies

These preliminary comments have been prepared to provide strategic advice for the future CTMP, which will only be prepared following the approval of the AEE, and more information is available regarding the proposed construction programme. This information includes workforce accommodation, construction program, and the vehicle fleet that will be used, which will be subject to the availability of hotels, staging of the project, and availability of construction vehicles, respectively.

Notwithstanding, at a high level, it is recommended that the subsequent information be considered or prepared as part of the CTMP.

10.1 Drivers Code of Conduct

It is important to note that all drivers have a responsibility to follow New Zealand road rules and a Drivers Code of Conduct. SLR has prepared a conceptual Drivers Code of Conduct which is provided in **Appendix G**.

10.2 Traffic Management Diagram (TMD)

Importantly, the majority of the works will be carried out within the site.

It is anticipated that the CTMP will have its own TMD. The CTMP should be prepared to the satisfaction of the relevant road controlling authority (NZTA and the Council) and must align with the New Zealand Guide to Temporary Traffic Management.

10.3 Site Management

The following procedures are to be observed by all vehicle drivers accessing the subject sites:

- Drivers are to obey all site signage and the directions of the site personnel.
- All vehicles are to park and load/ unload within the site using the designated parking and loading areas where possible. Vehicles must not park or load/ unload within the public road reserve.
- All drivers are required to operate vehicles in a safe and courteous manner, within and external to the subject site.

10.4 Heavy Vehicle Management

10.4.1 General Requirements

Heavy vehicles accessing the site will need to abide by their respective company operating procedures in addition to standard New Zealand road rules when operating the vehicle.

The following rules must also be followed:

- Construction traffic accessing the site northbound via SH1 must not turn right off SH1 onto Wall Road and should instead be required to turn right at the Motuiti Road intersection.
- An effort by the contractor to transport the workforce by shuttle buses (similar to Toyota Coasters and Toyota HiAce commuters).
- Consistent with the OSOM material transportation requirements, pilot vehicles and escorts must be utilised for non-standard loads.

- Temporary signage must be positioned at critical intersections to inform construction vehicle drivers and to warn the general public about the construction activities in the vicinity.
- Residents of the area must be informed prior to the commencement of construction works.

10.4.2 Noise Management

To limit heavy vehicle noise associated with construction activities, drivers are to abide by the following requirements:

- Heavy vehicles using local roads (Wall Road, Motuiti Road etc) should limit the use of engine or compression braking systems where possible.
- Posted speed limits on the external road network are to be observed.
- Vehicles are to be turned off when not in use.

10.4.3 Dust Management

Appropriate mitigation measures should be identified by the contractor, and strategies should be listed in the CTMP for dust management such as using water carts to wet unsealed areas of the construction site.

10.5 Mitigation Measures

The impacts of construction traffic and the mitigating measures to be implemented are outlined in Table 14.

Table 14 Construction Traffic Mitigation Measures

Mitigation Measures	Responsibility	Timing
Construction Traffic on Wall Road: Construction traffic will use the new access to enter/ exit the site. To ensure the impacts to motorists within the area are kept to a minimum, construction traffic will not exceed that necessary to complete construction and staggered when possible across the working day.	Site Manager	Daily
Management of deliveries: The site manager will manage deliveries to ensure that construction vehicle movements do not exceed those necessary to complete construction.	Site Manager	As required
Safety during construction: The safety of motorists and the public throughout the area will be maintained during construction through the preparation and execution of a Traffic Management Diagram (TMD). TMD plans will be implemented, managing the access and the general public's movement around construction activities. They should identify all reasonably foreseeable hazards, assess them, and manage them as best possible by eliminating or minimising the risks. The TMD shall be monitored and updated accordingly throughout the project.	Site Manager and Traffic Control Supervisor	Daily
Monitoring: Monitoring of construction vehicle movements are to be undertaken to ensure that drivers are adhering to restricted times.	Site Manager	Weekly

10.6 Risk Assessment

A risk assessment is intended to identify hazards and risks associated with construction activities. The purpose is to determine the controls required for the protection of road workers and road users. A Risk Assessment associated with the construction works of this site should be prepared and provided in the CTMP.

10.7 TMP Monitoring/ Review & Improvement Process

10.7.1 Implementation

The proposed works should be carried out in accordance with the following requirements:

- The approved Issued for Construction drawings, Traffic Management Plan (TMP) and Traffic Management Diagram (TMD).
- All associated Local and Central statutory requirements, e.g., environment, cultural heritage, etc., as required.

10.7.2 Monitoring and Review

The approved CTMP should be monitored and reviewed regularly. If issues arise, the CTMP should be revised to mitigate the issues. Regarding the implemented TMD plans, these should be monitored and reviewed on a daily basis to ensure signs and devices are installed correctly and convey the correct and intended messages.

10.7.3 Work Site Inspections, Recording and Reporting

At the commencement of works, the TMD setup shall be inspected to confirm accuracy with the intended TMD, as well as to ensure locations of signage and devices are safe and do not cause hazards to traffic. This inspection shall be documented within a site register and repeated at the commencement of each week of the construction program.

10.7.3.1 Incident Management

For the purposes of this CTMP, an ‘incident’ is an occurrence or set of circumstances that causes or threatens to cause material harm and which may or may not cause non-compliance with the CTMP. Furthermore, a ‘non-compliance’ is an occurrence, set of circumstances or development that is a breach of the consent.

In the event of an incident relating to traffic, the Contractor’s Site Manager must notify the Construction Project Manager immediately, following any need to alert emergency services. Such incidents may include, but not be limited to:

- Vehicle crash or injury resulting from construction traffic related to the project.
- Spill of any dangerous goods or hazardous substance to ground or water.
- Substantiated complaints from community members or regulatory authorities relating to traffic management.
- Land-based off-site sediment loss to the environment, including sediment tracking onto the roadway.

10.8 Contingency Plan

A contingency plan shall be established by the Contractor in accordance with the requirements of Genesis in the event that the monitoring program identifies the management plan as not effective in managing the construction impacts. .

10.9 Communications Strategy

A communications strategy should be established by the Contractor in accordance with the requirements of Genesis to ensure that the appropriate management response and handling procedures are instigated and carried through in the event of an environmental complaint..

11.0 ODP Assessment

The proposed solar farm has been assessed against the transport-related rules in Chapter 21 Vehicle Access, Parking, Loading and Roading of the Council's ODP.

Rule 21.1.1 and Rule 21.1.4 relates to vehicle access and vehicle crossing design standards assessed in Section 4.0.

Rule 21.1.9 and Rule 21.1.10 relate to vehicle parking and loading standards assessed in Section 6.0.

The assessment considers the activity to be Permitted under traffic and transport matters. A full assessment is provided in **Appendix H**.

12.0 Recommendations

Based on SLR's analysis provided in this report, the following recommendations have been made:

Vehicle Crossings:

The primary vehicle crossing onto Wall Road should be formed in general accordance with Drawing 5 in Appendix One of the Council's engineering standards, while the secondary emergency vehicle crossing should be formed in general accordance with Diagram 6 in Appendix One of the Council's engineering standards.

Construction Traffic Management Plan:

A CTMP or equivalent document should be prepared following approval but before the substantial commencement of construction activities. It would be appropriate for the CTMP to be prepared in accordance with the strategy set out in the Section 10.0.

The purpose of the CTMP would be to identify any changes to Project planning that occur subsequent to the preparation of this assessment and the impact of these changes on the conclusions of this assessment. In addition, the document would typically detail impact mitigation strategies, including soft strategies such as busing the workforce as per what is assumed herein.

The CTMP should mention the use of shuttle buses to transport the project workforce and heavy vehicle trip management procedures such as pilot vehicles and escorts, controls for limiting vehicle right turns from SH1 to Wall Road, temporary signage and notification to nearby properties, safety management for any travel through school zones or dense urban areas and addressing access warrants.

The CTMP should also provide operational information such as contact details of the maintenance contractor etc. However, it is not considered necessary to investigate the operational impacts in detail, given solar farms and BESSs require minimal maintenance effort.

Dilapidation Surveys:

It is recommended that road dilapidation surveys be undertaken to assess the conditions of Wall Road and Motuiti Road to identify changes prior to and following the proposed construction works.

13.0 Conclusions

SLR has been engaged by Genesis to provide traffic and transport engineering advice in support of the proposed Foxton Solar Farm and BESS Project in Foxton, Manawatū-Whanganui.

This ITA has been prepared to inform the preparation of an AEE to be submitted to the Council for a Resource Consent Application. Based on the analysis and discussion documented in this report, the following is concluded:

- The Project will generate 170 vehicle movements per day during peak construction including 80 heavy vehicles. This is anticipated to be around 50 vehicles in the peak hour during the peak period (including 30 light vehicles, 15 buses, and 5 HCV's)
- Outside of the construction peak, the Project is anticipated to generate up to 80 vehicle movements per day. This is anticipated to be around 35 vehicles in the peak hour (including 20 light vehicles, 10 buses, and 5 HCV's).
- It was identified that the roads and intersections surrounding the Project will continue operating satisfactorily during the construction of the project provided the appropriate mitigation recommended below is implemented.
- Sight distances available at the proposed Project accesses exceed the minimum sight distance requirements of the RTS06.
- The available crash dataset at the access does not indicate any recurring crash type or theme that would preclude or warrant significant safety mitigations.

The following is recommended:

- Access A01 should be formed in general accordance with Diagram 6 in Appendix One of Horowhenua District Council's Engineering Standards, while access A02 should be formed in general accordance with Drawing 5 in Appendix One.
- A Construction Traffic Management Plan is to be prepared following the approval of this application. This includes all northbound construction traffic approaching via SH1 being required to turn right via the intersection with Motuiti Road (equipped with an existing dedicated right turn bay) rather than use the intersection of SH1 and Wall Road. This is due to the potential safety concerns of introducing a new right turn bay in proximity to traffic merging from two lanes into one lane at the conclusion of the passing lane arrangement to the south.
- Dilapidation reports to be prepared for the review of Council

Appendix A Project Concept Plans

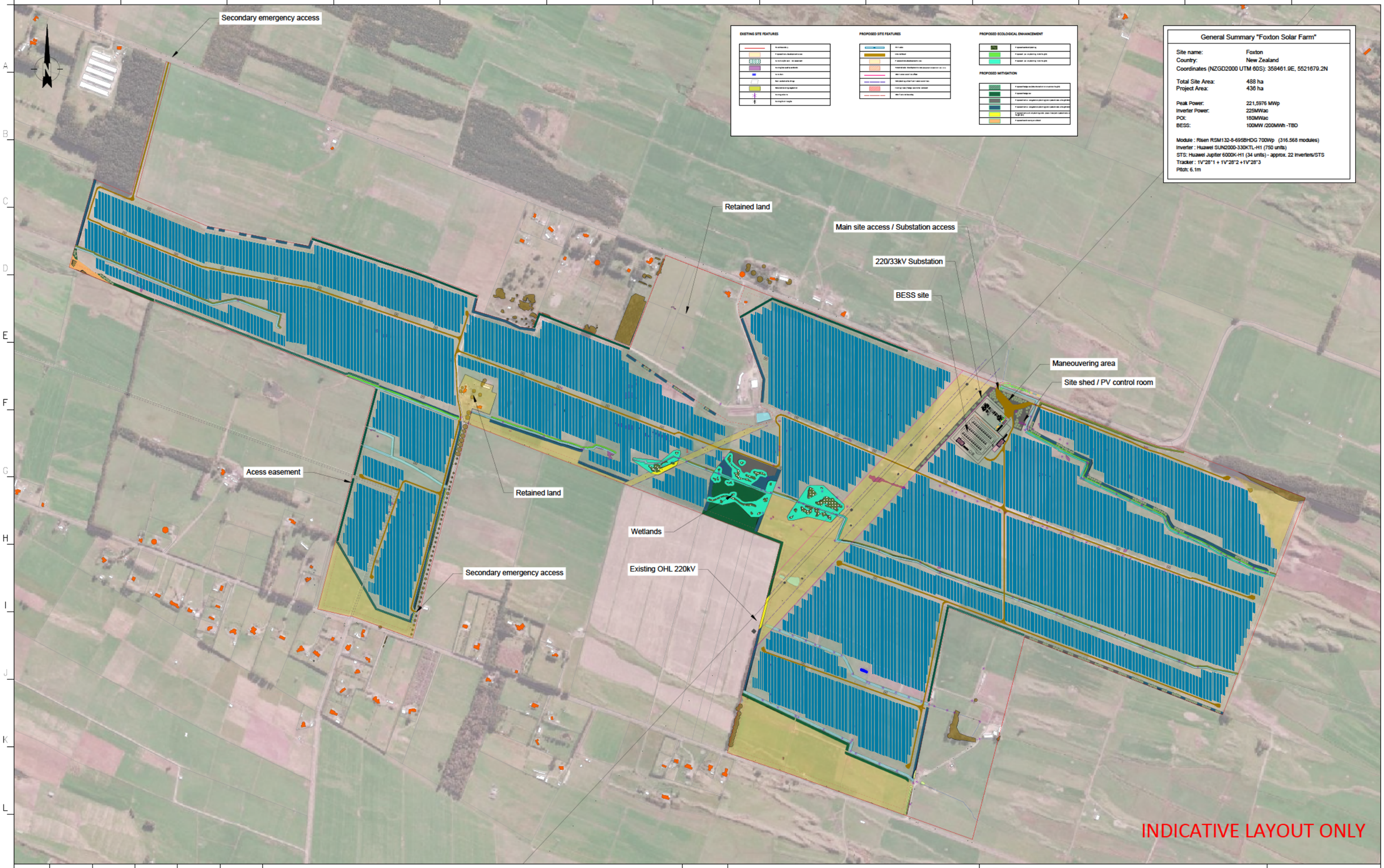
Integrated Transport Assessment

Foxton Solar Farm

Genesis Energy Limited

SLR Project No.: 810.V14848.00001

12 February 2026



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01.12	24.11.12	A.P.L.	A.P.L.	A.Q.	A.Q.	Inclusion of proposed mitigation and enhancement (vegetation) - rev1 - East sand dunes 100%used, 6.1m pitch	
01.11	24.11.12	A.P.L.	A.P.L.	A.Q.	A.Q.	Inclusion of proposed mitigation and enhancement (vegetation) - rev1 - East sand dunes 50%used, 6.1m pitch	
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01.09	24.11.12	A.P.L.	A.P.L.	A.Q.	A.Q.	Inclusion of proposed mitigation and enhancement (vegetation) - rev1 - East sand dunes 50%used	

PROJECT
FOXTON SOLAR FARM

FRV FOTOWATIO RENEWABLE VENTURES

A3

TITLE
GENERAL LAYOUT

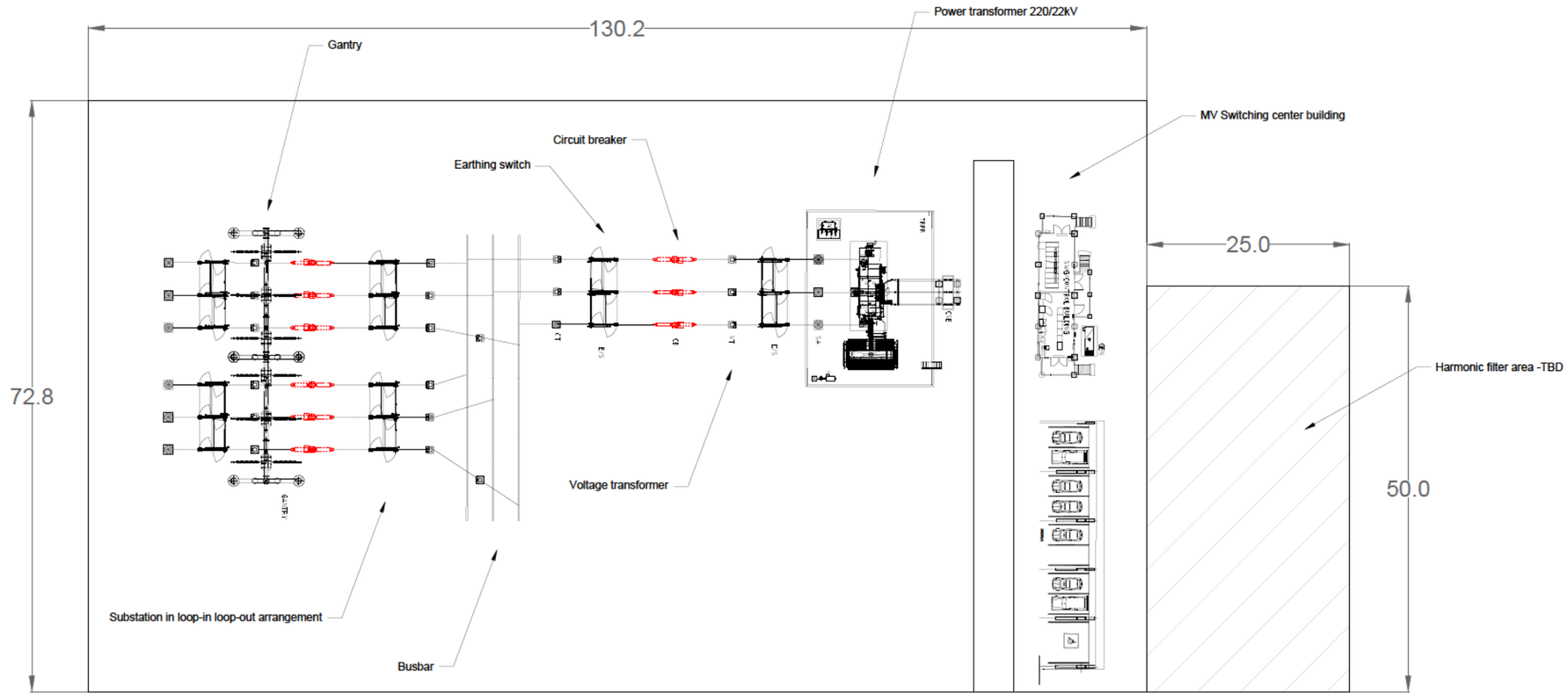
REF. N°: –

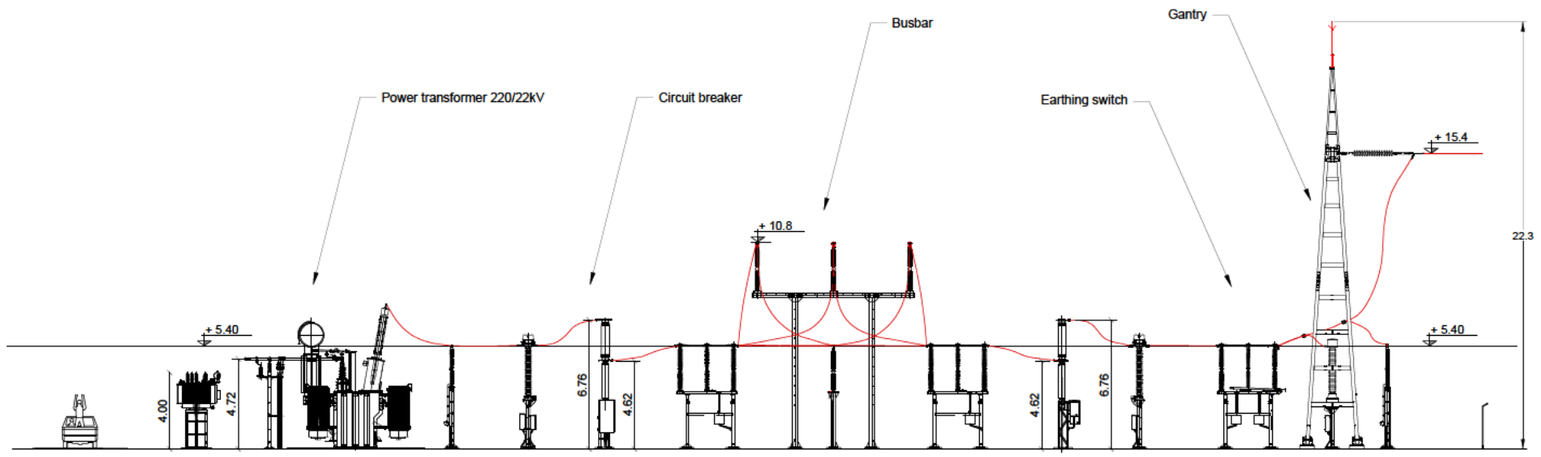
N.° –

01.13 Rev.

SHEET – FOLLOW –

INDICATIVE LAYOUT ONLY





General Summary "Foxton Solar Farm"	
Site name:	Foxton
Country:	New Zealand
Coordinates (NZGD2000 UTM 60S):	358461.9E, 5521679.2N
Total Site Area:	488 ha
Project Area:	436 ha
Peak Power:	221,5976 MWp
Inverter Power:	225MWac
POI:	180MWac
BESS:	100MW /200MWh -TBD

Module : Risen RSM132-8-695BHDG 700Wp (316.568 modules)
Inverter : Huawei SUN2000-330KTL-H1 (750 units)
STS: Huawei Jupiter 6000K-H1 (34 units) - approx. 22 inverters/STS
Tracker : 1V*28*1 + 1V*28*2 +1V*28*3
Pitch: 6.1m

NOTES

NOTE 1: FOR INDICATIVE PURPOSES. DIMENSIONS WILL BE DEFINED IN THE DETAILED ENGINEERING PHASE
NOTE 2: CROSS SECTION VIEW ONLY FOR INDICATIVE HEIGHT PURPOSES OF MAIN EQUIPMENT
NOTE 3: HARMONIC FILTER EQUIPMENT MAXIMUM HEIGHT BELOW 6.5m
NOTE 4: FRV NOT RESPONSIBLE OF SUBSTATION DESIGN. PLANS ARE INDICATIVE ONLY.

