

WOODLANDS RIDGE POULTRY PTY LTD

TRAFFIC IMPACT ASSESSMENT
FOR PROPOSED POULTRY
PROCESSING FACILITY,
52 SINCLAIR STREET,
GOULBURN

APRIL 2019 (AMENDED JUNE 2019)

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TABLE OF CONTENTS

1. INTRODUCTION	1
2. EXISTING CONDITIONS.....	3
3. IMPLICATIONS OF PROPOSED DEVELOPMENT	8

I. INTRODUCTION

- I.1 Colston Budd Rogers and Kafes Pty Ltd has been commissioned by Woodlands Ridge Poultry Pty Ltd to prepare a report examining the traffic implications of a proposed poultry processing facility, cold storage and distribution centre and child care development at 52 Sinclair Street, Goulburn. The site location is shown in Figure I.
- I.2 The site is west of Common Street. New internal roads have been constructed to facilitate development of the site.
- I.3 The proposed development includes the processing facility (10,338m²), cold store (9,101m²), offices (989m²), plus associated buildings including by products processing, live bird shed, truck maintenance and waste treatment building. A 68 place child care centre is proposed. Total building area proposed is 24,124m² GFA, which would be constructed in two stages. Stage 1 would include the processing facility, cold store, office and waste treatment buildings. Stage 2 would include expanded processing and cold store buildings, by products processing, live bird shed, truck maintenance facility and child care centre.
- I.4 Vehicle access is proposed from Common Street and the existing internal roads (Kelly Street and Guthrie Road) which have been constructed for access to the site.
- I.5 The Secretary's Environmental Assessment Requirements for the project, dated 25 July 2018, include the following:
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- **transport and road traffic** – including:
 - *a quantitative traffic impact assessment prepared in accordance with the relevant Council, Austroads and Roads and Maritime Services guidelines*
 - *details of all daily and peak traffic and transport movements likely to be generated during construction and operation, including a description of haul routes, vehicle types, vehicle access routes and potential queuing impacts*
 - *an assessment of the predicted impacts of this traffic on road safety and the impacts at key intersections using SIDRA or similar traffic modelling*
 - *detailed plans of the proposed layout of the internal road network and parking on site, in accordance with the relevant Australian Standards*
 - *swept path diagrams depicting vehicles entering, exiting and manoeuvring throughout the site*
 - *plans for any proposed road upgrades, infrastructure works or new roads required*
 - *an assessment of the potential impacts of the development upon surrounding public transport services.*

1.6 This report assesses the implications of the proposed development, including addressing the SEARs, through the following chapters:

- Chapter 2 - describing the existing conditions; and
- Chapter 3 - assessing the traffic implications of the proposed development.

2. EXISTING CONDITIONS

Site Location and Road Network

- 2.1 The site is at 52 Sinclair Street, on the western side of Common Street, as shown in Figure 1. New internal roads (Kelly Street and Guthrie Street) have been constructed to facilitate development of the site. Surrounding land use includes rural and industrial properties.
- 2.2 Common Street is a two lane two- way rural road with unsealed shoulders and a 50 kilometre per hour speed limit. It provides access to rural and industrial development. South of Sinclair Street, Common Street has a five tonne load limit. It is a dead end south of the site.
- 2.3 North of the site, Common Street intersects Sydney Road at an unsignalised intersection controlled by give way signs. North of Sydney Road, Common Street is a dead end. There are left and right turn bays in Sydney Road for turns into Common Street. There are good sight lines for vehicles turning from Common Street onto Sydney Road. Council's Section 94 Development Contributions Plan identifies a future upgrade to this intersection to provide a roundabout, as well as an upgrade to Common Street.
- 2.4 Sydney Road provides for two traffic lanes in each direction with a central median and an 80 kilometre per hour speed limit. It provides access to commercial and industrial properties. It provides access to the Hume Highway to the east and the Goulburn CBD to the west.
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Traffic Flows

2.5 Traffic generated by the proposed development will have its greatest effects during weekday morning and afternoon peak periods when it combines with other traffic on the surrounding road network. In order to gauge traffic conditions, counts were undertaken at these times at the following intersections:

- Common Street/Sydney Road; and
- Common Street/Sinclair Street.

2.6 The results of the surveys are shown in Figures 2 and 3 and summarised in Table 2.1. Sydney Road carried some 345 to 560 vehicles per hour two-way during the weekday morning and afternoon peak periods. Flows on Common Street and Sinclair Street were lower at less than 200 vehicles per hour two-way.

Road	Location	AM peak hour	PM peak hour
Sydney Road	East of Common Street	345	465
	West of Common Street	440	560
Common Street	North of Sydney Road	1	12
	South of Sydney Road	195	225
	South of Sinclair Street	50	40
Sinclair Street	East of Common Street	45	25

Intersection Operations

2.7 The capacity of the road network is largely determined by the capacity of its intersections to cater for peak period traffic flows.

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- 2.8 The surveyed intersections have been analysed using the SIDRA program for the traffic flows shown in Figures 2 and 3.
- 2.9 SIDRA simulates the operations of intersections to provide a number of performance measures. The most useful measure provided is average delay per vehicle expressed in seconds per vehicle.
- 2.10 Based on average delay per vehicle, SIDRA estimates the following levels of service (LOS):
- For traffic signals, the average delay per vehicle in seconds is calculated as delay/(all vehicles), for roundabouts the average delay per vehicle in seconds is selected for the movement with the highest average delay per vehicle, equivalent to the following LOS:

0 to 14	=	"A"	Good
15 to 28	=	"B"	Good with minimal delays and spare capacity
29 to 42	=	"C"	Satisfactory with spare capacity
43 to 56	=	"D"	Satisfactory but operating near capacity
57 to 70	=	"E"	At capacity and incidents will cause excessive delays. Roundabouts require other control mode.
>70	=	"F"	Unsatisfactory and requires additional capacity
 - For give way and stop signs, the average delay per vehicle in seconds is selected from the movement with the highest average delay per vehicle, equivalent to following LOS:
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0 to 14	=	"A"	Good
15 to 28	=	"B"	Acceptable delays and spare capacity
29 to 42	=	"C"	Satisfactory but accident study required
43 to 56	=	"D"	Near capacity and accident study required
57 to 70	=	"E"	At capacity and requires other control mode
>70	=	"F"	Unsatisfactory and requires other control mode

- 2.11 It should be noted that for roundabouts, give way and stop signs, in some circumstances, simply examining the highest individual average delay can be misleading. The size of the movement with the highest average delay per vehicle should also be taken into account. Thus, for example, an intersection where all movements are operating at a level of service A, except one which is at level of service E, may not necessarily define the intersection level of service as E if that movement is very small. That is, longer delays to a small number of vehicles may not justify upgrading an intersection unless a safety issue was also involved.
- 2.12 The analysis found that the unsignalised intersection of Sydney Road with Common Street is operating with average delays for all movements of less than 25 seconds per vehicle during weekday morning and afternoon peak periods. This represents level of service B, an acceptable level of service.
- 2.13 The intersection of Common Street with Sinclair Street is operating with average delays for all movements of less than 15 seconds per vehicle during peak periods. This represents level of service A/B, a good level of service.
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Public Transport

- 2.14 Bus services in Goulburn are provided by PBC Goulburn. A number of services connect Goulburn with surrounding areas. Routes 821a and 821b connect Goulburn to North Goulburn. Route 823 connects Goulburn to West Goulburn and route 824 connects Goulburn to Ifield and St Aubyn Road. Route 825 connects Goulburn with Eastgrove.
- 2.15 The site has limited access to public transport. However, there would not be a constraint on future servicing of the site or area by buses, should demands exist. Guthrie Road includes a cul-de-sac head which would provide for buses to turn around.

3. IMPLICATIONS OF PROPOSED DEVELOPMENT

3.1 The proposed development includes the processing facility (10,338m²), cold store (9,101m²), offices (989m²), plus associated buildings including by products processing, live bird shed, truck maintenance and waste treatment building. A 68 place child care centre is proposed. Total building area proposed is 24,124m² GFA, which would be constructed in two stages. Stage 1 would include the processing facility, cold store, office and waste treatment buildings. Stage 2 would include expanded processing and cold store buildings, by products processing, live bird shed, truck maintenance facility and child care centre. Vehicle access is proposed from Common Street, Kelly Street and Guthrie Road.