REV.	DATE	DRAWN	DESIGNED	CHECKED	APPROVED	DESCRIPTION	VERIFIED
01.13	25.05.21	A.P.L.	A.P.L.	A.Q.	A.Q.	Updates in vegetation planning	
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PROJECT
FOXTON SOLAR FARM

FRV FOTOWATIO RENEWABLE VENTURES

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TITLE
SUBSTATION

REF. N°: –
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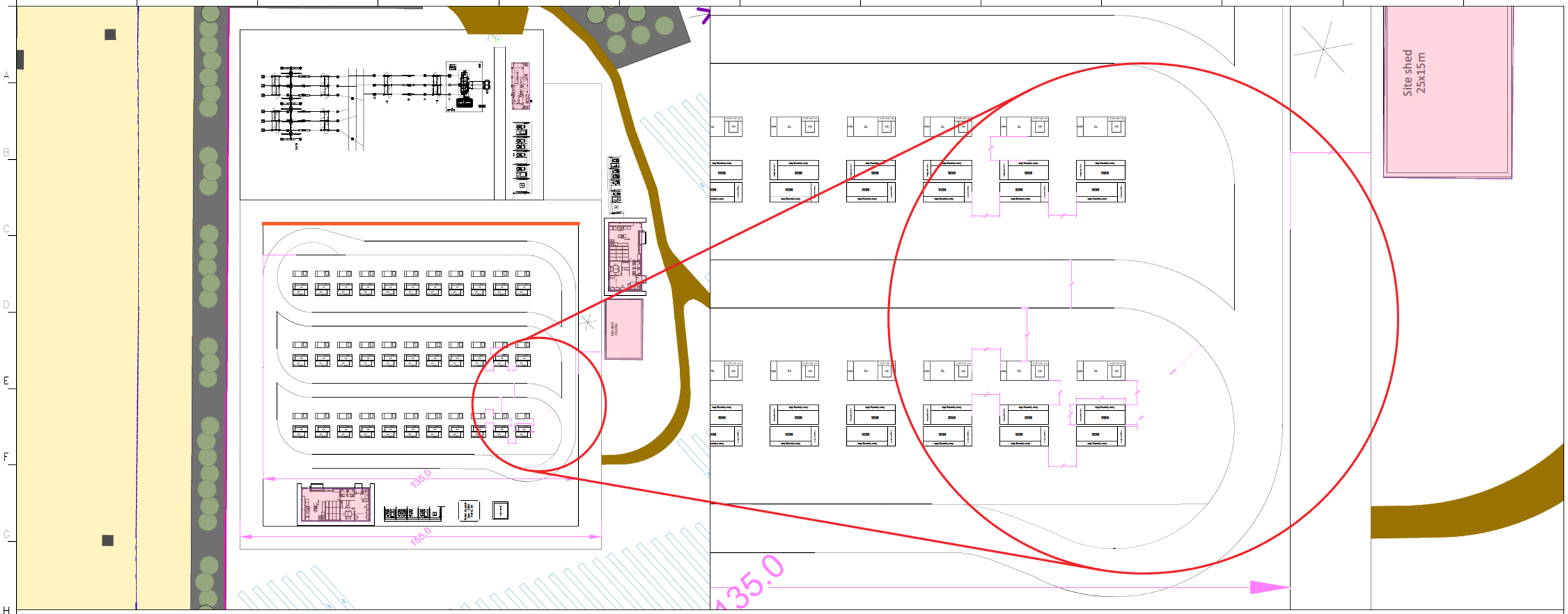
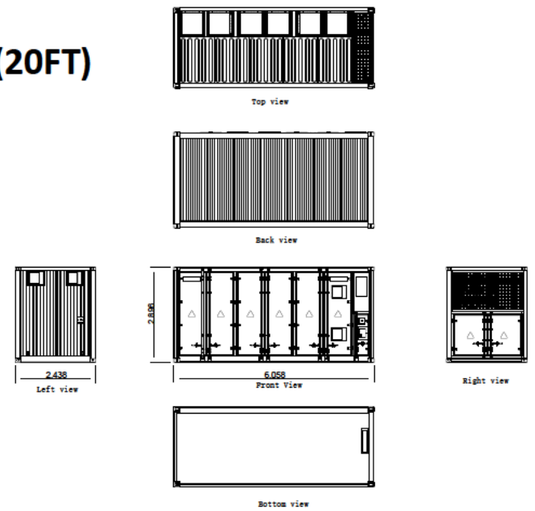
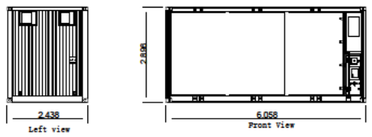


BESS CONTAINER (20FT)



BESS POWER CONVERTER STATION - PCS



Setback distances between BESS units will be in accordance with manufacturer's instructions, once we have selected technology

INDICATIVE LAYOUT ONLY

REV.	DATE	DRAWN	DESIGNED	CHECKED	APPROVED	DESCRIPTION	VERIFIED
01.13	25.05.21	A.P.L.	A.P.L.	A.Q.	A.Q.	Updates in vegetation planning	
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01.09	24.11.12	A.P.L.	A.P.L.	A.Q.	A.Q.	Inclusion of proposed mitigation and enhancement (vegetation) - rev1 - East sand dunes 50%used	

PROJECT: FOXTON SOLAR FARM

FRV FOTOWATIO RENEWABLE VENTURES

A3

TITLE: BESS

REF. N°: –

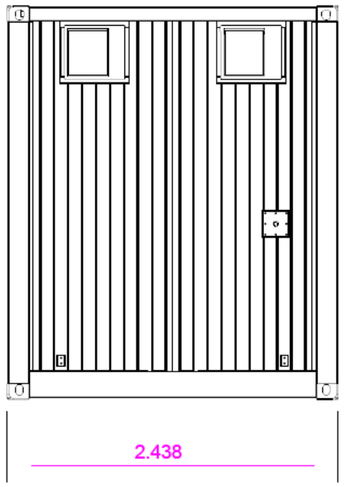
N.° –

01.13 Rev.

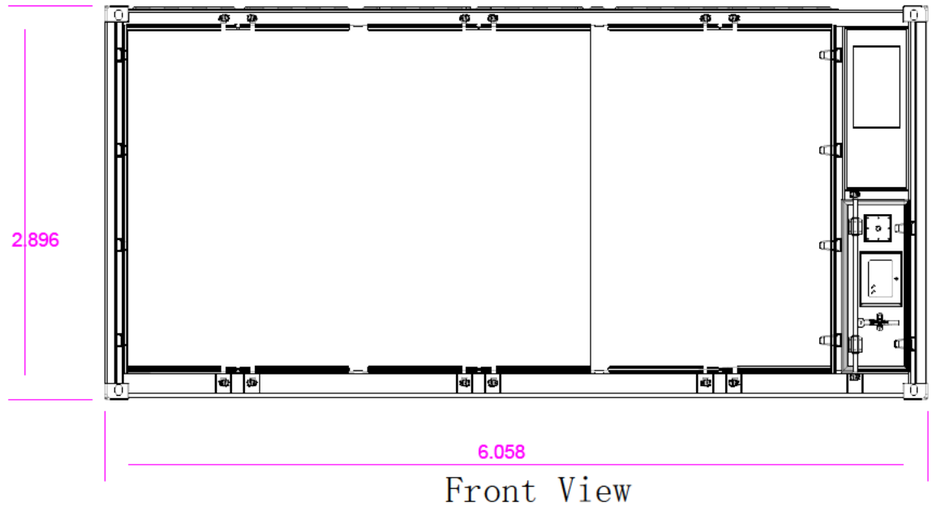
SHEET – FOLLOW –

INDICATIVE LAYOUT ONLY

TYPICAL DIMENSIONS OF CENTRAL INVERTER (PV) - 20FT CONTAINER SKID

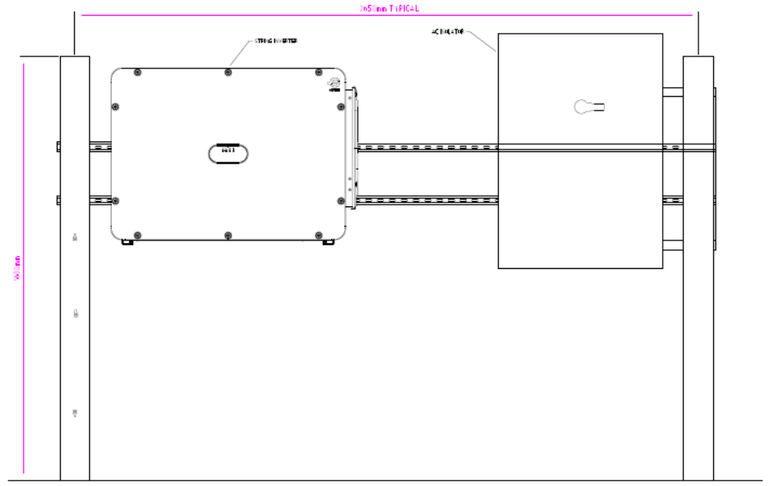


Left view

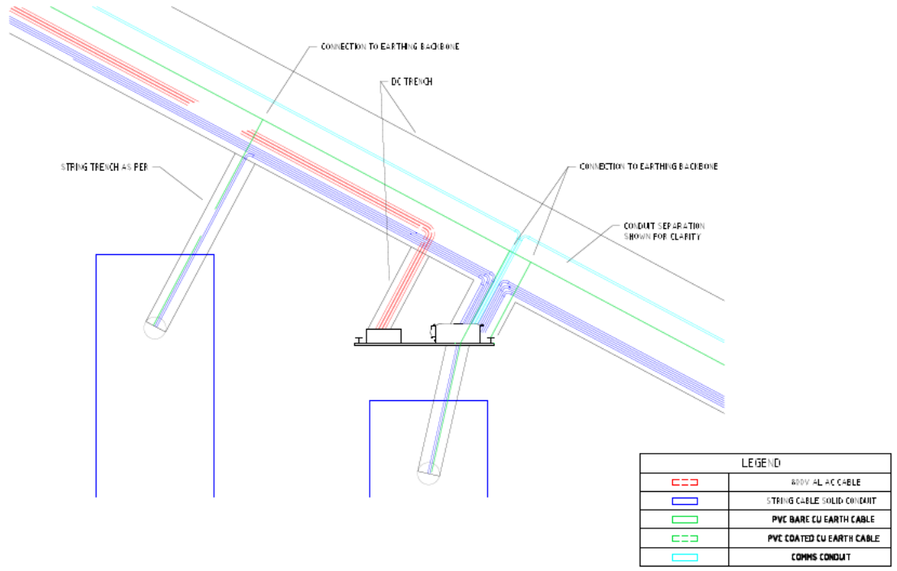


Front View

TYPICAL DIMENSIONS OF STRING INVERTER - ELEVATION



STRING INVERTER - PLAN CONTEXT



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PROJECT: FOXTON SOLAR FARM

FRV FOTOWATIO RENEWABLE VENTURES

A3

TITLE: PV INVERTER DETAIL

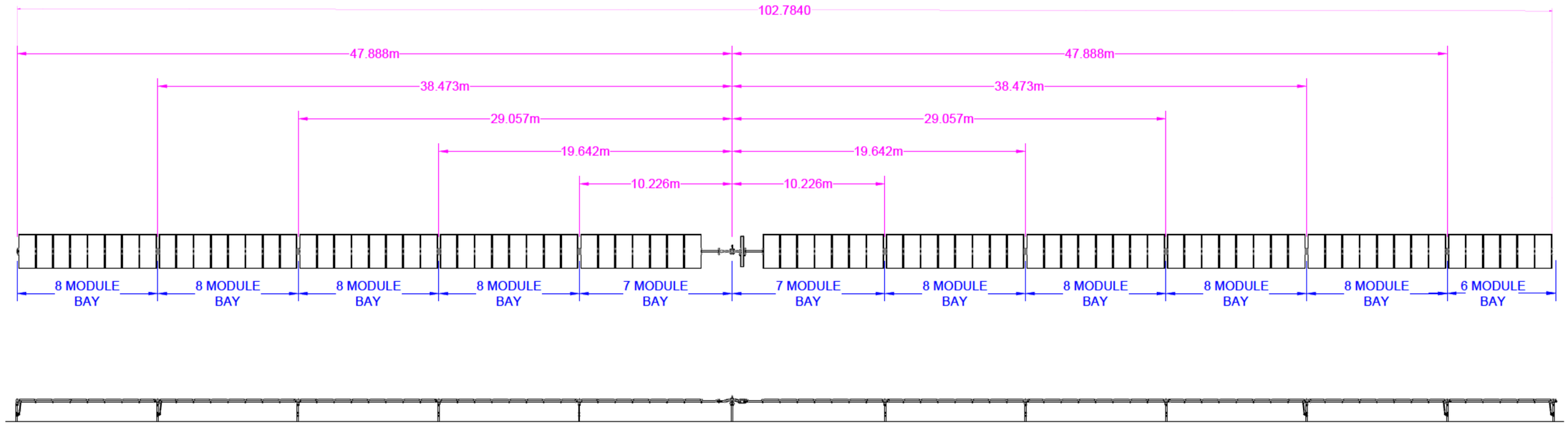
REF. N°: –

N.° –

01.13 Rev.

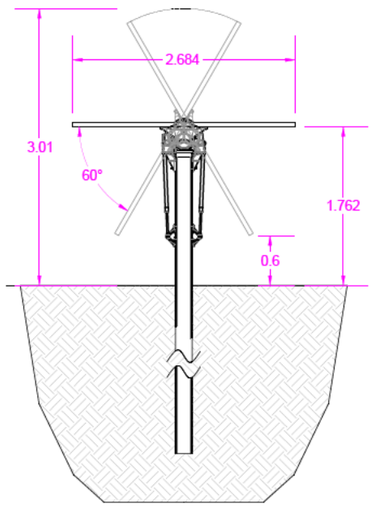
SHEET – FOLLOW –

TRACKER - 84 PV MODULES (1Px28modules/stringx3strings)

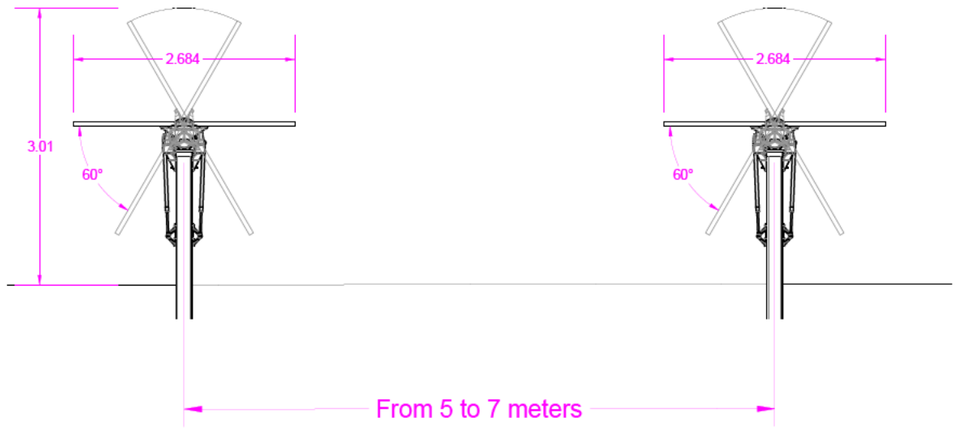


TYPICAL SECTION VIEW OF 1P

Typical section view for a 1P



Pitch range (From 5 to 7 meters) -TBD



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PROJECT: FOXTON SOLAR FARM

FRV FOTOWATIO RENEWABLE VENTURES

A3

TITLE: PV TRACKER DETAIL

REF. N°: –

N.° –

01.13 Rev.

SHEET – FOLLOW –

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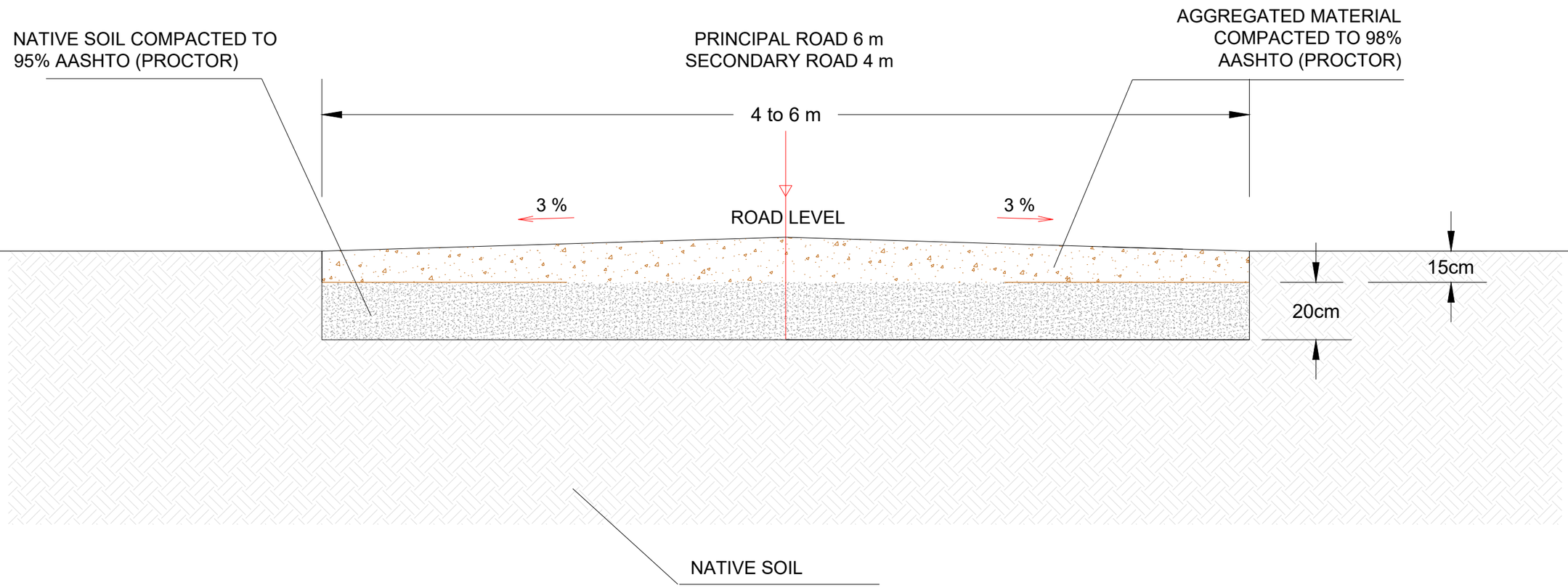

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01.09	24.11.12	A.P.L.	A.P.L.	A.Q.	A.Q.	Inclusion of proposed mitigation and enhancement (vegetation) - rev1 - East sand dunes 50%used	

PROJECT
FOXTON SOLAR FARM

A3

TITLE
INTERNAL ROAD DETAIL

REF. N°: –

N.° –

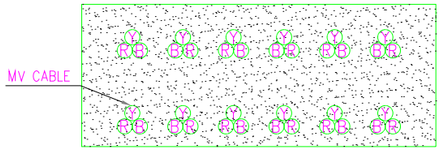
01.13 Rev.

SHEET – FOLLOW –

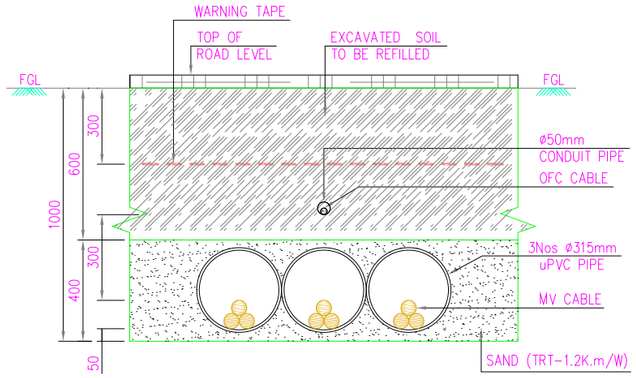
INDICATIVE LAYOUT ONLY

NOTES

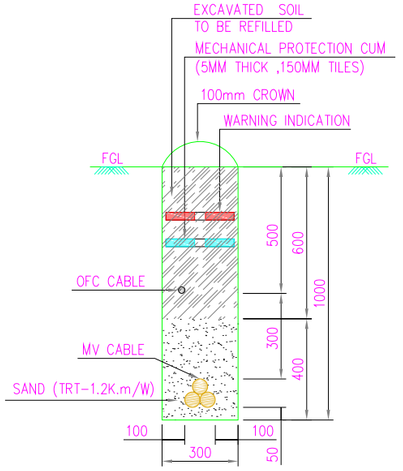
NOTE 1: FOR INDICATIVE PURPOSES. DIMENSIONS WILL BE DEFINED IN THE DETAILED ENGINEERING PHASE
NOTE 2: SUBJECT TO GEOTECHNICAL REPORT AND SOILD THERMAL RESITIVITY FINDINGS



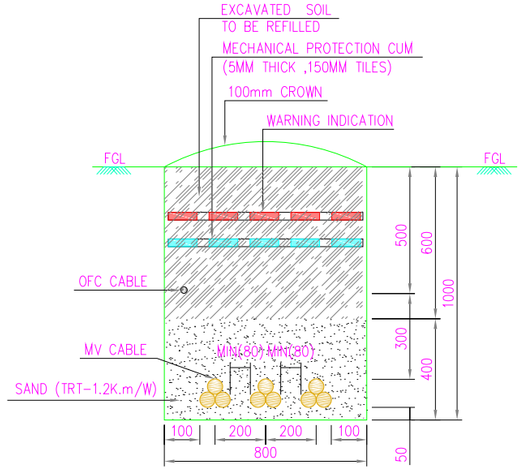
MV CABLE TREFOIL
TYPICAL ARRANGEMENT



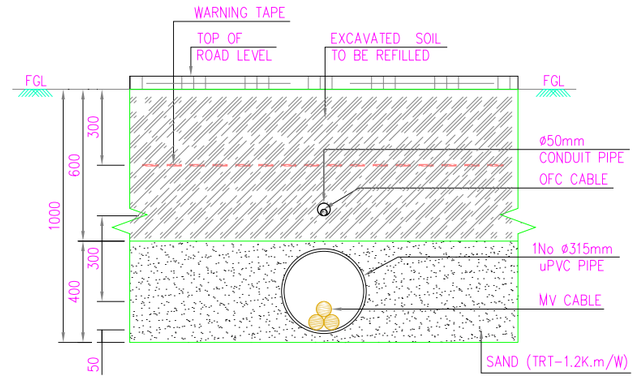
TYPICAL MV CABLE ROAD
CROSSING SECTION @ PCU STATION
FOR 3 CABLE'S



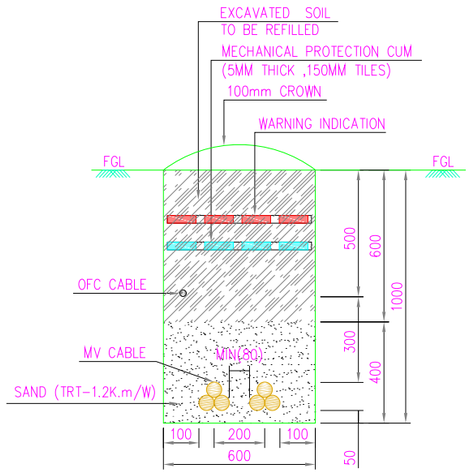
TYPICAL MV CABLE TRENCH
ARRANGEMENT FOR 1 CIRCUIT



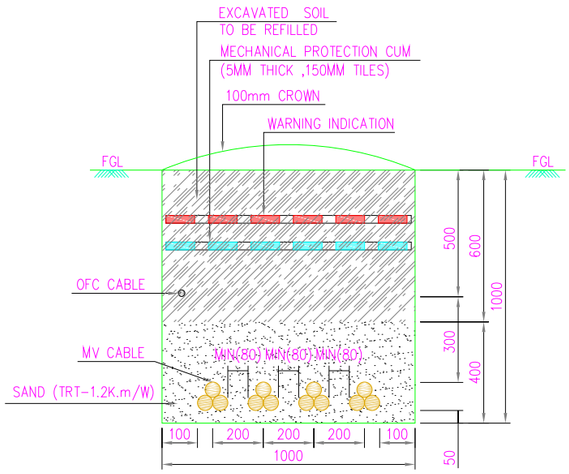
TYPICAL MV CABLE TRENCH
ARRANGEMENT FOR 3 CIRCUITS



TYPICAL MV CABLE ROAD
CROSSING SECTION @ PCU STATION
FOR 1 CABLE



TYPICAL MV CABLE TRENCH
ARRANGEMENT FOR 3 CIRCUITS



TYPICAL MV CABLE TRENCH
ARRANGEMENT FOR 4 CIRCUITS

REV.	DATE	DRAWN	DESIGNED	CHECKED	APPROVED	DESCRIPTION	VERIFIED
01.13	25.05.21	A.P.L.	A.P.L.	A.Q.	A.Q.	Updates in vegetation planning	
01.12	24.11.12	A.P.L.	A.P.L.	A.Q.	A.Q.	Inclusion of proposed mitigation and enhancement (vegetation) - rev1 - East sand dunes 100%used, 6.1m pitch	
01.11	24.11.12	A.P.L.	A.P.L.	A.Q.	A.Q.	Inclusion of proposed mitigation and enhancement (vegetation) - rev1 - East sand dunes 50%used, 6.1m pitch	
01.10	24.11.12	A.P.L.	A.P.L.	A.Q.	A.Q.	Inclusion of proposed mitigation and enhancement (vegetation) - rev1 - East sand dunes 0%used, 6.1m pitch	
01.09	24.11.12	A.P.L.	A.P.L.	A.Q.	A.Q.	Inclusion of proposed mitigation and enhancement (vegetation) - rev1 - East sand dunes 50%used	

PROJECT
FOXTON SOLAR FARM

FRV ROTOWATO RENEWABLE VENTURES

A3

TITLE
TRENCH DETAIL

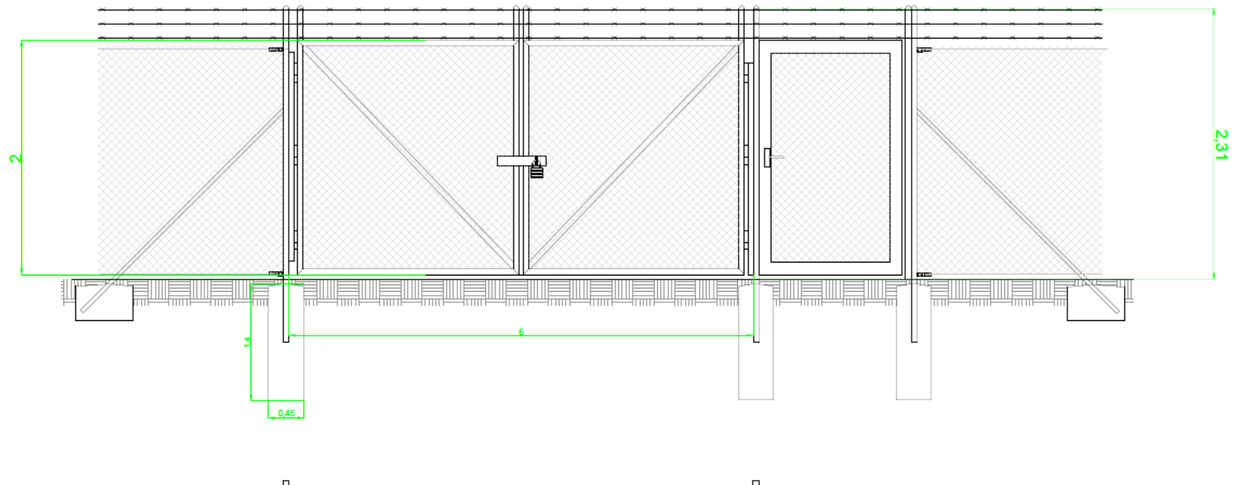
REF. N°: –

N.° – 01.13 Rev.

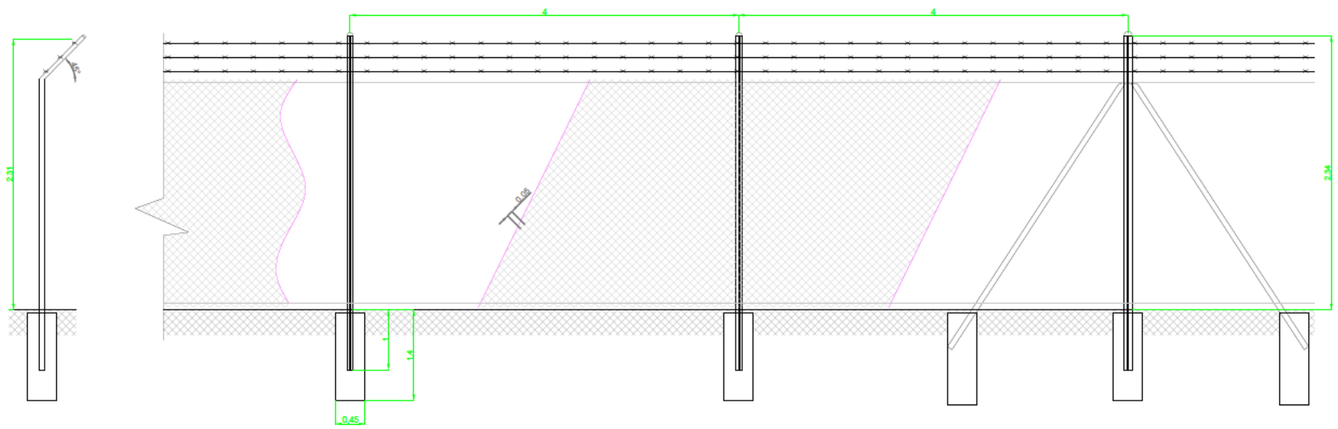
SHEET – FOLLOW –

SECURITY GATE DETAIL

INDICATIVE LAYOUT ONLY



PERIMETER FENCING DETAIL



NOTES

NOTE 1: FOR INDICATIVE PURPOSES. DIMENSIONS WILL BE DEFINED IN THE DETAILED ENGINEERING PHASE

REV.	DATE	DRAWN	DESIGNED	CHECKED	APPROVED	DESCRIPTION	VERIFIED
01.13	25.05.21	A.P.L.	A.P.L.	A.Q.	A.Q.	Updates in vegetation planning	
01.12	24.11.12	A.P.L.	A.P.L.	A.Q.	A.Q.	Inclusion of proposed mitigation and enhancement (vegetation) - rev1 - East sand dunes 100%used, 6.1m pitch	
01.11	24.11.12	A.P.L.	A.P.L.	A.Q.	A.Q.	Inclusion of proposed mitigation and enhancement (vegetation) - rev1 - East sand dunes 50%used, 6.1m pitch	
01.10	24.11.12	A.P.L.	A.P.L.	A.Q.	A.Q.	Inclusion of proposed mitigation and enhancement (vegetation) - rev1 - East sand dunes 0%used, 6.1m pitch	
01.09	24.11.12	A.P.L.	A.P.L.	A.Q.	A.Q.	Inclusion of proposed mitigation and enhancement (vegetation) - rev1 - East sand dunes 50%used	

PROJECT: FOXTON SOLAR FARM

FRV FOTOWATIO RENEWABLE VENTURES

A3

TITLE: FENCING DETAILS

REF. N°: –

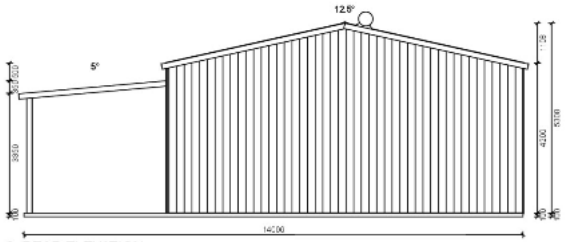
N.° –

01.13 Rev.

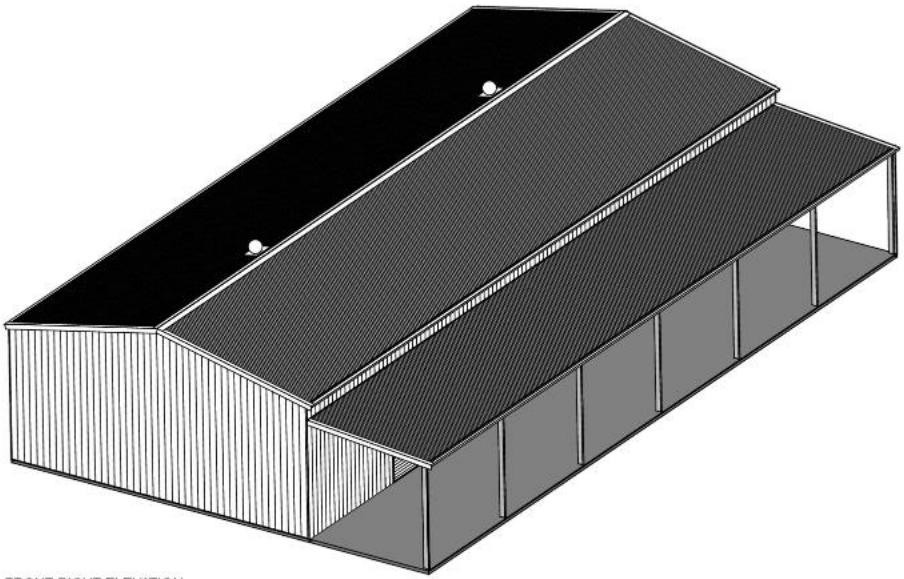
SHEET – FOLLOW –

[redacted]

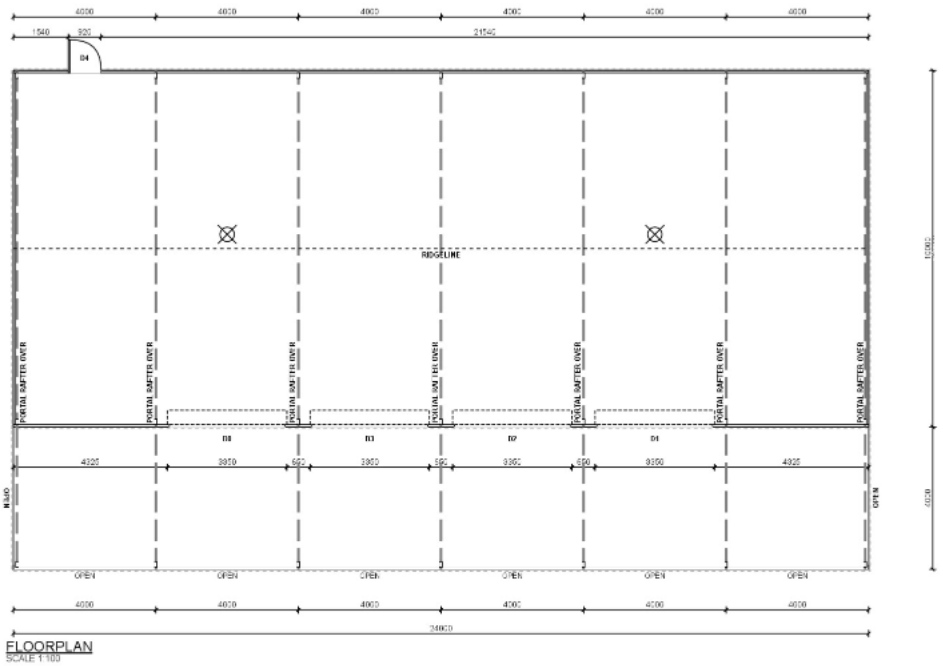
[redacted]



3. REAR ELEVATION
SCALE 1:100



FRONT RIGHT ELEVATION
SCALE 1:100



FLOORPLAN
SCALE 1:100

QTY	DESCRIPTION
1	Eco Farm Shed. (C-Section Frame, 65mm Top Hat Purlins) 24m Long x 10m Wide x 4.2m Eave Height. 12.5° Roof Pitch. 6 Bays. COLORBOND® 0.47 TCT K-Panel Wall Cladding or similar. COLORBOND® 0.47 TCT Corrugated Roof Cladding or similar. COLORBOND® Vee Ridge Flashing. COLORBOND® Garage Barge Flashing. COLORBOND® Quad 115 Eave Gutter, External Bracket. White uPVC Ø90 DownPipes.
1	COLORBOND® Larnec 650/41S PA Door 2040H x 920W Clad one side, outward swing.
4	COLORBOND® Stramit Roller Door Series A 3100H x 3350W | MERLIN MR655 Motor Operation
1	LeanTo Right Side. 24.00m Long x 4.00m Wide x 3.35m Eave Height. 0.50m LeanTo Roof To Gable Wall Step Height. 5° Roof Pitch. 6 Bays.
6	LeanTo Open Bay

2	LeanTo Open End
1	4mm Sancell AIR insulation to roof. (361.03 sqm)
2	Roof Mounted Spinner Vent (300mm Throat)
1	Building Permit including preparation of all required documentation.
1	Installation of building.
1	100mm R.C. Slab - Subject to Level Site (240m²)
1	Footings for Lean To
1	Installer & Concreter to Invoice Client Direct
1	Footing Type. (Bolt to Slab). Notes. (Shed on Slab, Lean To on Footings.).

Appendix B Matrix Intersection Survey Counts

Integrated Transport Assessment

Foxton Solar Farm

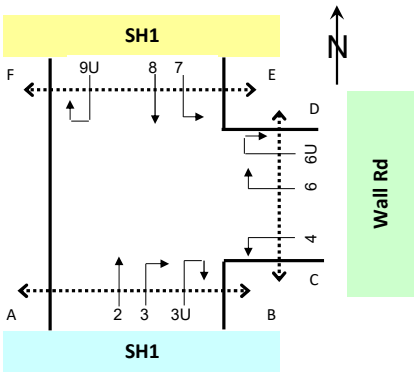
Genesis Energy Limited

SLR Project No.: 810.V14848.00001

12 February 2026

Job No. : NZNth10825
Client : SLR Consulting
Suburb : Foxton
Location : 1. Wall Rd / SH1

Day/Date : Thu, 7th November 2024
Weather : Fine
Description : Classified Intersection Count
: Peak Hour Summary

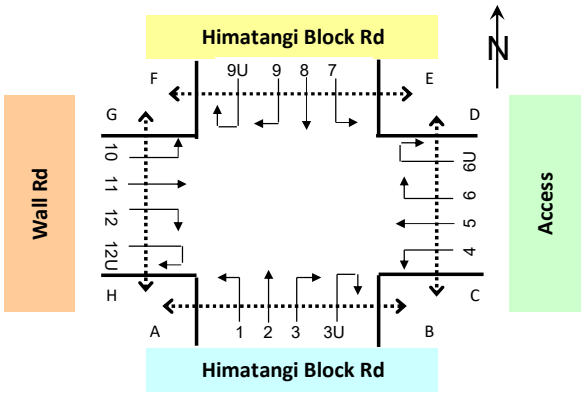


	Approach	SH1			Wall Rd			SH1				Grand Total
	Time Period	Lights	Heavies	Total	Lights	Heavies	Total	Lights	Heavies	Total		
AM	9:00 to 10:00	325	56	**381**	3	3	**6**	203	66	**269**		**656**
PM	16:15 to 17:15	315	29	**344**	3	0	**3**	418	35	**453**		**800**

Approach	SH1			Wall Rd			SH1				Grand Total
Time Period	Lights	Heavies	Total	Lights	Heavies	Total	Lights	Heavies	Total		
7:00 to 8:00	306	50	**356**	2	1	**3**	191	46	**237**		**596**
7:15 to 8:15	320	54	**374**	2	1	**3**	203	51	**254**		**631**
7:30 to 8:30	323	47	**370**	1	0	**1**	198	51	**249**		**620**
7:45 to 8:45	303	40	**343**	1	0	**1**	182	57	**239**		**583**
8:00 to 9:00	285	35	**320**	2	0	**2**	169	58	**227**		**549**
8:15 to 9:15	286	44	**330**	3	1	**4**	174	65	**239**		**573**
8:30 to 9:30	287	44	**331**	3	3	**6**	179	66	**245**		**582**
8:45 to 9:45	301	53	**354**	3	3	**6**	194	70	**264**		**624**
9:00 to 10:00	325	56	**381**	3	3	**6**	203	66	**269**		**656**
AM Totals	**916**	**141**	**1,057**	**7**	**4**	**11**	**563**	**170**	**733**		**1,801**
15:00 to 16:00	291	39	**330**	2	0	**2**	341	39	**380**		**712**
15:15 to 16:15	313	37	**350**	2	0	**2**	343	34	**377**		**729**
15:30 to 16:30	315	38	**353**	1	0	**1**	355	34	**389**		**743**
15:45 to 16:45	334	38	**372**	0	0	**0**	367	43	**410**		**782**
16:00 to 17:00	321	33	**354**	1	0	**1**	361	37	**398**		**753**
16:15 to 17:15	315	29	**344**	3	0	**3**	418	35	**453**		**800**
16:30 to 17:30	314	20	**334**	3	0	**3**	402	39	**441**		**778**
16:45 to 17:45	296	15	**311**	4	0	**4**	404	33	**437**		**752**
17:00 to 18:00	279	16	**295**	4	0	**4**	398	37	**435**		**734**
PM Totals	**891**	**88**	**979**	**7**	**0**	**7**	**1,100**	**113**	**1,213**		**2,199**

Job No. : NZNth10825
Client : SLR Consulting
Suburb : Foxton
Location : 2. Wall Rd / Himatangi Block Rd

Day/Date : Tue, 5th November 2024
Weather : Fine
Description : Classified Intersection Count
: Peak Hour Summary