3.2 This chapter assesses the implications of the proposed development through the following sections:

- public transport;
- parking provision;
- access, servicing and internal layout;
- traffic generation and effects;
- construction traffic management;
- matters raised in SEARs; and
- summary.

Public Transport

3.3 As previously discussed, existing roads in the vicinity of the site would provide for buses, if future demands result in a bus service to the area. Guthrie Road includes a cul-de-sac head which would provide for buses to turn around.

Parking Provision

3.4 Section 3.5.2 of the Goulburn Mulwaree Development Control Plan 2009 includes the following parking requirements:

- industrial buildings: one space per 100m² GFA, plus one space per 40m² office GFA, plus one space per 37m² retail GFA; and
- child care centres: one space per two employees, plus set down/drop off area.

3.5 The proposed development includes the following:

- 22,655m² industrial building GFA;
- 989m² office GFA; and
- a 68 place child care centre with 12 employees.

3.6 On this basis, the proposed development would require 258 parking spaces, comprising 227 spaces for the industrial buildings, 25 spaces for the office and six spaces for the child care centre, plus space for set down and pick up of children.

3.7 The proposed parking provision is 340 spaces, which satisfies this requirement and is therefore considered to be appropriate.

3.8 For the first stage of the development, comprising 5,864m² cold store, 5,966m² processing facility, 382m² waste treatment building and the office building, the parking requirement would be 147 spaces, comprising 122 for the industrial

buildings and 25 for the office. The proposed first stage parking is 217 spaces, which satisfies this requirement.

- 3.9 The proposed parking provision, both for the first stage and the ultimate development, will include appropriate disabled parking spaces. The proposed parking provision for the development is therefore appropriate.

Access, Servicing and Internal Layout

- 3.10 Vehicular access is proposed to be provided from Common Street, as well as from Kelly Street and Guthrie Road. The accesses from Common Street will provide for the office car park (north of Kelly Street) and the child care and factory employee car parks (south of Kelly Street). There are good sight lines along Common Street in both directions at the proposed driveway locations.
- 3.11 Access to the visitor parking area will be provided from Kelly Street and Guthrie Road. Access to the various buildings on the site, including the processing facility, cold store, live bird shed, by products processing, truck maintenance facility and waste treatment building will be provided from Kelly Street and Guthrie Road.
- 3.12 Weighbridges will be provided in Kelly Street for trucks entering and exiting the site. The weighbridges are well back from Common Street, providing significant queuing space for entering vehicles.
- 3.13 Internal circulation roads will be provided in association with the development, connecting the various buildings with each other, as well as with Guthrie Road and Kelly Street.
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- 3.14 The access driveway widths, internal circulation roads and truck manoeuvring areas will be provided in accordance with the Australian Standard for Parking Facilities (Part 1: Off-street car parking and Part 2: Off-street commercial vehicle facilities), AS 2980.1:2004 and AS 2890.2 – 2002, to accommodate cars, 19 metre semi-trailers and 26 metre b-doubles, the largest vehicles which will access the site. Service vehicle swept paths, prepared in accordance with Austroads guidelines, are shown in Figures 4 to 10.
- 3.15 The design of the development provides for service vehicles to enter and exit the site in a forward direction. To accommodate b-doubles, Common Street (between Sinclair Street and Kelly Street) will need to be classified for use by these vehicles. This is a separate approval process which will occur following development consent.
- 3.16 On-site parking spaces will be provided with minimum dimensions of 5.4 metres long by 2.5 metres wide (generally) or 2.6 metres wide (in the child care centre car park). Spaces with adjacent obstructions will be 0.3 metres wider to appropriately provide for doors to open. Disabled spaces will be 2.4 metres wide, with a 2.4 metre wide adjacent area for wheelchairs. These dimensions are considered appropriate, being in accordance with AS 2890.1:2004.

Traffic Generation and Effects

- 3.17 Traffic generated by the proposed development will have its greatest effects during weekday morning and afternoon peak periods when it combines with other traffic on the surrounding road network.
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3.18 RMS surveys and the RMS “Guide to Traffic Generating Developments” have found the following two-way (sum of both directions) peak hour traffic generation rates:

- 0.5 vehicles per hour per 100m² for distribution facilities (the cold store);
- one vehicle per hour per 100m² for factory facilities (the processing facility);
- 0.84 and 0.6 vehicles per hour per 100m² for offices; and
- 0.7 to 0.8 vehicles per hour per child for child care centres.

3.19 On this basis, and assessing the ancillary buildings (by products processing, live bird shed, truck maintenance facility and waste treatment) the same as the distribution building, the proposed development would have a traffic generation of some 230 to 240 vehicles per hour two-way during weekday morning and afternoon peak hours.

3.20 The additional traffic has been assigned to the road network. Existing peak hour traffic flows plus the additional development traffic are shown in Figures 2 and 3, and summarized in Table 3.1.

Road	Location	AM peak hour		PM peak hour	
		Existing	Plus development	Existing	Plus development
Sydney Road	East of Common Street	345	+70	465	+70
	West of Common Street	440	+170	560	+170
Common Street	North of Sydney Road	1	-	12	-
	South of Sydney Road	195	+240	225	+240
	South of Sinclair Street	50	+240	40	+240
Sinclair Street	East of Common Street	45	-	25	-

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- 3.21 Table 3.1 shows that traffic increases in Common Street would be 240 vehicles per hour two-way. Increases in Sydney Road would be lower at 70 to 170 vehicles per hour two-way.
- 3.22 The intersections previously analysed in Chapter 2 have been reanalysed with SIDRA for the additional development traffic flows shown in Figures 2 and 3. The analysis found that the intersection of Common Street with Sydney Road would continue to operate with average delays for all movements of less than 25 seconds per vehicle. This represents level of service B, an acceptable level of service.
- 3.23 The intersection of Common Street with Sinclair Street would continue to operate with average delays for all movements of less than 15 seconds per vehicle during peak periods. This represents level of service A/B, a good level of service.
- 3.24 The proposed site access points on Common Street would operate with average delays for all movements of less than 15 seconds per vehicle during peak periods. This represents level of service A/B, a good level of service.
- 3.25 Therefore, the road network will be able to cater for the traffic from the proposed development.
- 3.26 The development will make appropriate contributions towards the upgrade of Common Street and the future provision of a roundabout at the Sydney Road intersection, in accordance with council's Section 94 plan.

Construction Traffic Management

- 3.27 At this stage in the planning process, the construction methodology, process and staging has not been precisely defined. For each stage of the development, the
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builder will be responsible for the preparation of a construction traffic management plan, which will be prepared prior to the commencement of work, taking into account relevant consent conditions. The plan will include consideration of the following:

- vehicle access to the site during construction;
- construction vehicle routes;
- traffic and parking effects;
- measures to manage and protect pedestrian movements;
- on-street works zones; and
- measures to manage and control construction traffic at the site.

3.28 The overall principles for traffic management during construction will be:

- provide a convenient and appropriate environment for pedestrians;
 - minimise effects on pedestrian movements and amenity;
 - provide appropriate safety fencing/hoardings around the perimeter of the construction site;
 - maintain access to adjacent properties;
 - manage and control vehicular movements to and from the site;
 - to the extent practical, maintain existing on-street parking in the vicinity of the site;
 - restrict construction vehicle activity to designated truck routes through the area;
 - construction vehicles to enter and exit the site in a forward direction; construction activity to be carried out in accordance with the approved hours of construction;
 - maintain safety for workers; and
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- the preparation of the construction traffic management plan, signage detail, control of pedestrians and management of construction vehicles in the vicinity of the site will be the responsibility of the appointed builder.

3.29 As a principle, on-site parking will be made available for construction employees. As various parts of the new car parks are completed, their use will be available for construction activities and parking. As Kelly Street and Guthrie Road are constructed, good access and parking will be available for construction employees. Construction compounds will be located on the parts of the site subject to construction activities at that time.