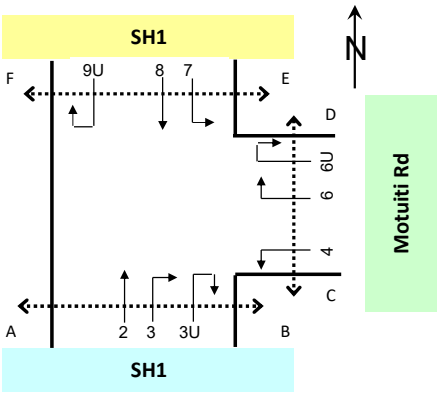


	Approach	Himatangi Block Rd			Access			Himatangi Block Rd			Wall Rd			Grand Total
	Time Period	Lights	Heavies	Total	Lights	Heavies	Total	Lights	Heavies	Total	Lights	Heavies	Total	
AM	7:00 to 8:00	60	0	**60**	1	0	**1**	14	2	**16**	2	0	**2**	**79**
PM	16:45 to 17:45	16	8	**24**	0	0	**0**	46	2	**48**	0	7	**7**	**79**

Approach	Himatangi Block Rd			Access			Himatangi Block Rd			Wall Rd			Grand Total
Time Period	Lights	Heavies	Total	Lights	Heavies	Total	Lights	Heavies	Total	Lights	Heavies	Total	
7:00 to 8:00	60	0	**60**	1	0	**1**	14	2	**16**	2	0	**2**	**79**
7:15 to 8:15	55	0	**55**	1	0	**1**	18	1	**19**	1	0	**1**	**76**
7:30 to 8:30	47	0	**47**	1	0	**1**	17	2	**19**	2	0	**2**	**69**
7:45 to 8:45	42	0	**42**	1	0	**1**	14	1	**15**	3	0	**3**	**61**
8:00 to 9:00	35	0	**35**	0	0	**0**	13	3	**16**	2	0	**2**	**53**
8:15 to 9:15	33	2	**35**	1	0	**1**	12	3	**15**	3	0	**3**	**54**
8:30 to 9:30	35	3	**38**	1	0	**1**	18	2	**20**	2	1	**3**	**62**
8:45 to 9:45	30	4	**34**	2	0	**2**	24	2	**26**	1	1	**2**	**64**
9:00 to 10:00	26	6	**32**	2	0	**2**	33	0	**33**	3	3	**6**	**73**
AM Totals	**121**	**6**	**127**	**3**	**0**	**3**	**60**	**5**	**65**	**7**	**3**	**10**	**205**
15:00 to 16:00	22	0	**22**	1	0	**1**	45	1	**46**	0	0	**0**	**69**
15:15 to 16:15	21	0	**21**	0	0	**0**	47	0	**47**	1	0	**1**	**69**
15:30 to 16:30	19	0	**19**	0	0	**0**	51	0	**51**	2	0	**2**	**72**
15:45 to 16:45	15	1	**16**	0	0	**0**	47	0	**47**	2	3	**5**	**68**
16:00 to 17:00	17	3	**20**	0	0	**0**	46	0	**46**	2	5	**7**	**73**
16:15 to 17:15	14	5	**19**	0	0	**0**	47	0	**47**	1	6	**7**	**73**
16:30 to 17:30	11	6	**17**	0	0	**0**	48	1	**49**	0	9	**9**	**75**
16:45 to 17:45	16	8	**24**	0	0	**0**	46	2	**48**	0	7	**7**	**79**
17:00 to 18:00	14	8	**22**	0	0	**0**	47	2	**49**	0	8	**8**	**79**
PM Totals	**53**	**11**	**64**	**1**	**0**	**1**	**138**	**3**	**141**	**2**	**13**	**15**	**221**

Job No. : NZNth10825
Client : SLR Consulting
Suburb : Foxton
Location : 3. Motuiti Rd / SH1

Day/Date : Tue, 5th November 2024
Weather : Fine
Description : Classified Intersection Count
: Peak Hour Summary

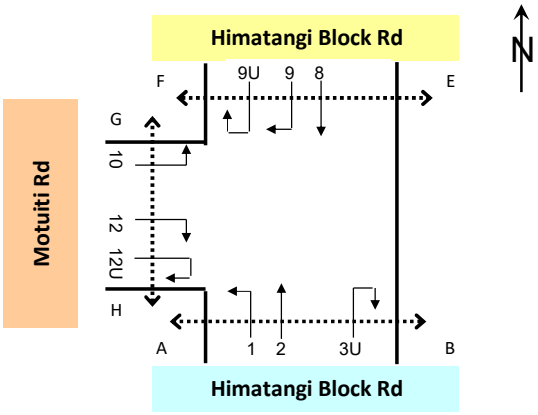


	Approach	SH1			Motuiti Rd			SH1				Grand Total
	Time Period	Lights	Heavies	Total	Lights	Heavies	Total	Lights	Heavies	Total		
AM	8:45 to 9:45	270	49	**319**	23	1	**24**	207	50	**257**		**600**
PM	15:00 to 16:00	0	0	**0**	0	0	**0**	0	0	**0**		**0**

Approach	SH1			Motuiti Rd			SH1				Grand Total
Time Period	Lights	Heavies	Total	Lights	Heavies	Total	Lights	Heavies	Total		
7:00 to 8:00	311	54	**365**	20	0	**20**	164	34	**198**		**583**
7:15 to 8:15	309	54	**363**	18	0	**18**	172	29	**201**		**582**
7:30 to 8:30	289	51	**340**	19	0	**19**	186	33	**219**		**578**
7:45 to 8:45	263	49	**312**	21	0	**21**	181	36	**217**		**550**
8:00 to 9:00	241	44	**285**	18	1	**19**	189	41	**230**		**534**
8:15 to 9:15	257	47	**304**	20	1	**21**	188	41	**229**		**554**
8:30 to 9:30	258	49	**307**	22	1	**23**	184	52	**236**		**566**
8:45 to 9:45	270	49	**319**	23	1	**24**	207	50	**257**		**600**
9:00 to 10:00	274	44	**318**	24	0	**24**	200	52	**252**		**594**
AM Totals	**826**	**142**	**968**	**62**	**1**	**63**	**553**	**127**	**680**		**1,711**
15:00 to 16:00	0	0	**0**	0	0	**0**	0	0	**0**		**0**
15:15 to 16:15	0	0	**0**	0	0	**0**	0	0	**0**		**0**
15:30 to 16:30	0	0	**0**	0	0	**0**	0	0	**0**		**0**
15:45 to 16:45	0	0	**0**	0	0	**0**	0	0	**0**		**0**
16:00 to 17:00	0	0	**0**	0	0	**0**	0	0	**0**		**0**
16:15 to 17:15	0	0	**0**	0	0	**0**	0	0	**0**		**0**
16:30 to 17:30	0	0	**0**	0	0	**0**	0	0	**0**		**0**
16:45 to 17:45	0	0	**0**	0	0	**0**	0	0	**0**		**0**
17:00 to 18:00	0	0	**0**	0	0	**0**	0	0	**0**		**0**
PM Totals	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**		**0**

Job No. : NZNth10825
Client : SLR Consulting
Suburb : Foxton
Location : 4. Motuiti Rd / Himatangi Block Rd

Day/Date : Thu, 7th November 2024
Weather : Fine
Description : Classified Intersection Count
: Peak Hour Summary



	Approach	Himatangi Block Rd				Himatangi Block Rd			Motuiti Rd			Grand Total
	Time Period	Lights	Heavies	Total		Lights	Heavies	Total	Lights	Heavies	Total	
AM	7:00 to 8:00	22	2	**24**		15	2	**17**	28	0	**28**	**69**
PM	16:30 to 17:30	16	0	**16**		47	7	**54**	11	0	**11**	**81**

Approach	Himatangi Block Rd				Himatangi Block Rd			Motuiti Rd			Grand Total
Time Period	Lights	Heavies	Total		Lights	Heavies	Total	Lights	Heavies	Total	
7:00 to 8:00	22	2	**24**		15	2	**17**	28	0	**28**	**69**
7:15 to 8:15	19	2	**21**		16	2	**18**	27	1	**28**	**67**
7:30 to 8:30	19	1	**20**		13	1	**14**	27	1	**28**	**62**
7:45 to 8:45	17	0	**17**		14	0	**14**	30	4	**34**	**65**
8:00 to 9:00	14	1	**15**		16	0	**16**	27	4	**31**	**62**
8:15 to 9:15	11	2	**13**		19	2	**21**	21	3	**24**	**58**
8:30 to 9:30	11	3	**14**		24	2	**26**	17	3	**20**	**60**
8:45 to 9:45	8	3	**11**		27	2	**29**	16	0	**16**	**56**
9:00 to 10:00	10	2	**12**		22	2	**24**	20	0	**20**	**56**
AM Totals	**46**	**5**	**51**		**53**	**4**	**57**	**75**	**4**	**79**	**187**
15:00 to 16:00	11	2	**13**		39	0	**39**	17	0	**17**	**69**
15:15 to 16:15	8	2	**10**		46	0	**46**	11	0	**11**	**67**
15:30 to 16:30	7	2	**9**		52	0	**52**	10	0	**10**	**71**
15:45 to 16:45	11	2	**13**		45	1	**46**	10	0	**10**	**69**
16:00 to 17:00	11	0	**11**		47	3	**50**	10	0	**10**	**71**
16:15 to 17:15	12	0	**12**		46	6	**52**	10	0	**10**	**74**
16:30 to 17:30	16	0	**16**		47	7	**54**	11	0	**11**	**81**
16:45 to 17:45	12	0	**12**		46	8	**54**	12	0	**12**	**78**
17:00 to 18:00	14	0	**14**		48	6	**54**	9	0	**9**	**77**
PM Totals	**36**	**2**	**38**		**134**	**9**	**143**	**36**	**0**	**36**	**217**

Appendix C Road Safety Analysis

Integrated Transport Assessment

Foxton Solar Farm

Genesis Energy Limited

SLR Project No.: 810.V14848.00001

12 February 2026

Road Safety Record Summary

To highlight any safety deficiencies in the surrounding road network in proximity to the Project site, historical crash data has been extracted from the NZTA's Crash Analysis System (CAS). The search area includes SH1, Motuiti Road, Wall Road, Himatangi Block Road, Rangiotu Road (between SH56 and Himatangi Block Road) and the intersection of SH56 and Rangiotu Road. Crashes are reported for the latest five-year period (between 2019 - 2023).

The locations of the reported crashes are illustrated in Figure 15 and details summarised in

Table 4 by crash road and severity.

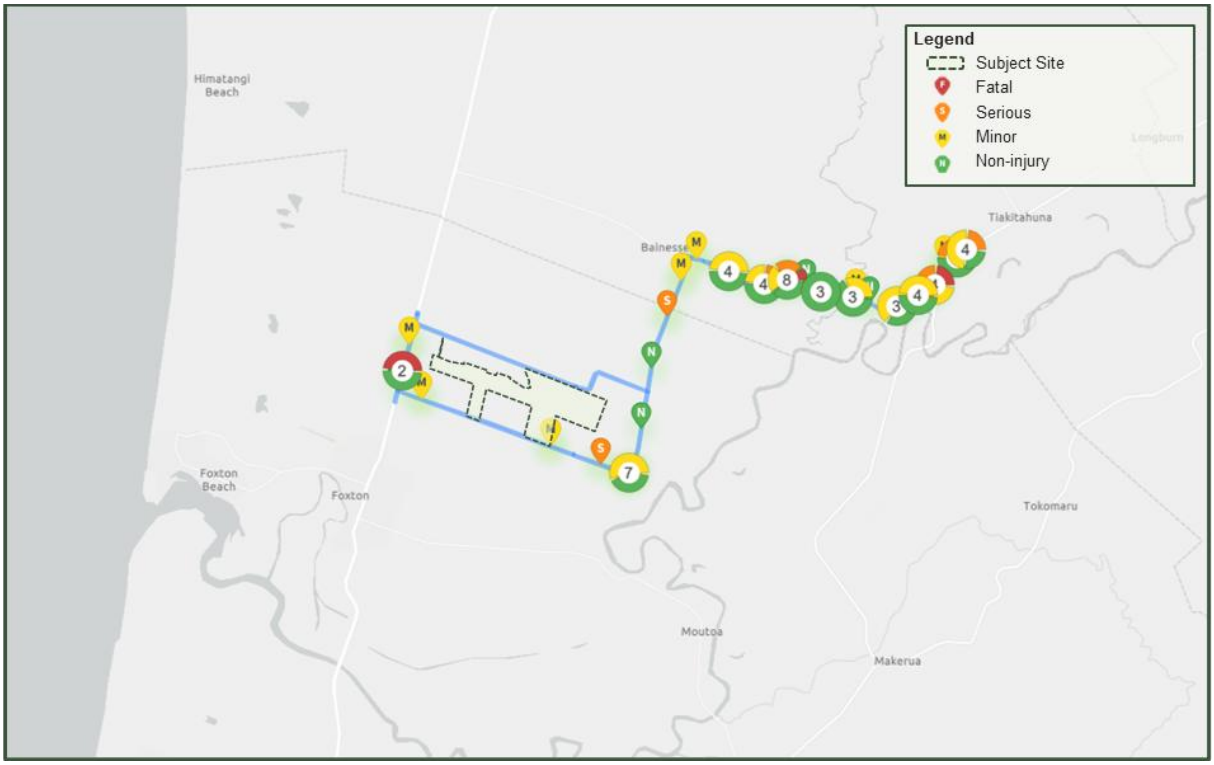
The locations of each recorded crash, injury severity level (non-injury, minor, serious and fatal) and other factors such as crash year, weather conditions and road conditions were considered. Crashes are summarised below.

A total of 64 incidents were recorded: 4 fatal, 9 serious injury, 24 minor injury, and 27 non-injury incidents were reported, including:

- 7 (11%) incidents occurred at the intersection of SH56/Rangiotu Road
- 4 (6%) incidents occurred at the intersection of Himatangi Block Road/Motuiti Road
- 6 (9%) occurred at various intersections along Rangiotu Road
- 34 (53%) occurred on the midblock on Rangiotu Road
    - 8 are related to a horizontal curve east of Pyke Road, including 1 fatal and 2 serious injury incidents
    - 4 are related to a horizontal curve north of Alve Road, including 1 fatal and 2 serious injury incidents
- 4 (6%) occurred on the midblock on SH1 between Motuiti Road and Wall Road
- 7 (11%) occurred at the midblock on Himatangi Block Road
- 3 (4%) occurred at the midblock on Motuiti Road
- 1 (1%) occurred at the midblock on SH56.

The crash history indicates an existing road safety issue within the study area, with loss of control crashes (64%) being a moderate proportion of crashes, particularly along Rangiotu Road.

Figure 27 Crash History & Locations (2019 – 2023)



SH1

Incidents reported on SH1 are summarised in Table B-1 below.

Table B-1: Summary of Reported Incidents on SH1

Crash identifier	Crash year	Movement codes	Movement codes categories	Crash severity	Natural Light
201956497	2019	FD	Rear End Crash	Minor Crash	Bright sun
2021196121	2021	CC	Lost Cntl/Str Rd	Non-Injury Crash	Dark
2022220504	2022	MC	Manoeuvring	Fatal Crash	Bright sun
2022232249	2022	CB	Lost Cntl/Str Rd	Non-Injury Crash	Overcast

For the investigated area on SH1:

- The minor injury on SH1 involved a rear-end incident travelling southbound while the two non-injury incidents involved loss of control.
- The fatal incident reported on SH1 involving a driver travelling northbound in April 2022 at 5 pm making a U-turn. It is noted that U-turns are not permitted at this location on SH1 although this movement is observed in the traffic data collected. The reported environmental factors include natural lighting and fine weather.

SH56

Incidents reported on SH56 are summarised in Table B-2 below.

Table B-2: Summary of Reported Incidents on SH56

Crash identifier	Crash year	Movement codes	Movement codes categories	Crash severity	Natural Light
201972428	2019	BC	Head On Crash	Minor Crash	Bright sun
2020160339	2020	BC	Head On Crash	Minor Crash	Dark
2020160453	2020	LB	One Turns Right	Fatal Crash	Dark
2021196522	2021	AO	Overtaking	Non-Injury Crash	Overcast
2021197203	2021	DE	Lost Cntl Bend	Non-Injury Crash	Dark
2021204714	2021	DB	Lost Cntl Bend	Non-Injury Crash	Overcast

For the investigated area on SH56:

- The fatal incident reported occurred at the Rangiotu Road intersection involving a motorcycle travelling northbound and a private vehicle turning right into Rangiotu Road. The incident occurred in August 2020 at 6:30 am. The reported environmental factors include dark lighting and fine weather.
- The 2 minor crashes occurred at the merging lane between SH56 and the auxiliary lane from Rangiotu Road. Both incidents involved drivers crossing the yellow rumble strip to travel the wrong way down the auxiliary lane. The existing intersection includes a yellow-painted rumble strip and no-entry signage.
- A serious incident also occurred at the end of the merging lane between SH56 (aggregated with the Rangiotu Road section) around 2 am. Both vehicles were travelling northbound on Rangiotu Road, with the following vehicle attempting to overtake the lead vehicle, maneuvering too early and striking the lead vehicle.

RANGIOTU ROAD

Incidents reported on Rangiotu Road are summarised in Table B-3 below.

Table B-3: Summary of Reported Incidents on Rangiotu Road

Crash identifier	Crash year	Movement codes	Movement codes categories	Crash severity	Natural Light
201950200	2019	DB	Lost Cntl Bend	Serious Crash	Overcast
201952306	2019	DC	Lost Cntl Bend	Serious Crash	Overcast
201956619	2019	CB	Lost Cntl/Str Rd	Minor Crash	Overcast
201962003	2019	DB	Lost Cntl Bend	Non-Injury Crash	Bright sun
201964438	2019	CB	Lost Cntl/Str Rd	Non-Injury Crash	Dark
201967055	2019	GD	Same Drn Turning	Non-Injury Crash	Dark
2020142649	2020	DB	Lost Cntl Bend	Serious Crash	Bright sun
2020152021	2020	DB	Lost Cntl Bend	Non-Injury Crash	Dark
2020154300	2020	CC	Lost Cntl/Str Rd	Non-Injury Crash	Bright sun
2020160065	2020	EC	Obstruction	Non-Injury Crash	Dark
2020162182	2020	EC	Obstruction	Minor Crash	Dark
2020166653	2020	CC	Lost Cntl/Str Rd	Non-Injury Crash	Dark
2020172363	2020	DF	Lost Cntl Bend	Minor Crash	Overcast
2020174722	2020	DB	Lost Cntl Bend	Non-Injury Crash	Bright sun
2020188059	2020	BA	Head On Crash	Non-Injury Crash	Overcast
2021183843	2021	CB	Lost Cntl/Str Rd	Non-Injury Crash	Overcast
2021184549	2021	GC	Same Drn Turning	Minor Crash	Overcast
2021184842	2021	CC	Lost Cntl/Str Rd	Non-Injury Crash	Dark
2021189204	2021	CA	Lost Cntl/Str Rd	Non-Injury Crash	Overcast
2021196018	2021	AB	Overtaking	Minor Crash	Bright sun
2021199569	2021	JA	Xing One Turning	Non-Injury Crash	Bright sun
2021202319	2021	GC	Same Drn Turning	Non-Injury Crash	Bright sun
2021207424	2021	BA	Head On Crash	Minor Crash	Dark
2021208875	2021	DB	Lost Cntl Bend	Minor Crash	Bright sun
2022214804	2022	AO	Overtaking	Serious Crash	Bright sun
2022215685	2022	DF	Lost Cntl Bend	Fatal Crash	Dark
2022222809	2022	AC	Overtaking	Serious Crash	Dark
2022229175	2022	AD	Overtaking	Non-Injury Crash	Overcast
2022232917	2022	DB	Lost Cntl Bend	Minor Crash	Dark
2022242202	2022	CB	Lost Cntl/Str Rd	Serious Crash	Bright sun
2022244443	2022	CC	Lost Cntl/Str Rd	Minor Crash	Overcast
2023244788	2023	DF	Lost Cntl Bend	Serious Crash	Overcast

Crash identifier	Crash year	Movement codes	Movement codes categories	Crash severity	Natural Light
2023249371	2023	AD	Overtaking	Minor Crash	Overcast
2023250253	2023	AA	Overtaking	Minor Crash	Twilight
2023264506	2023	MO	Manoeuvring	Minor Crash	Bright sun
2023268704	2023	CC	Lost Cntl/Str Rd	Non-Injury Crash	Dark
2023270828	2023	DF	Lost Cntl Bend	Fatal Crash	Dark
2023273065	2023	CC	Lost Cntl/Str Rd	Minor Crash	Twilight
2023274724	2023	CB	Lost Cntl/Str Rd	Non-Injury Crash	Overcast
2023275722	2023	DB	Lost Cntl Bend	Minor Crash	Overcast

For the investigated area on Rangiotu Road:

- The fatal incident reported east of Alve Road (2022215685) involved a private vehicle travelling northbound losing control at a bend at 11:30 pm. The reported environmental factors include dark lighting and fine weather. There are two other serious injury incidents reported at this curve (201952306 and 2022214804) with one travelling southbound and losing control at the bend and the other involving a northbound vehicle attempting an overtaking movement, maneuvering too early and striking the lead vehicle.
- The fatal incident reported at the bend east of Pyke Road (2023270828) occurred at 3:00 am. Limited information is available for this incident. There are two additional serious injury incidents at this bend (201950200 and 2020142649) both travelling northbound and losing control. Road user factors are attributable to all these incidents.

HIMATANGI BLOCK ROAD

Incidents reported on Himatangi Block Road are summarised in Table B-4 below.

Table B-4: Summary of Reported Incidents on Himatangi Block Road

Crash identifier	Crash year	Movement codes	Movement codes categories	Crash severity	Natural Light
201964782	2019	EC	Obstruction	Minor Crash	Dark
2020168066	2020	DC	Lost Cntl Bend	Non-Injury Crash	Overcast
2020171047	2020	DF	Lost Cntl Bend	Minor Crash	Dark
2021176243	2021	DC	Lost Cntl Bend	Non-Injury Crash	Twilight
2021178547	2021	CB	Lost Cntl/Str Rd	Serious Crash	Bright sun
2021195071	2021	DG	Lost Cntl Bend	Minor Crash	Dark
2022237391	2022	EC	Obstruction	Non-Injury Crash	Dark
2023276094	2023	CC	Lost Cntl/Str Rd	Non-Injury Crash	Bright sun

For the investigated area on Himatangi Block Road:

- The serious incident occurred at 6:30 am involving a driver travelling northbound losing control at a straight section of Himatangi Block Road.

MOTUITI ROAD

Incidents reported on Motuiti Road are summarised in Table B-5 below.

Table B-5: Summary of Reported Incidents on Motuiti Road

Crash identifier	Crash year	Movement codes	Movement codes categories	Crash severity	Natural Light
201973876	2019	CB	Lost Cntl/Str Rd	Minor Crash	Bright sun
2020142233	2020	DG	Lost Cntl Bend	Minor Crash	Bright sun
2020163243	2020	CB	Lost Cntl/Str Rd	Minor Crash	Bright sun
2021183451	2021	DG	Lost Cntl Bend	Non-Injury Crash	Dark
2023263214	2023	DG	Lost Cntl Bend	Minor Crash	Dark
2023266930	2023	CC	Lost Cntl/Str Rd	Serious Crash	Bright sun

For the investigated area on Motuiti Road:

- All incidents on Motuiti Road involved lost control movements.
- Incidents at the Motuiti Road/Himatangi Block Road intersection involve four missed intersection or end of road incidents resulting in minor injuries. This indicates that there is likely a safety deficiency with all incidents occurring during low light hours. No lighting is present at this intersection.

Summary

In general, road user factors are considered the primary contributing factor in these incidents. It is not anticipated that the Project will exacerbate the existing transport safety issues.

Appendix D Construction Traffic Generation and Schedule

Integrated Transport Assessment

Foxton Solar Farm

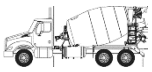
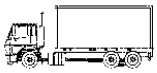
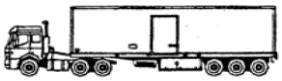
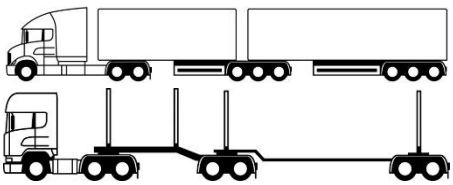
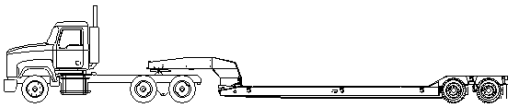
Genesis Energy Limited

SLR Project No.: 810.V14848.00001

12 February 2026

The vehicle fleet anticipated to be associated with the construction of the Project is shown in Table 15.

Table 15 Project Construction Vehicle Fleet

Vehicle	Typical Vehicle Profile	Haulage Material
Private Vehicle (B85 design vehicle)		Supervision Workforce Assumed occupancy of 1.5 persons per vehicle
Coaster Bus (22-seater Toyota Coaster)		Labour Workforce Assumed occupancy of 16 persons per vehicle
Concrete Truck (7.4 cubic meter)		Concrete
Heavy Rigid Vehicle (12.6m long HRV)		Waste removal
32t truck and trailer (17m long)		Aggregates Quarry Products
Six Axle Articulated (20m long AV)		40ft Container (one full-size)
B-Train (20m long)		20ft and 20ft Containers (one full-size and one half-size) Construction mobilisation Construction de-mobilisation
Low-Loader		Excavator Bulldozer Grader Compactor Piling Rig

Traffic generated during construction would largely be associated with the transportation of materials/ equipment and the workforce. In order to simplify construction traffic calculations, traffic-generating elements have been broken down into two classes:

- Construction heavy vehicle traffic; and
- Construction workforce.

For further ease of calculations and review, a breakdown of the construction heavy vehicle traffic into two stages “Site Clearance and Establishment” and “Construction Materials” have been developed and are provided below.

The anticipated vehicle movements for both phases are detailed in Table 16 and Table 17 while Table 18 provides an overview of the workforce assumptions.

Table 16 Site Clearance and Establishment

Element	Assumption	Delivery Method	Anticipated Movements	Source
Site Clearing & Earthworks	2 x Bulldozer 2 x Mulcher 2 x Excavator 2 x Compactor	Low Loader	10 inbound and 10 outbound movements .	SLR assumption.
Water for Dust Suppression	2 x Water Truck	HRV (Water Truck)	940 inbound and 940 outbound movements .	SLR assumption. Assumed that water is transported to site, 2 per day for the duration of construction.
Access Track Road Base	9,000m x 4m x 0.1m 6,840t @ 1.9t per m3 Compacted Road Base	17m Truck & Trailer Combination (32t)	215 inbound and 215 outbound movements .	SLR assumption based on 1000m of track per 20MWAC.
Site Compound Aggregate Base, repurposed for BESS	180m x 120m x 0.2m 8,208t @ 1.9t per m3 Compacted Road Base	17m Truck & Trailer Combination (32t)	260 inbound and 260 outbound movements .	Assumed a 180m x 120m compound area for temporary construction and storage.
Substation Aggregate Base	120m x 120m x 0.2m 1,802t @ 1.9t per m3 Compacted Road Base	17m Truck & Trailer Combination (32t)	175 inbound and 175 outbound movements .	Approx. measurement from plans of 120m x 120m substation area.
Site Offices	Demountable Building(s)	20m AV / Low Loader	5 inbound and 5 outbound movements .	Sample assumption.
Temporary Fencing	15km of Fencing Material	20m AV	30 inbound and 30 outbound movements .	SLR assumption based on approximate site boundary (500m per truck).
Ancillary Equipment (Switch room and O&M Building)	5 movements per 100MW	Low Loader (20m)	10 inbound and 10 outbound movements	SLR assumption.
Goods & services	Various including water, waste etc	MRV	1,000 inbound and 1,000 outbound	Genesis

Table 17 Construction Materials

Element	Assumption	Delivery Method	Anticipated Movements	Source
Minor Earthworks	10 Piling Rigs 10 Trenchers	Low Loader	20 inbound movements and 20 outbound movements	SLR assumption.
Concrete	SLR assumed that concrete is transported to site (5 mixers per week).	Concrete Pump Truck	390 inbound movements and 390 outbound movements.	SLR assumption.
695W Panels 180MWAC Total	297,192 total panels	20m AV with 40ft Container	540 inbound movements and 540 outbound movements	Concept
Upright Piles	120,000 x sections 25 panels per pallet, 25 pallets per container	20m AV with 40ft Container	85 inbound movements and 85 outbound movements	1 pile per 7 panels. SLR assumed 500 upright piles per truck.
Tracking Horizontals	37,500 x 10m sections	20m AV with 40ft Container	370 inbound movements and 370 outbound movements	1 tracking horizontal section per 8 panels. SLR assumed 100 tracking horizontals per truck.
Fuel		17m Fuel Tanker	75 inbound movements and 75 outbound movements	SLR assumption.
AC Reticulation	90,000m in 500m rolls. Up to 20 per container	20m AV with 40ft Container	10 inbound movements and 10 outbound movements.	SLR assumption based on up to 10,000m for 20MWAC solar farm scaled up. SLR assumed 500m rolls and 20 rolls in one container.
DC Reticulation	540,000m in 500m rolls. Up to 20 per container	20m AV with 40ft Container	55 inbound movements and 55 outbound movements	SLR assumption based upon 3,000m per MWAC. SLR assumed 500m rolls and 20 rolls in one container.
Inverters	600 inverters 120 per 40ft Container	20m AV with 40ft Container	5 inbound movements and 5 outbound movements	Concept.

Element	Assumption	Delivery Method	Anticipated Movements	Source
Power Conditioning Unit	90 PCUs 4 per 40ft Container	20m AV with 40ft Container	25 inbound movements and 25 outbound movements	SLR assumption based on 2MWAC per PCU.
BESS	200MW BESS 1 BESS per 40ft Container	20m AV with 40ft Container	50 inbound movements and 50 outbound movements	Solar Gen based on 5MWAC per BESS.
Ad hoc		MRV	2,000 inbound tripmovements and 2,000 outbound movements	Solar Gen.

Table 18 Construction Workforce Assumptions

Element	Assumption	Source	Anticipated Movements	Note
Travel Arrangements	Labour via 22-seater coaster bus. Supervisors via private vehicle	SLR assumption		
Workforce	Month 1-4: 20% Peak workforce 50 persons on-site (including 15 supervisors). 16 passengers per vehicle, excluding driver.	Solar Gen	4 x 22-seater coaster bus movements and 15 light vehicle movements a day. Total: 20 inbound movements and 20 outbound movements a day.	Based on information from Genesis. Assumed staff will not travel to accommodation for lunch. It is also assumed that buses will stay on site all day and supervisors will drive on their own.
	Month 5-11: 100% Peak workforce 250 persons on-site (including 30 supervisors). 16 passengers per vehicle, excluding driver.		15 x 22-seater coaster bus movements and 30 light vehicle movements a day. Total: 45 inbound movements and 45 outbound movements a day.	

Element	Assumption	Source	Anticipated Movements	Note
	Month 12-14: 60% Peak workforce 150 persons on-site (including 20 supervisors). 16 passengers per vehicle, excluding driver.		10 x 22-seater coaster bus movements and 20 light vehicle movements a day. Total: 30 inbound movements and 30 outbound movements a day.	
	Month 15-16: 20% Peak workforce 50 persons on-site (including 10 supervisors). 16 passengers per vehicle, excluding driver.		4 x 22-seater coaster bus movements and 10 light vehicle movements a day. Total: 15 inbound movements and 15 outbound movements a day.	
Roster	6 days on / 1 day off	SLR assumption		
Shift rotation	Up to 12 hours during daylight (11 hours average)	SLR assumption		
Construction Duration	18 months. Minimum 470 Days	SLR assumption		Based on working days plus Saturdays for the assumed 18-month construction duration.
Construction Deliveries	Spaced across 18 months to minimise disruption	SLR assumption		
Light vehicle occupancy	No passengers per vehicle	SLR assumption		
22-seater Coaster bus occupancy	16 passengers per vehicle	SLR assumption		
Accommodation	Palmerston North, Foxton	SLR assumption		

Element	Assumption	Source	Anticipated Movements	Note
Workforce Distribution	Scenario 1: 100% from south (Foxton/Levin) Scenario 2: 100% from north-east (Palmerston North)	SLR assumption		From Palmerston North or Levin/Foxton
Haulage Distribution	Scenario 1: 100% from south (Foxton/Levin) Scenario 2: 100% from north-east (Palmerston North)	SLR assumption		