3.30 The number of vehicles generated during the various stages of construction is likely to be up to some 100 vehicles per hour two-way at peak times. The effects of construction vehicle activity on the surrounding road network will therefore be less than the operational effects.

3.31 Large construction vehicles will use major roads in the area, including Sydney Road and Common Street.

Matters Raised in SEARs

3.32 The matters raised in the SEARs are discussed below.

- *a quantitative traffic impact assessment prepared in accordance with the relevant Council, Austroads and Roads and Maritime Services guidelines*

3.33 These documents and publications are referenced where appropriate, including paragraphs 3.4, 3.14 and 3.18.

- *details of all daily and peak traffic and transport movements likely to be generated during construction and operation, including a description of haul routes, vehicle types, vehicle access routes and potential queuing impacts*

3.34 These matters are discussed in paragraphs 3.10 to 3.16, 3.17 to 3.26 and 3.27 to 3.31.

- *an assessment of the predicted impacts of this traffic on road safety and the impacts at key intersections using SIDRA or similar traffic modelling*

3.35 These matters are discussed in paragraphs 2.3, 2.7 to 2.13 and 3.17 to 3.26.

- *detailed plans of the proposed layout of the internal road network and parking on site, in accordance with the relevant Australian Standards*

3.36 These matters are discussed in paragraphs 3.10 to 3.16.

- *swept path diagrams depicting vehicles entering, exiting and manoeuvring throughout the site*

3.37 Swept paths are attached to this report as Figures 4 to 10.

- *plans for any proposed road upgrades, infrastructure works or new roads required*

3.38 No new roads or upgrade works are required or proposed in association with the proposed development. However, as noted in paragraph 3.26, the development will make appropriate contributions in accordance with council's section 94 plan, toward the upgrade of Common Street and the future provision of a roundabout at the Sydney Road intersection.

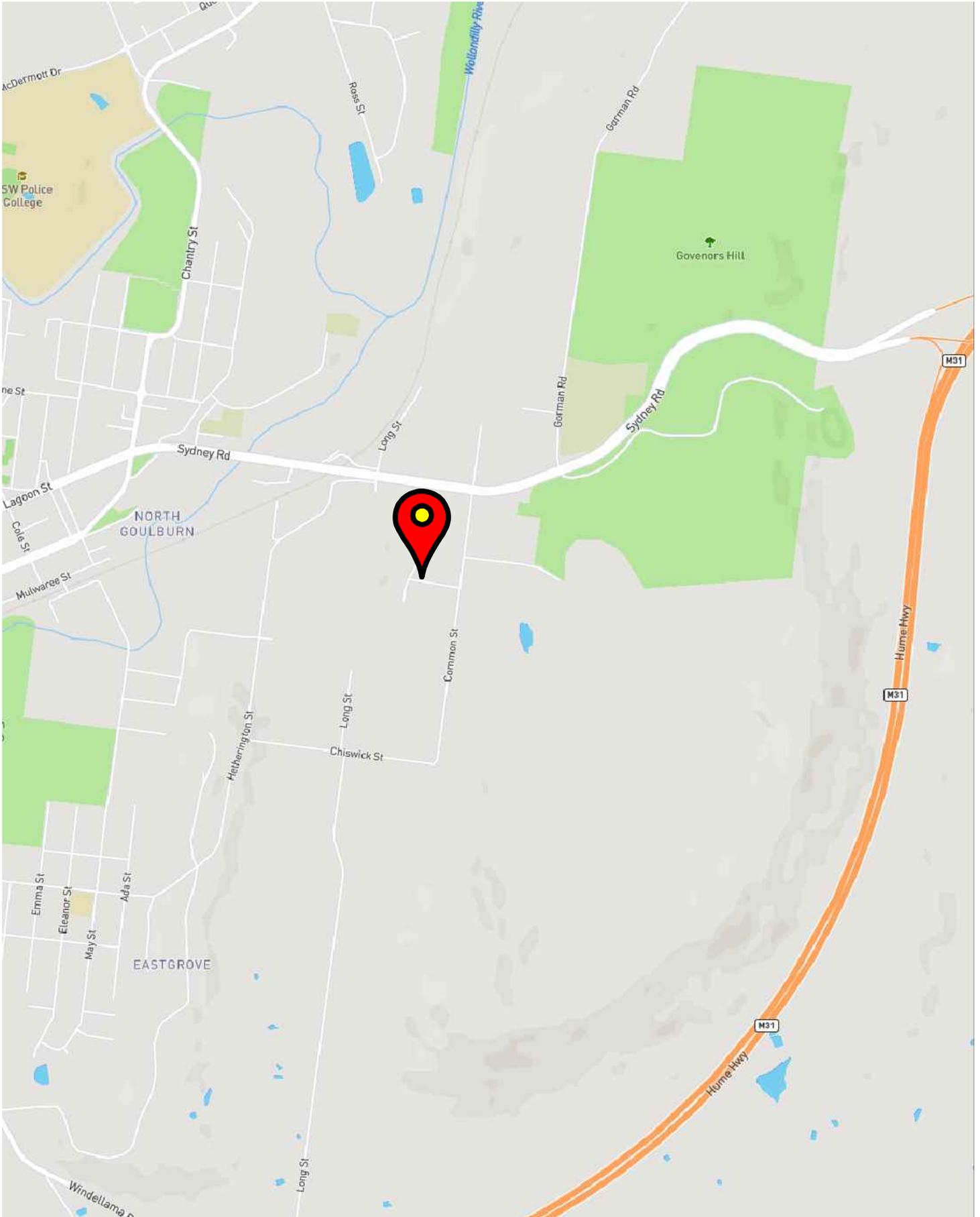
- *an assessment of the potential impacts of the development upon surrounding public transport services.*