Appendix E Desktop Model

Integrated Transport Assessment

Foxton Solar Farm

Genesis Energy Limited

SLR Project No.: 810.V14848.00001

12 February 2026

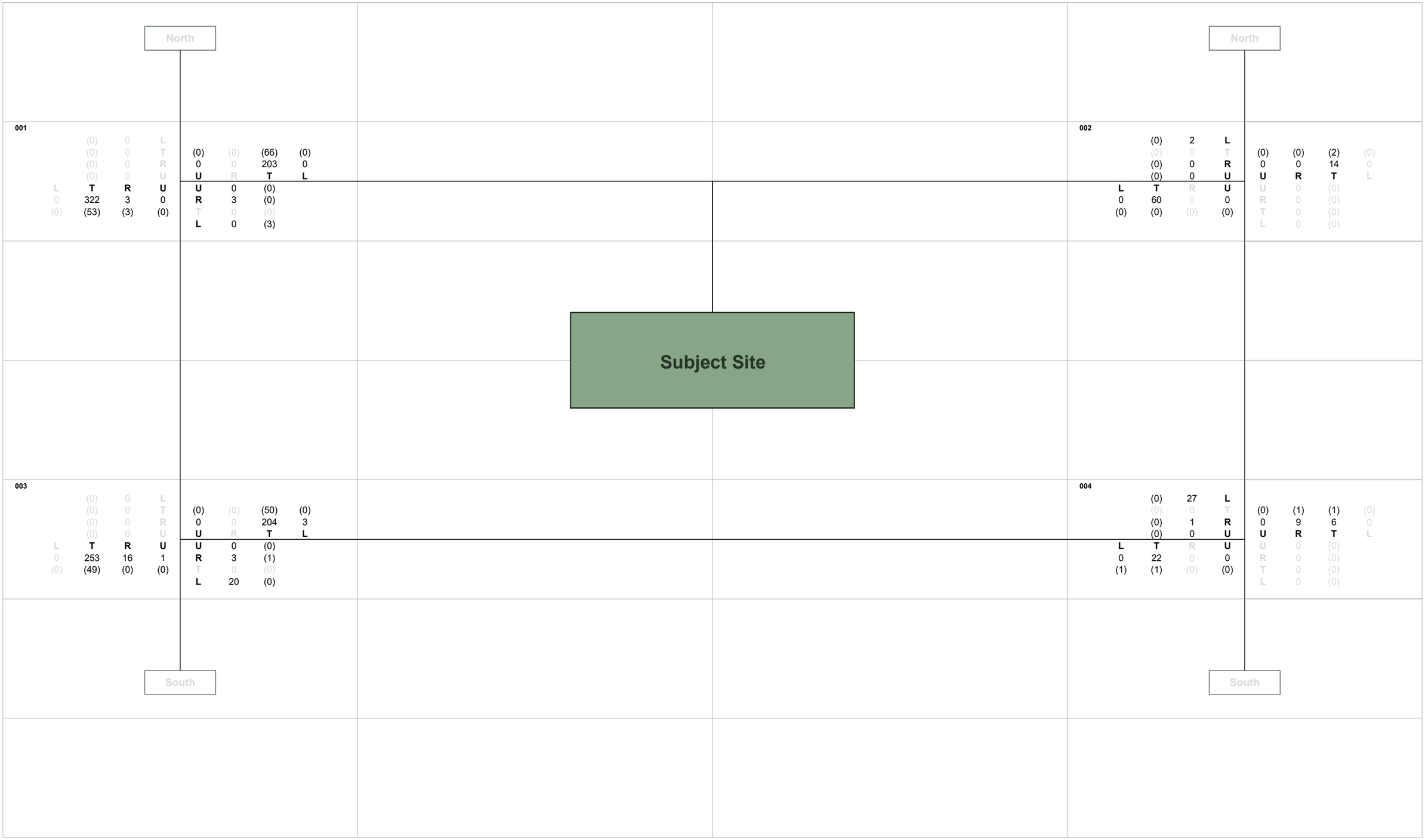


Figure D.1
2024 Survey Morning Peak Hour

810.V14848.00007

Foxton Solar Farm

L Left Turn
T Through
R Right Turn
U U-Turn

Legend

00 Weekday LV Peak Hour Volumes
(00) Weekday HV Peak Hour Volumes
Subject Site

N

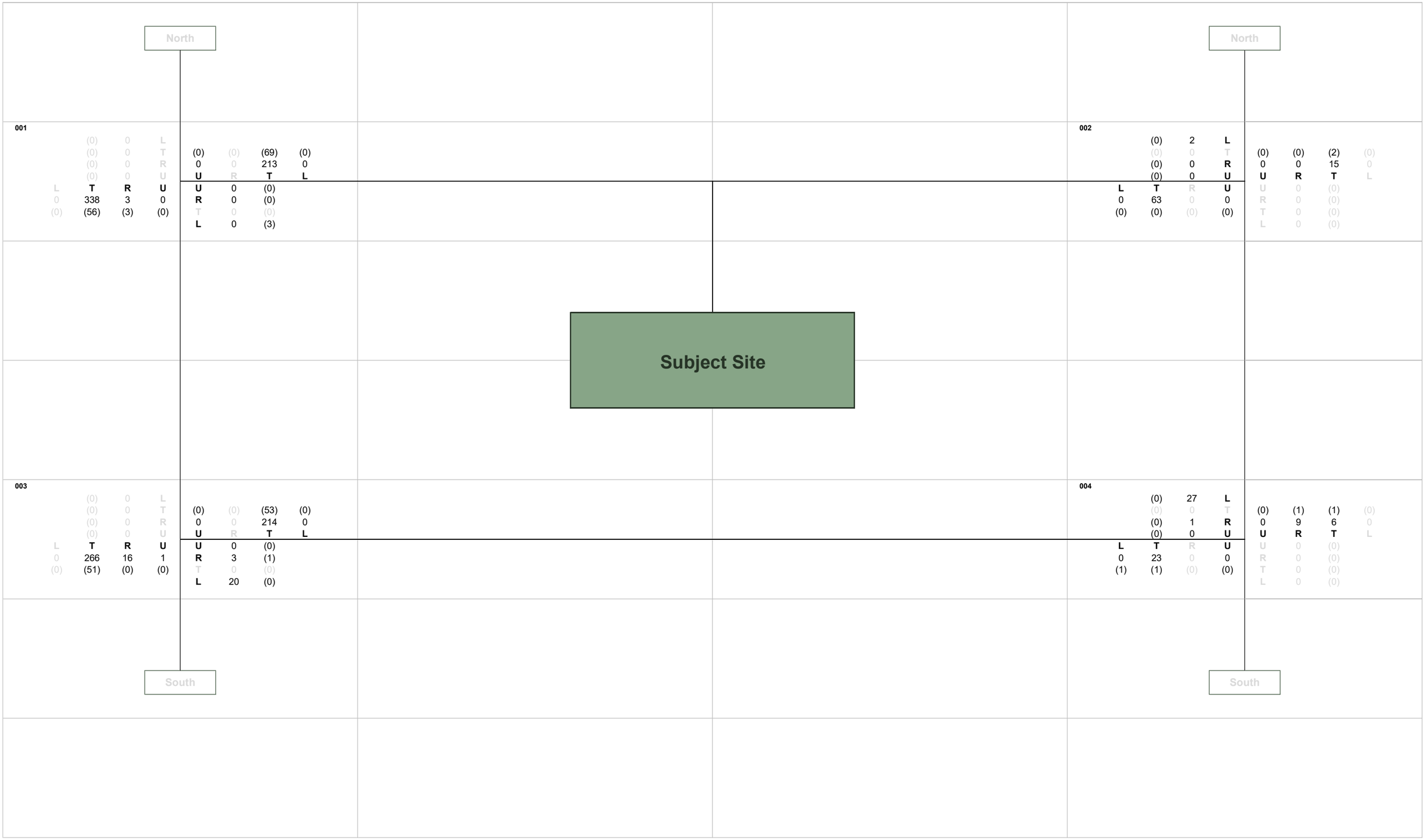


Figure D.2

2026 Background Morning Peak Hour

810.V14848.00007

Foxton Solar Farm

Legend

L	Left Turn
T	Through
R	Right Turn
U	U-Turn

00 Weekday LV Peak Hour Volumes

(00) Weekday HV Peak Hour Volumes

Subject Site

N

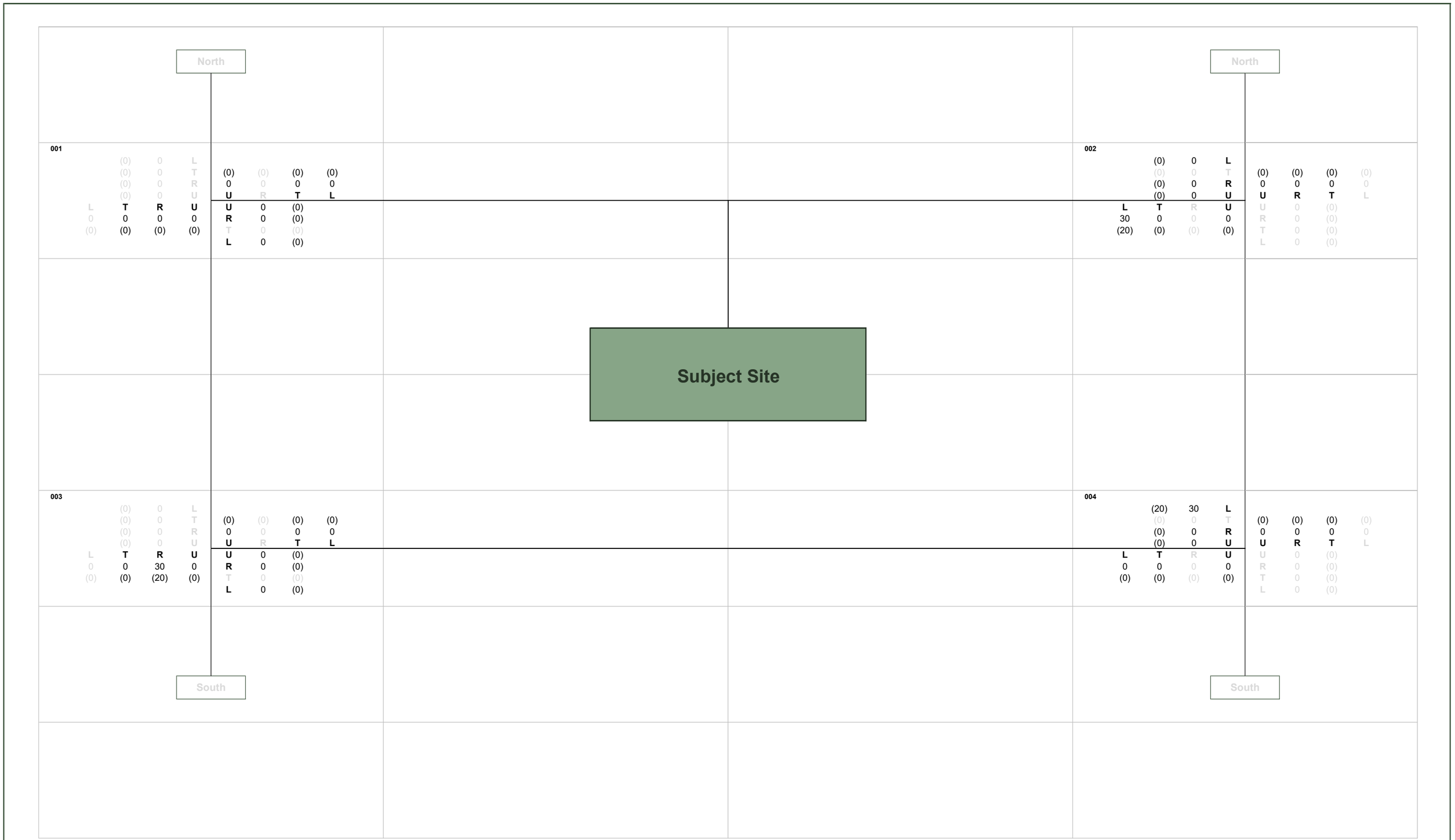


Figure D.3

Construction Traffic - Scenario 1 Morning Peak Hour

810.V14848.00007

Foxton Solar Farm

Legend

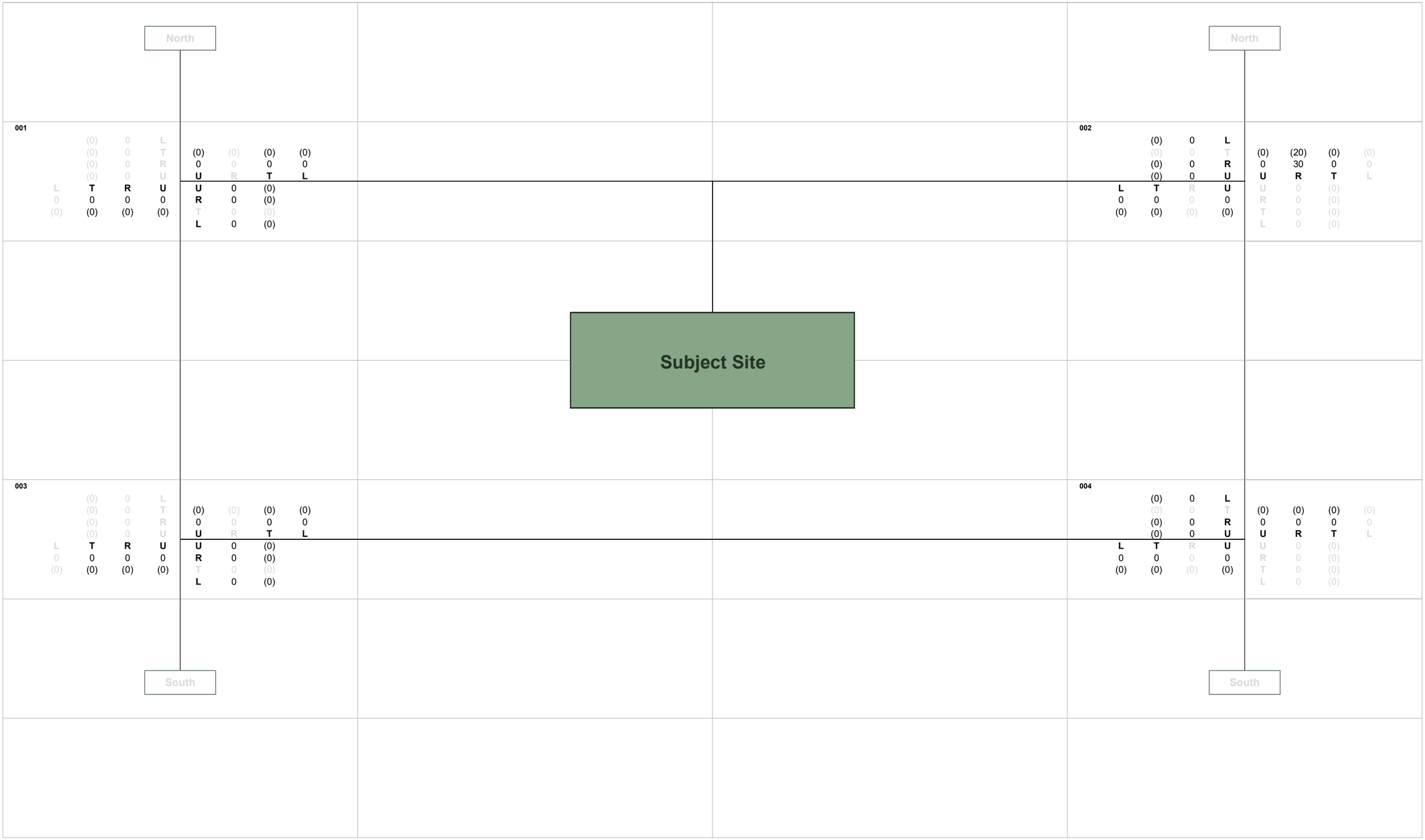
L	Left Turn
T	Through
R	Right Turn
U	U-Turn

00 Weekday LV Peak Hour Volumes

(00) Weekday HV Peak Hour Volumes

Subject Site

N



SLR

Figure D.4

Construction Traffic - Scenario 2 Morning Peak Hour

810.V14848.00007

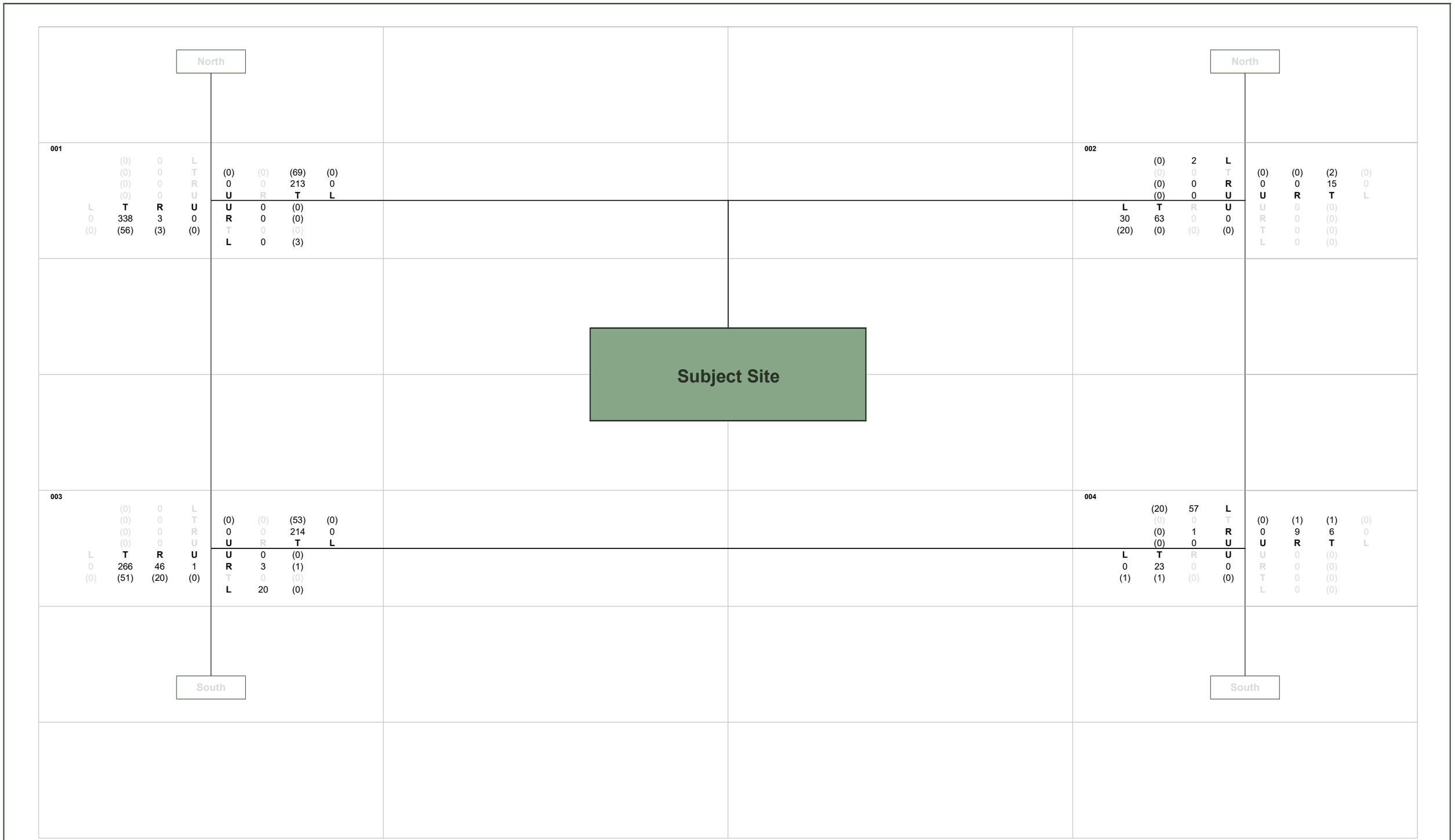
Foxton Solar Farm

L Left Turn
T Through
R Right Turn
U U-Turn

Legend

00 Weekday LV Peak Hour Volumes
(00) Weekday HV Peak Hour Volumes
Subject Site

N



SLR

Figure D.5

2026 Background plus Construction (Scenario 1) Morning Peak

810.V14848.00007

Foxton Solar Farm

L Left Turn
T Through
R Right Turn
U U-Turn

Legend

00 Weekday LV Peak Hour Volumes
(00) Weekday HV Peak Hour Volumes
Subject Site

N

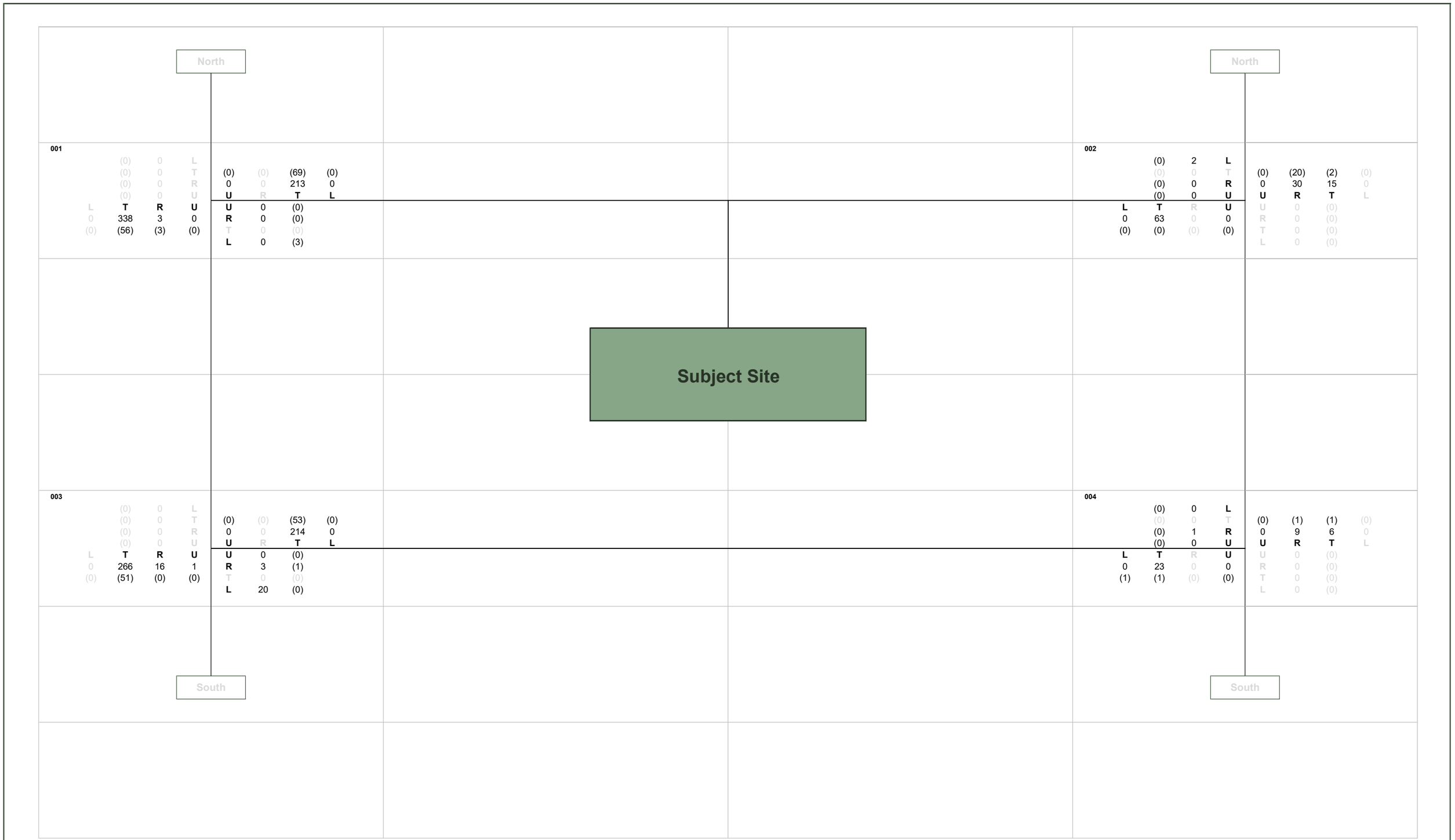


Figure D.6

2026 Background plus Construction (Scenario 2) Morning Peak

810.V14848.00007

Foxton Solar Farm

Legend

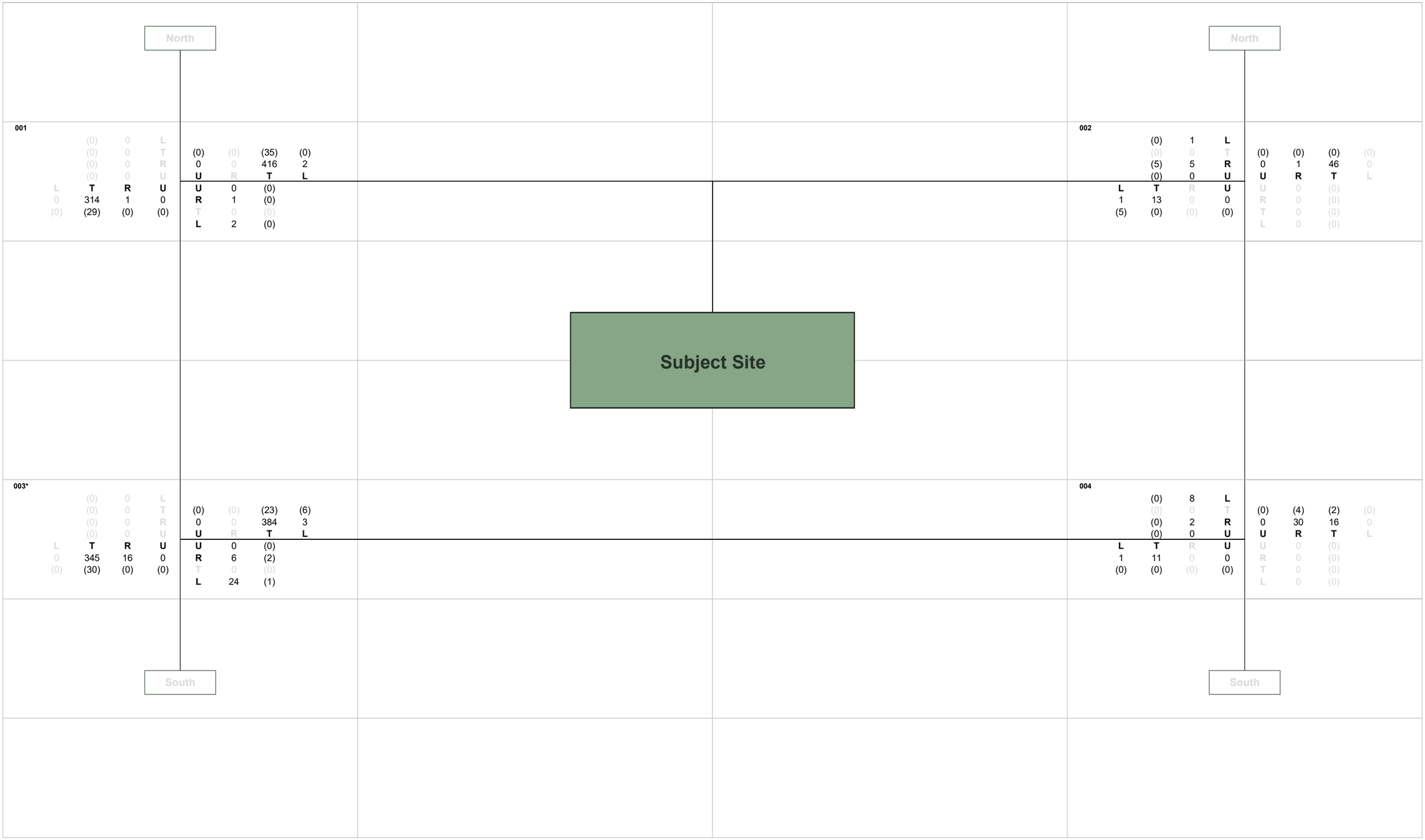
L	Left Turn
T	Through
R	Right Turn
U	U-Turn

00 Weekday LV Peak Hour Volumes

(00) Weekday HV Peak Hour Volumes

Subject Site

N



*data collected on alternative date (20 11 2024) due to camera failure

SLR

Figure D.7

2024 Survey Evening Peak Hour

810.V14848.00007

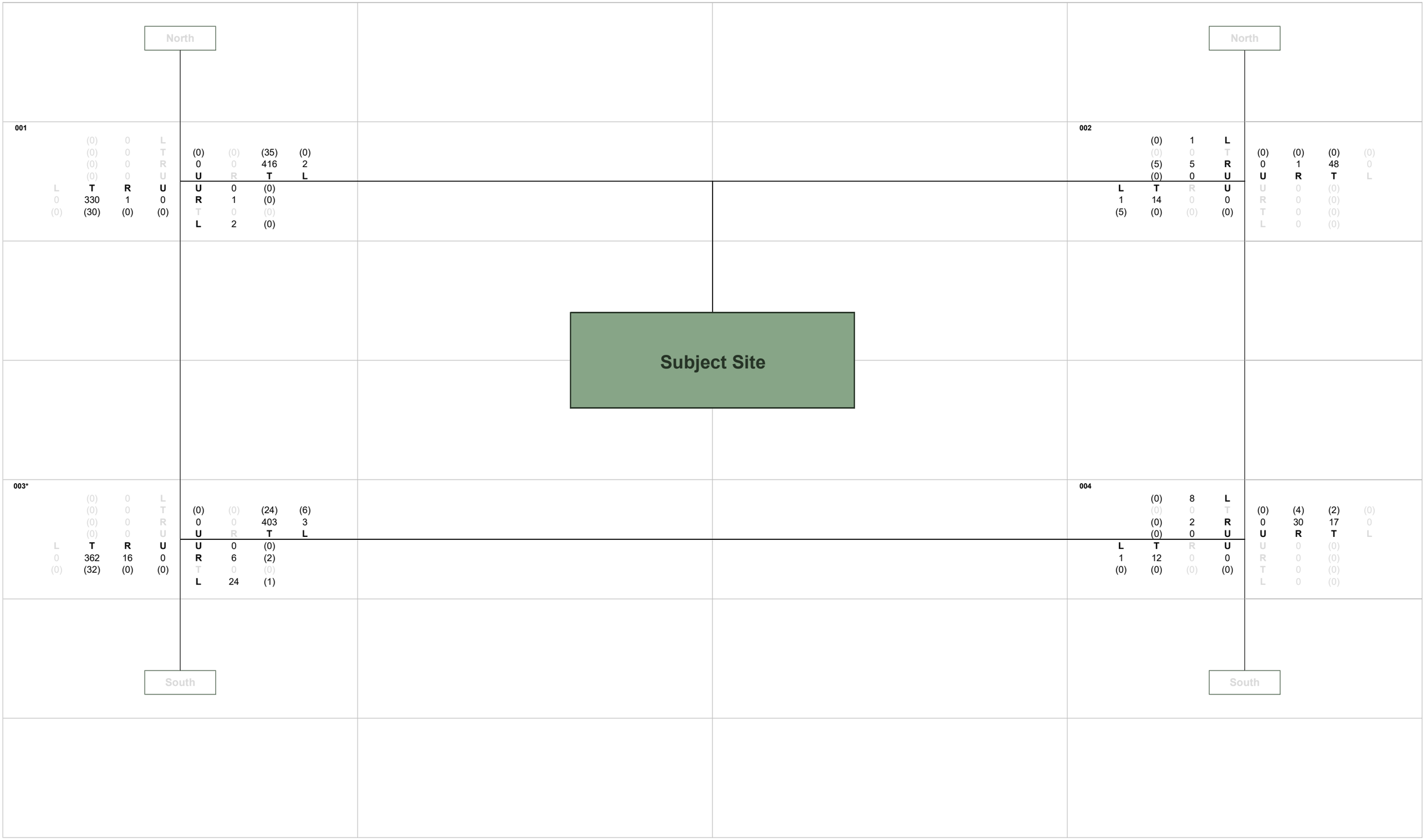
Foxton Solar Farm

L Left Turn
T Through
R Right Turn
U U-Turn

Legend

00 Weekday LV Peak Hour Volumes
(00) Weekday HV Peak Hour Volumes
Subject Site

N



*data collected on alternative date (20 11 2024) due to camera failure

SLR

Figure D.8

2026 Background Evening Peak Hour

810.V14848.00007

Foxton Solar Farm

Legend

L	Left Turn
T	Through
R	Right Turn
U	U-Turn

00 Weekday LV Peak Hour Volumes

(00) Weekday HV Peak Hour Volumes

Subject Site

N

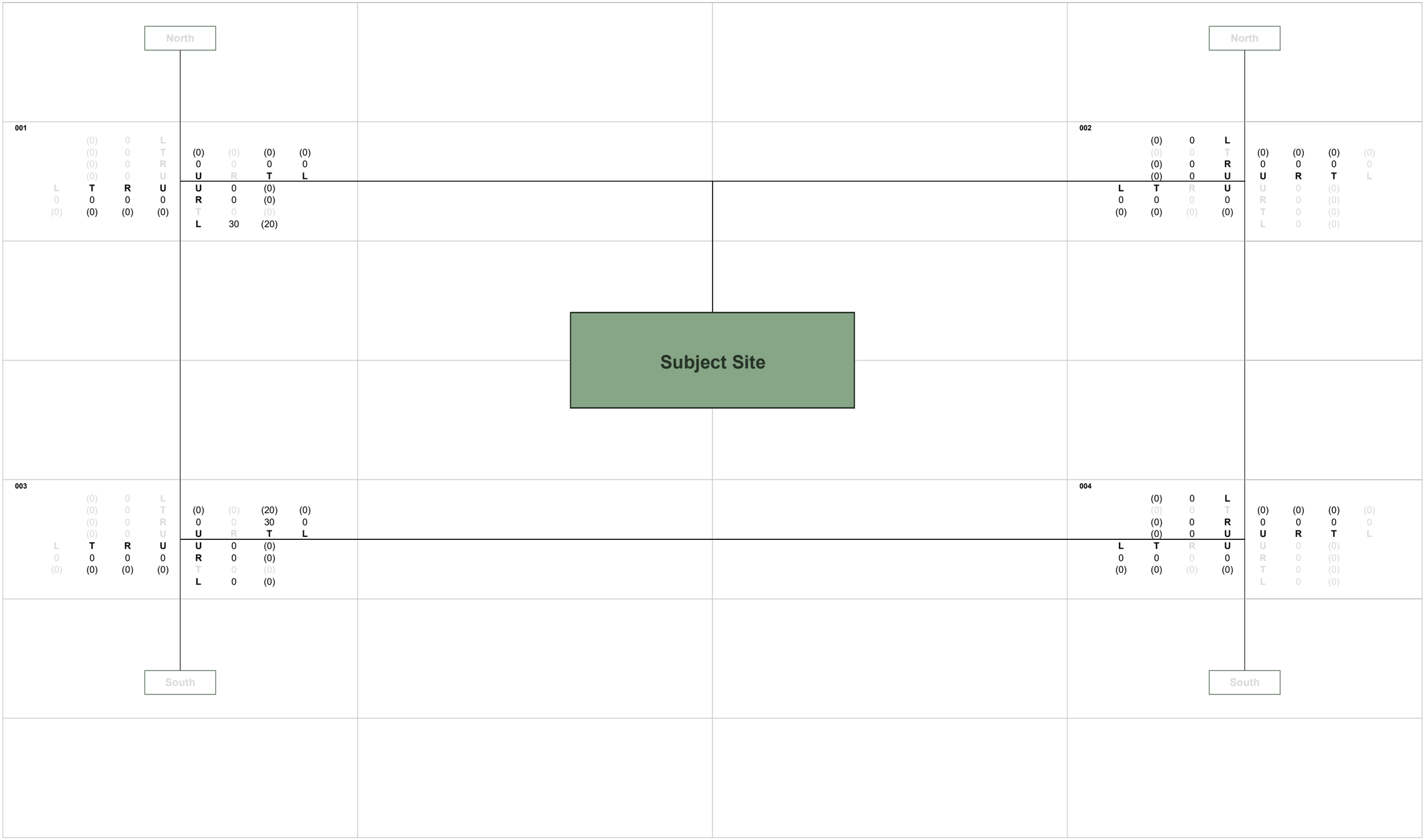


Figure D.9

Construction Traffic - Scenario 1 Evening Peak Hour

810.V14848.00007

Foxton Solar Farm

Legend

L	Left Turn
T	Through
R	Right Turn
U	U-Turn

00 Weekday LV Peak Hour Volumes

(00) Weekday HV Peak Hour Volumes

Subject Site

N

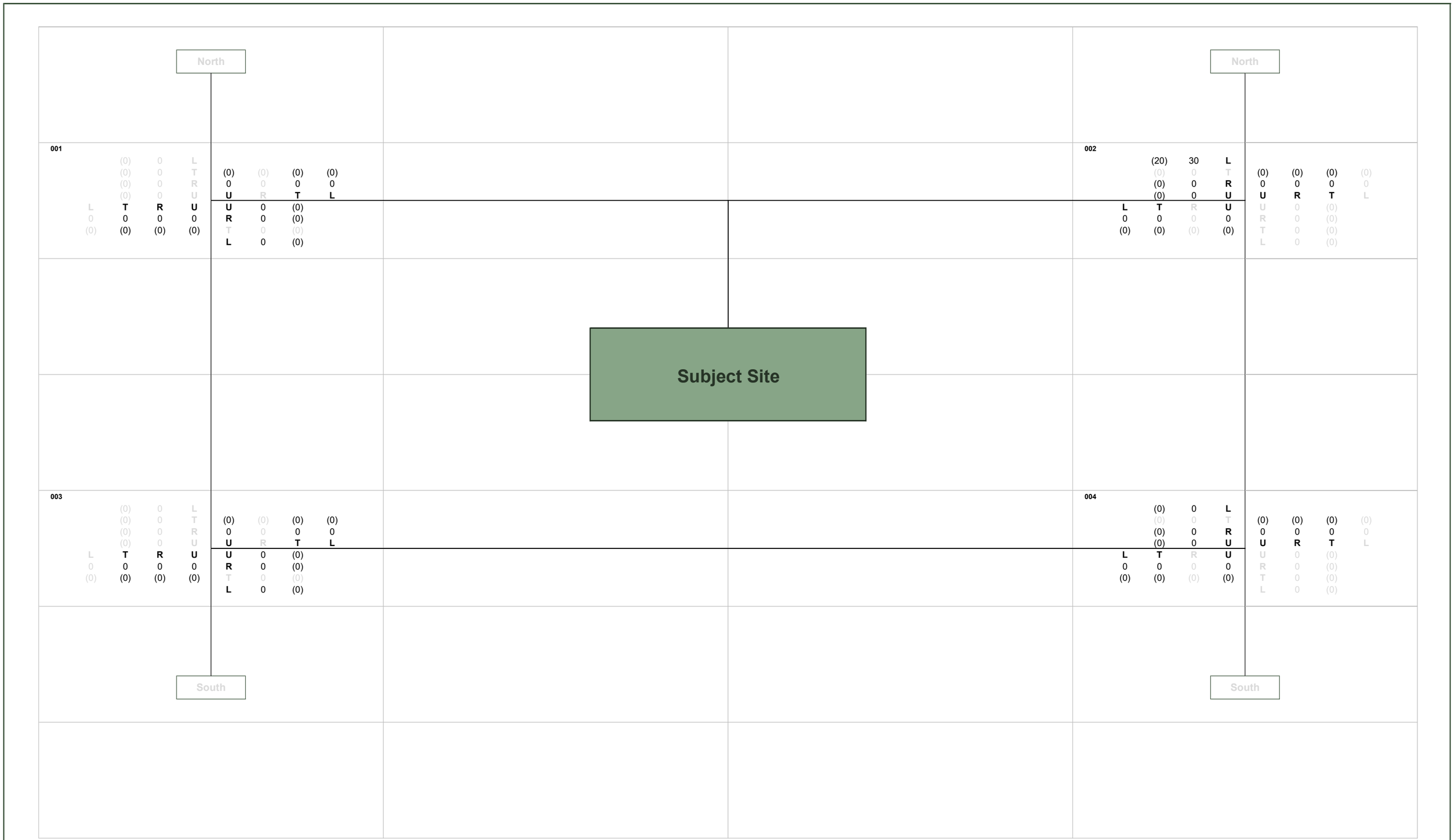


Figure D.10

Construction Traffic - Scenario 2 Evening Peak Hour

810.V14848.00007

Foxton Solar Farm

Legend

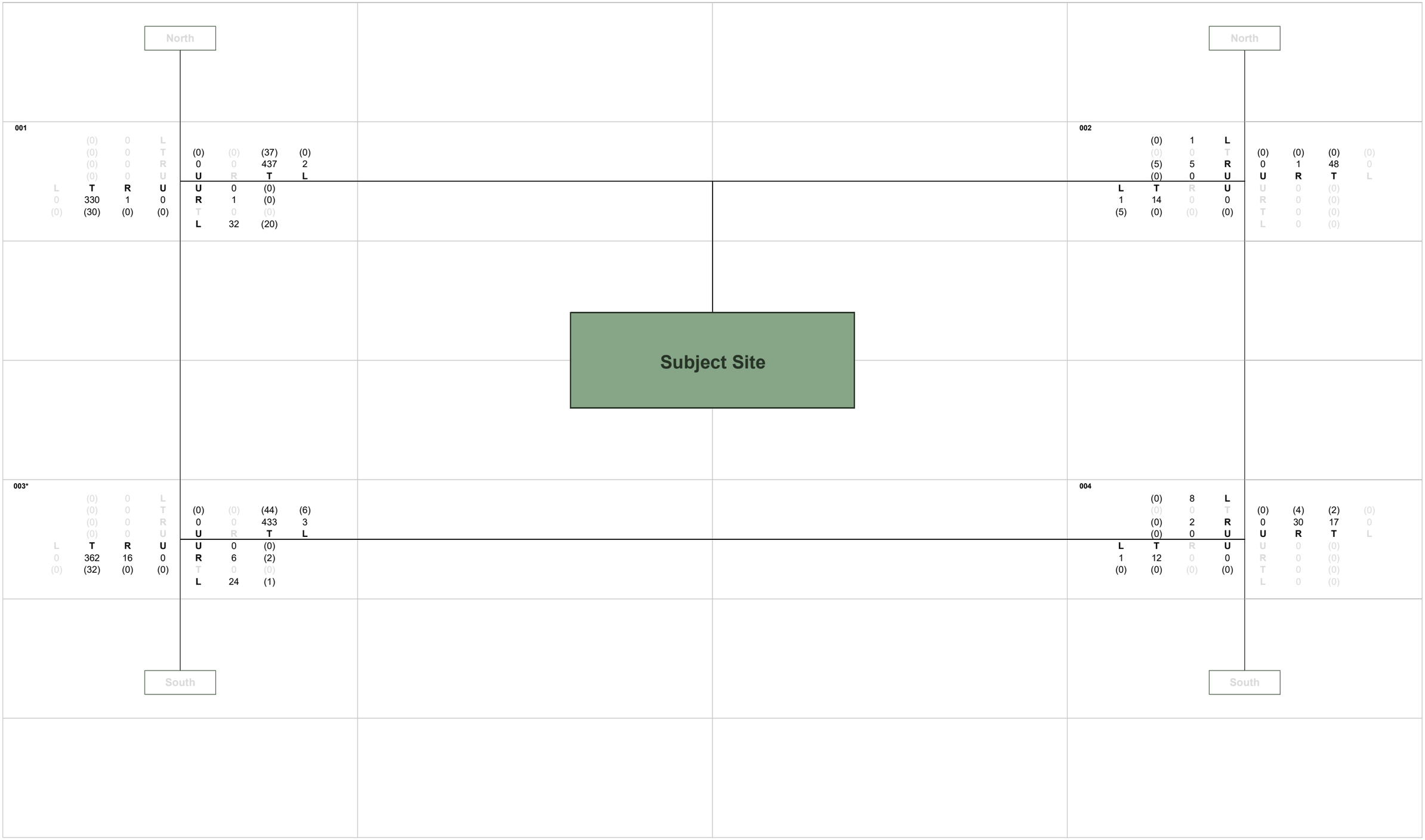
L	Left Turn
T	Through
R	Right Turn
U	U-Turn

00 Weekday LV Peak Hour Volumes

(00) Weekday HV Peak Hour Volumes

Subject Site

N



*data collected on alternative date (20 11 2024) due to camera failure

SLR

810.V14848.00007

Foxton Solar Farm

Legend

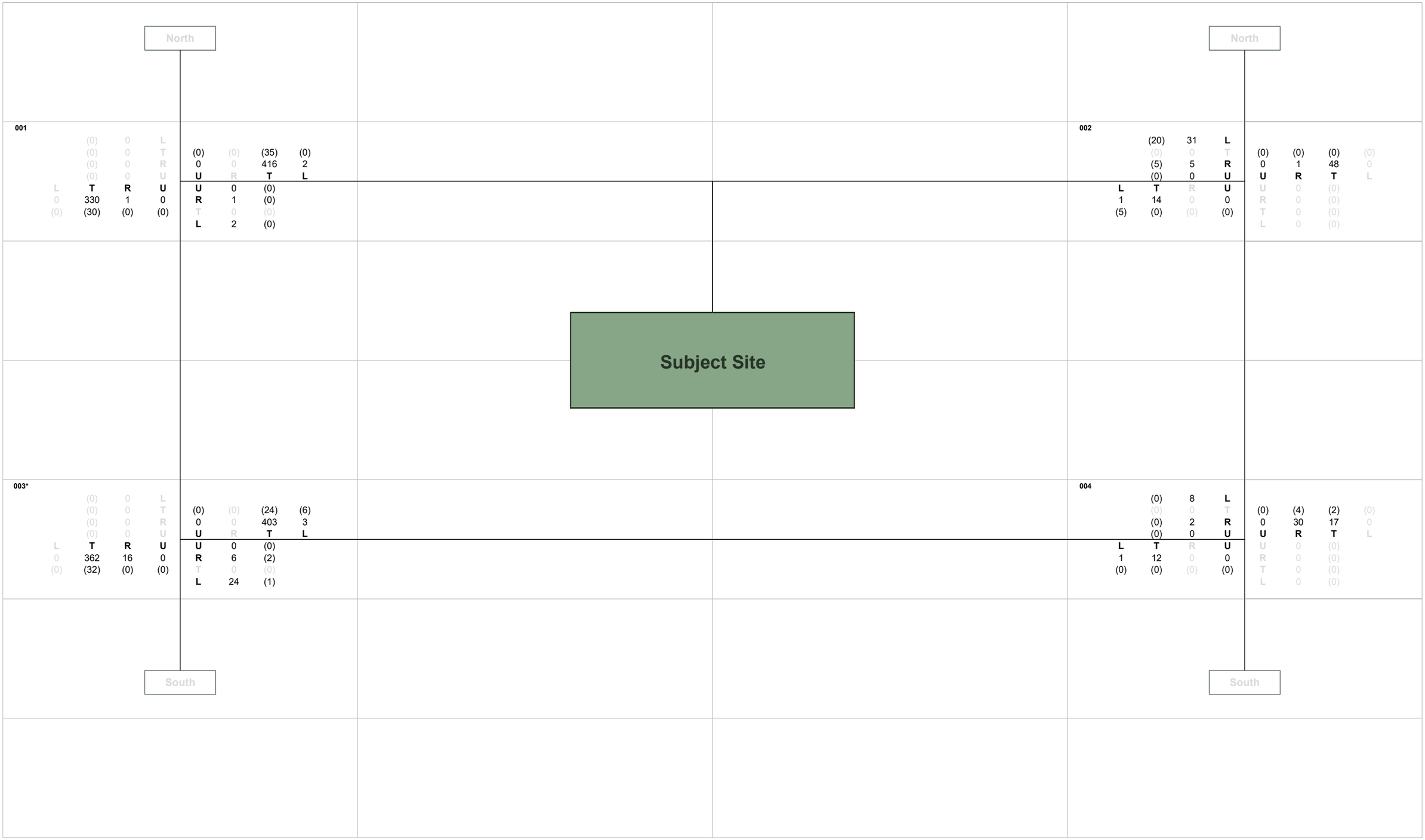
L	Left Turn
T	Through
R	Right Turn
U	U-Turn

00 Weekday LV Peak Hour Volumes

(00) Weekday HV Peak Hour Volumes

Subject Site

N



*data collected on alternative date (20 11 2024) due to camera failure

SLR

Figure D.12

2026 Background plus Construction (Scenario 2) Evening Peak

810.V14848.00007

Foxton Solar Farm

L Left Turn
T Through
R Right Turn
U U-Turn

Legend

00 Weekday LV Peak Hour Volumes
(00) Weekday HV Peak Hour Volumes
Subject Site

N

Appendix F Turn Warrant Assessment

Integrated Transport Assessment

Foxton Solar Farm

Genesis Energy Limited

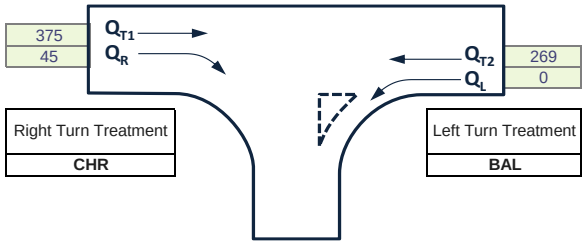
SLR Project No.: 810.V14848.00001

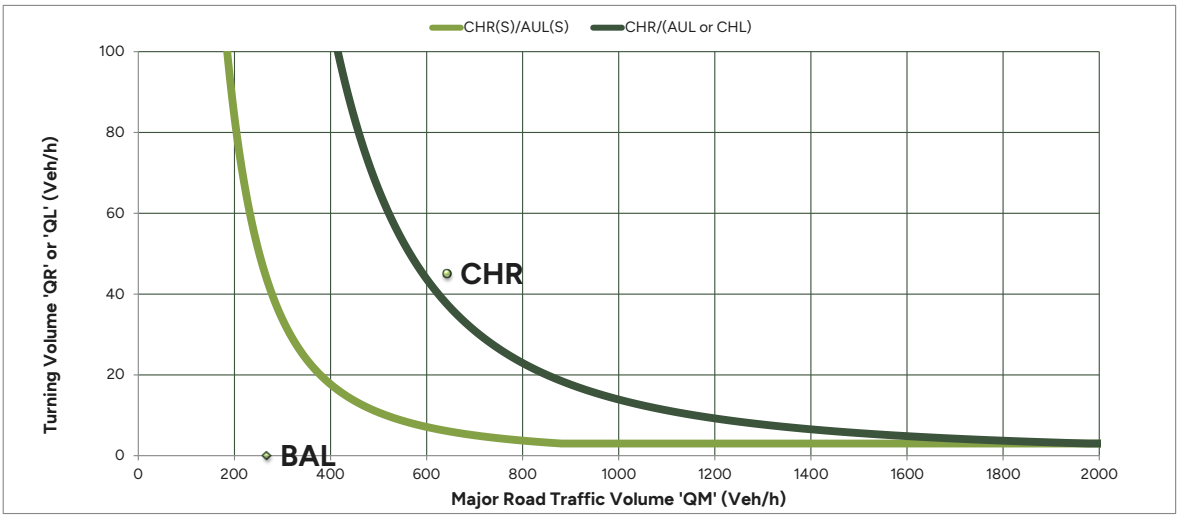
12 February 2026

Assessment Year	2024
Peak Period	AM
Scenario	Background + Dev

Design Domain	Extended Design Domain
Design Year	10
Lane Count	2L2W
Design Speed	>= 100km/h
Splitter Island?	No

Q_M	Q_R/Q_L	
644	45	Right
269	0	Left





Reflects changes made in RPDM (Ed2: Vol3) Supplement to Austroads Part 4A (DTMR - August, 2014)

Turn Warrant Assessment

SH1 / Wall Road
810.V14848.00007
26 11 2024

Appendix G Drivers Code of Conduct

Integrated Transport Assessment

Foxton Solar Farm

Genesis Energy Limited

SLR Project No.: 810.V14848.00001

12 February 2026

Drivers Code of Conduct

Safe Driving Policy for Foxton Solar Farm located at 352 Wall Road, Foxton.

FOR ALL DRIVERS OF PLANT, TRUCKS & VEHICLES THAT ACCESS THIS PROJECT SITE.

Drivers Code of Conduct (Conditions of entry):

- All drivers MUST call their delivery contact prior to entering site and be supervised by their contact person at all times while on site.
- Your delivery contact will direct you where to park and organise the unloading of your vehicle.
- All drivers are to adhere to all signposted directions.
- Vehicle movements within the site are restricted to 10km/h.
- Vehicles shall follow the designated traffic route at all times.
- Drivers (of deliveries) are not to move their vehicles around site with ‘unrestrained loads’. This means, any and all items must be adequately chained or tied down to the vehicle, prior to the vehicle’s movement on or around the site.
- All loads being removed from site shall be secured and/ or covered appropriately.
- Appropriate measures will be put in place to ensure that vehicles leaving the site do not deposit dirt or mud on surrounding roadways. Drivers are responsible for notifying the Site Supervisor if excessive dirt or dust can be seen surrounding the site.
- Vehicles shall enter and exit the site in a safe and orderly manner.
- Drivers must maintain a safe ‘buffer’ distance from any person/ or plant being operated by a person whilst moving on/ around the site.
- Northbound vehicles on SH1 must not turn right at the SH1/Wall Road intersection to travel to site.
- Northbound vehicles on SH1 shall turn right at the SH1/Motuiti Road intersection to travel to site.

Sign Off Register

By signing the table below you are confirming that you have read, understood, and agree to the Drivers Code of Conduct for the Foxton Solar Farm Site.

Name	Signature	Date

If you have any questions, please contact the Construction Site Supervisor.

Appendix H ODP Assessment

Integrated Transport Assessment

Foxton Solar Farm

Genesis Energy Limited

SLR Project No.: 810.V14848.00001

12 February 2026

Horowhenua Operative District Plan

District Plan provisions relevant to application site	
Zoning:	Rural Zone
Overlays:	***Overlays*** • National Grid Corridor (High Voltage Transmission Corridor) running through site in irregular north to south direction • Landscape Domain - Foxton Dunefields Domain

The following analysis of rules has determined that the proposal is a Permitted Activity with respect to transport activities. Note that only those rules/standards that are relevant to the transport assessment of this proposal have been addressed.

Rule	Compliance Comment
Chapter 19 – Rural Zone	
19.6 Conditions for permitted activities The following conditions shall apply to all permitted activities:	
19.6.21 Vehicle Access (a) All activities shall be provided with practicable vehicle access from a public road in accordance with the permitted activity conditions in Chapter 21.	**Complies**
19.6.22 Vehicle Parking, Manoeuvring, and Loading (a) All activities shall provide onsite vehicle parking spaces, manoeuvring areas, and loading facilities in accordance with the permitted activity conditions in Chapter 21. Note: Chapter 21 does not specify a minimum number of onsite carparks required (except for mobility/accessible carparks). Instead, it specifies the formation and manner in which carparking should be provided, in the event that those carrying out land use or subdivision activities choose to provide on-site carparking.	**Complies**
Chapter 21 – Vehicle Access, Parking, Loading and Roading *This section sets out the standards, conditions and requirements for vehicle access, parking, loading and roading.*	
21.1 Conditions for vehicle access, parking, loading and roading	

Rule	Compliance Comment
All activities shall comply with the following requirements (in addition to the rules and permitted activity conditions for each zone):	
21.1.1 Vehicular and pedestrian accessway design standards	
(a) Roading Hierarchy (i) All proposed new roads shall connect with and be compatible with Council's roading hierarchy set out in Rule 21.1.8. (ii) All public road carriageways shall provide for two lanes of moving traffic.	Not applicable – no new roads proposed
(b) Alignment of Roads (i) The alignment of all roads shall be such that they can be negotiated during all weather conditions and comply with minimum sight distance standards for road safety. Horizontal and vertical alignments shall be designed in accordance with NZS 4404:2010. (ii) Pedestrian access shall be provided between no-exit roads or where necessary to improve connectivity and be designed for user safety.	Not applicable – no new roads proposed
(c) Turning Circles for Cul-de-Sac (i) All cul-de-sacs shall be provided with an area where light vehicles may turn without reversing manoeuvres onto “through” roads. Each cul-de-sac shall be of such design and dimension to enable larger vehicles to reverse from the cul-de-sac.	Not applicable – no new roads proposed
(d) Vehicle Access (i) All vehicle access points shall be sited in accordance with Table 21-1, Table 21-2 and Rule 21.1.6: (ii) No vehicle access shall have a gradient in excess of 1 in 8.	**Complies** – refer to Section 4.1 of the ITA. (d) (i) • Access A01 provides 1,500 m east and 750 m west SSD where 115 m is required. • Access A02 provides 400 m east and 400 m west SSD where 115 m is required. • Access A03 provides 1,500 m east and 320 m west SSD where 115 m is required.

Rule	Compliance Comment
	• Access A04 provides 1,500 m east and 450 m west SSD where 115 m is required. The vehicle crossings shall conform to Council's Subdivision and Development Principles and Requirements (Version: July 2014) Appendix One - Vehicle Crossings. (ii) Access gradients have not been provided in drawings. The existing topography of the site is generally flat and earthworks can be carried out to ensure the maximum access gradient is within the desired 1 in 8 maximum.
(e) Design Dimensions and Formation (i) All accessways shall be formed as prescribed in Table 21-3. (ii) Provision shall be made for the collection and disposal of all surface water run-off and containment of water-borne contaminates and the maintenance thereof. (iii) Any vehicle access which crosses a water way shall incorporate culvert crossings appropriate to the volume of water in the water way and the traffic load on the access. Note: Horizons Regional Council may have additional requirements relating to the quality and quantity of surface water discharged to any waterway, and to the type of activities permitted in waterways (e.g. culvert crossings).	**Complies** (e) (i) The formation width of the accessways is between 4 m and 6 m where 2.5 m is required. (ii) Not applicable – an appropriate drainage system can be considered at detailed design. (iii) Not applicable – the accessways do not cross any water ways.
21.1.2 Road intersections (other than State Highways)	
(a) Minimum distances between intersections shall be as prescribed in Table 21-2. Note: Sight distances are measured at a height of 1.15 metres above ground level.	Not applicable – no new roads proposed.
(b) New road intersections shall have minimum sight distances for traffic on adjoining roads in accordance with NZS 4404:2010.	Not applicable – no new roads proposed.

Rule	Compliance Comment
(c) The kerb line radius at intersections shall not be less than 6 metres. Intersections with arterial routes shall be specifically designed to provide for bus and heavy vehicle use.	Not applicable – no new roads proposed.
(d) Any road intersection shall have a minimum permitted angle of 70 degrees. Note: The preferred angle of road intersection is 90 degrees. Carriageway alignment may be offset from the road alignment to improve intersection angle. Roads intersecting at T-intersections should be offset by at least 40 metres, where practicable.	Not applicable – no new roads proposed.
(e) Corner splays for road purposes shall be vested as road, and shall have minimum horizontal dimension(s) of 6 metres. Rights of way and private roads shall give due consideration to visibility splays especially if accessing onto footpaths and cycleways.	Not applicable – no new roads proposed.
21.1.4 Vehicle Crossings to all Arterial, Collector and Local Roads	
(a) – N/A (b) – N/A (c) For sites not provided for in Rules 21.1.4(a) or 21.1.4(b) vehicle crossing spacing shall be permitted and comply with Table 21-2. Note: The above separation distances are based on the District's Roading Hierarchy and speed environment of the roads in the District.	Complies – refer to Section 0 of the ITA. (c) • A01 (see Figure 18) is 180 m from the nearest vehicle crossing where 70 m is required, and 750 m from the nearest intersection (Wall Road/SH1) where 40 m is required. • A02 (see Figure 19) is 80 m from the nearest vehicle crossing where 70 m is required, and 2.8 km from the nearest intersection (Wall Road/Himatangi Block Road intersection) where 40 m is required. • A03 (see Figure 20) is 100 m from the nearest vehicle crossing where 100 m is required, and 260 m from the nearest intersection where 100 m is required. • A04 (see Figure 203) is 100 m from the nearest vehicle crossing where 100 m is required, and 260 m from the nearest intersection where 100 m is required.
21.1.5 Vehicle Crossing Separation from Railway Level Crossings	

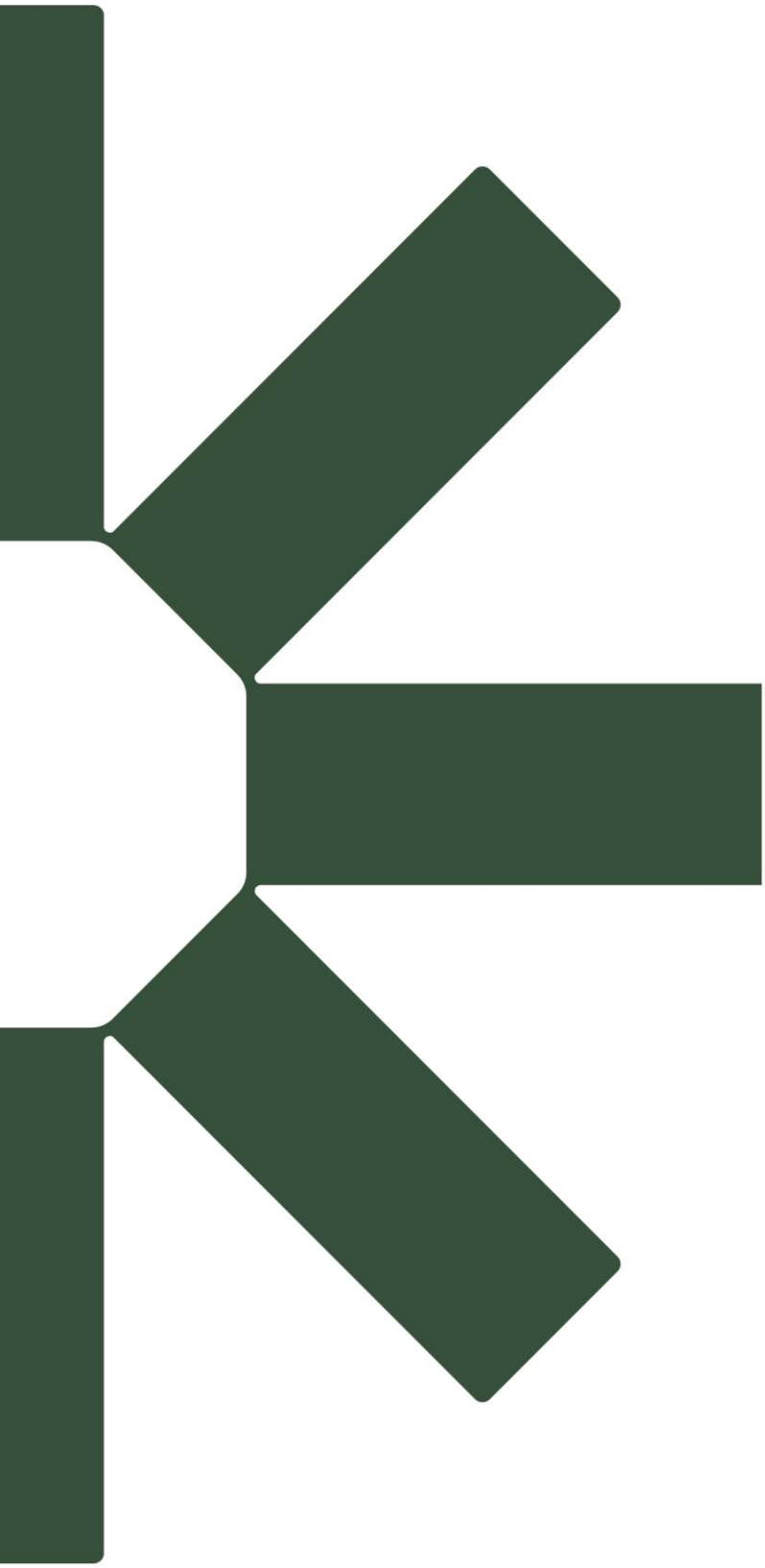
Rule	Compliance Comment
(a) New vehicle crossings shall be located a minimum of 30 metres from a railway level crossing.	Not applicable – no rail corridors are within the vicinity of the site.
21.1.6 Construction of Vehicle Crossings	
(a) Where an activity or subdivision involves the creation of a vehicle crossing the formation and its use shall comply with Council's Subdivision and Development Principles and Requirements (Version: July 2014) Appendix One - Vehicle Crossings.	**Complies**. The recommended design of the new vehicle crossings shall conform to Council's Subdivision and Development Principles and Requirements (Version: July 2014) Appendix One - Vehicle Crossings. In particular, the new vehicle crossings are to be designed in general accordance with Drawing 5 of Appendix One.
21.1.7 Formation Standards	
(a) Standards for pedestrian facilities	Not applicable – no pedestrian facilities proposed
(b) Standards for Roads & Accessways (i) N/A – relates to roads (ii) The consent holder or developer shall form and construct all shared access ways, private ways, and private roads to comply with Table 21-3. (iii) In addition to the requirements of Table 21-3, all shared accessways in the Greenbelt Residential zone shall be sealed from the road carriageway to a distance of at least 10 metres inside the property boundary. (iv) In addition to the requirements of Table 21-3, passing bays are to be provided every 50 metres for all shared accessways in the Rural and Greenbelt Residential Zones that are over 150m long and have a formed width less than 5 metres (v) All roads vested with Council shall be formed and sealed to an all-weather hard surface standard and shall incorporate provision for surface water drainage. (c) N/A (d) N/A	**Complies** (b) Standards for Roads & Accessways (i) Not applicable – no new roads proposed. (ii) The proposed access ways have a minimum legal width of 6 m where 6 m is required with a 4 m to 6 m width formed and metalled to an all-weather standard. (iii) Not applicable – the shared accessways are not in the Greenbelt Residential Reserve. (iv) Complies – passing bays are applicable to shared accessways. The shared portion of accessways have a formed width of 6 m where a minimum of 5 m is required. (v) Not applicable – no vested roads are proposed.

Rule	Compliance Comment
21.1.8 Road Hierarchy	
Collector – Locally preferred routes forming a link between the arterial roads and residential, commercial, industrial, open space and rural areas. Although having a major through traffic function, they also serve adjacent properties. Local – Roads with the main function of providing access to properties and connectivity within a local area.	Refer to Section 2.1 of the ITA. Motuiti Road is identified as a collector road and Wall Road is a local road.
21.1.9 Vehicle Parking Standards	
(a) Parking for the Disabled (i) All commercial, community, and/or industrial activities are required to provide the greater of one (1) onsite mobility carpark or the number of mobility carparks required by other legislation (notably the Disabled Persons Community Welfare Act 1975 and the Building Code), except if the activity is located in the Levin, Foxton and Shannon Town Centre or Pedestrian Overlays Areas.	(a) **Complies** (i) 2 mobility car parking spaces are provided where 1 mobility car parking space is required.
(b) Vehicle Access and Manoeuvring Space to be provided Any vehicle parking spaces shall be provided with practical vehicular access from a public road. Sufficient manoeuvring space shall be provided to enable vehicles to enter and leave the parking area in a forward direction in the following situations: (i) Where the site gains access from a State Highway; or (ii) The vehicle parking area contains more than three (3) parking spaces; or (iii) Any of the parking spaces are located further than 30 metres from the road; or (iv) Where the site is a rear site with access by way of an access leg or driveway.	(b) **Complies** – See Section 4.3. There is sufficient space onsite to enable vehicles to enter and exit in a forward direction.
(c) Vehicle Parking Spaces and Access Aisles to Remain Clear (i) The space that is dedicated on any site for vehicle parking and access shall remain unobstructed by other activities and shall not be diminished by the storage of goods or erection of any structure.	(c) **Complies** (i) Vehicle car parking spaces and accessways shall remain unobstructed by other activities occurring on site.
(d) Design of Vehicle Parking Spaces	(d) **Complies**

Rule	Compliance Comment
(i) Any parking spaces shall be of usable shape and have a minimum dimension to accommodate a 90 percentile car tracking curve with manoeuvring space in accordance with AS/NZS 2890.1:2004 Parking facilities-Off street car parking and AS/NZS 2890.6:2009 for off street parking for people with disabilities.	(i) The car parking design aligns with the guidelines in AS/NZS 2890.1 and AS/NZS 2890.6. See Section 6.0.
(e) Standard of Formation for Vehicle Parking Spaces (i) N/A (ii) In the Rural Zone, all vehicle parking spaces and access aisles shall be formed and metalled to an all-weather standard and shall be provided with surface water drainage and containment of water borne contaminants which shall be regularly maintained by the owner in accordance with the requirements of Rule 24.2.4. (iii) All parking areas that are available to the public shall be provided with night lighting. (iv) Any parking area which comprises five (5) or more parking spaces and which adjoins a residential zone except where the parking area is associated with Council recreational areas or within road reserve shall be screened along the boundary adjoining that Residential Zone by planting or a solid screen fence not less than 1.5 metres in height. (v) All parking areas, short term stopping areas and access thereto shall have, adjacent to their boundary with any road and footpath, a permanent barrier or raised kerb to prevent vehicles entering or leaving the site at any point other than the approved vehicle access crossing point. “Trip” hazards are not to be created.	(e) **Complies** (i) Not applicable. (ii) Complies - all vehicle parking spaces and access aisles shall be formed and metalled to an all-weather standard. (iii) Not applicable – the site does not propose public parking. (iv) Not applicable – site adjoins Rural Zone. (v) Complies – wheel stops or equivalent shall be included at the detailed design stage and included with the car parking design.
21.1.10 Vehicle Loading Conditions	
(a) Obligation to Provide Loading Facilities (i) Every activity shall make provision for the off-street loading and unloading of goods onto or from delivery vehicles associated with that activity. (ii) Where any activity is changed (and or upgraded) or any building erected or altered, provision for loading or unloading facilities within the	(a) **Complies**. (i) Complies – see Section 6.0 of the ITA. (ii) Complies –see Section 6.0of the ITA, the proposed loading facility is sufficient for the new site activity.

Rule	Compliance Comment
site shall be sufficient to serve the operations or activities undertaken on the site.	
(b) Vehicle Access to be Provided Each required loading space shall be provided with practical vehicular access from a public road. Loading spaces and access aisles are to remain clear. The space that is dedicated on any site for loading and unloading of vehicles shall remain unobstructed by other activities and shall not be diminished by the storage of goods or erection of any structure. Sufficient manoeuvring space shall be provided to enable vehicles to enter and leave the site in a forward direction in the following situations: (i) Where the site gains access from a State Highway; or (ii) The vehicle parking area contains more than three (3) parking spaces; or (iii) Any of the parking spaces is located further than 30 metres from the road; or (iv) Where the site is a rear site with access by way of an access leg or driveway onto an Arterial or Collector road.	(b) **Complies** See Section 6.0 of the ITA. The site includes a large loading area to allow manoeuvring for the transportation and delivery of the transformer. The loading area: • Includes practical vehicular access from a public road. • Shall remain clear and unobstructed by other activities. • Has sufficient manoeuvring space to enable vehicles to enter and leave in a forward's direction.
(c) Loading Spaces and Access Aisles to Remain Clear (i) The space that is dedicated on any site for loading and unloading of vehicles shall remain unobstructed by other activities and shall not be diminished by the storage of goods or erection of any structure.	(c) **Complies** (i) the loading space and access aisles are dedicated on site for loading and unloading of vehicles and shall remain unobstructed by other activities.
(d) Design of Loading Spaces (i) Each required loading space shall be of usable shape and have a minimum length of 8.5 metres, minimum width of 3.5 metres, and minimum clear height of 4.5 metres. Sufficient manoeuvring space shall be provided to accommodate an 8 metre rigid two-axle truck using a 12.5 metre radius tracking curve as per NZTA's RTS 18, New Zealand on-road tracking curves for heavy motor vehicles. Additional information regarding design can be obtained from AS 2890.2:2002 Parking Facilities-Off street commercial vehicle facilities. On industrial and commercial sites where articulated vehicles are likely to be used, the layout shall be designed to accommodate such vehicles.	(d) **Complies** (i) the loading space is greater than 8.5 m length and 3.5 m width where 8.5 m length and 3.5 m width are required. Swept path analysis is provided by the Applicant and demonstrates the manoeuvring space is sufficient for the delivery of a transformer. This area is sufficient for an 8-metre heavy rigid vehicle.

Rule	Compliance Comment
Note: If insufficient design causes conflict in traffic movements then restrictions may be placed on the type of heavy motor vehicle allowed to load or unload on the site.	
(e) Conditions of Construction of Loading Spaces (i) All required loading spaces and access aisles required by this District Plan shall be formed and surfaced to an all-weather hard surface standard and shall be provided with surface water drainage and containment of water- borne contaminants that shall be regularly maintained by the Lot owner in accordance with the requirements of Rule 24.2.4, with the exception of rural loading spaces not imposing on road reserve which can be metalled to an all weather hard surface standard.	(d) **Complies** (i) All required loading spaces and access aisles are formed and metalled to an all-weather hard surface standard where a formed and metalled to an all-weather hard surface standard is required.



Making Sustainability Happen