3.39 Public transport services are discussed in paragraphs 2.14 to 2.15 and 3.3.

Summary

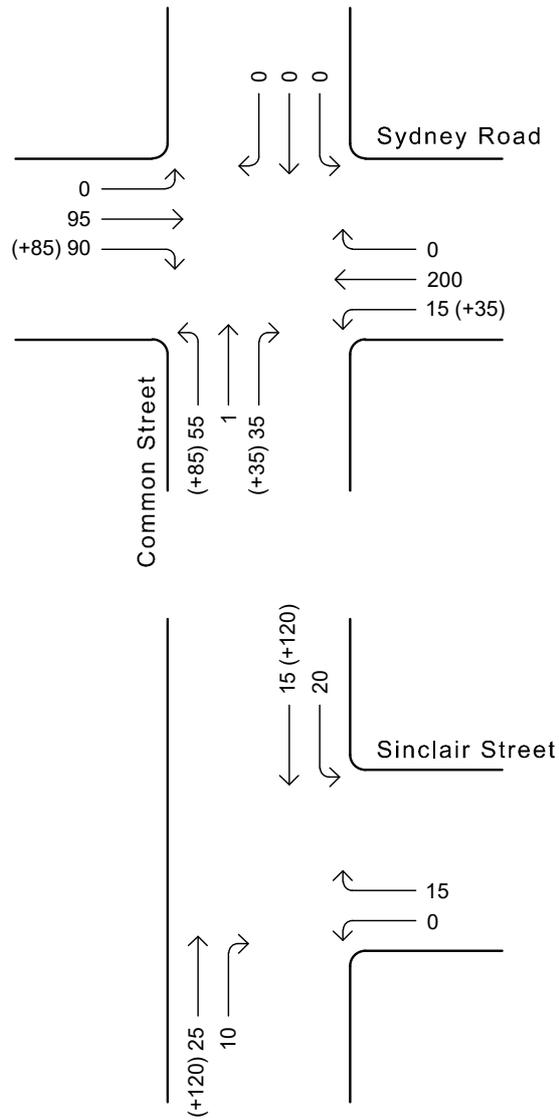
3.40 In summary, the main points relating to the traffic implications of the proposed development are as follows:

- i) parking provision is appropriate;
- ii) access, servicing and internal layout will be provided in accordance with AS 2890.1:2004 and AS 2890.2 – 2002;
- iii) the road network will be able to cater for the traffic from the proposed development; and
- iv) matters raised in the SEARs are addressed in paragraphs 3.32 to 3.39.

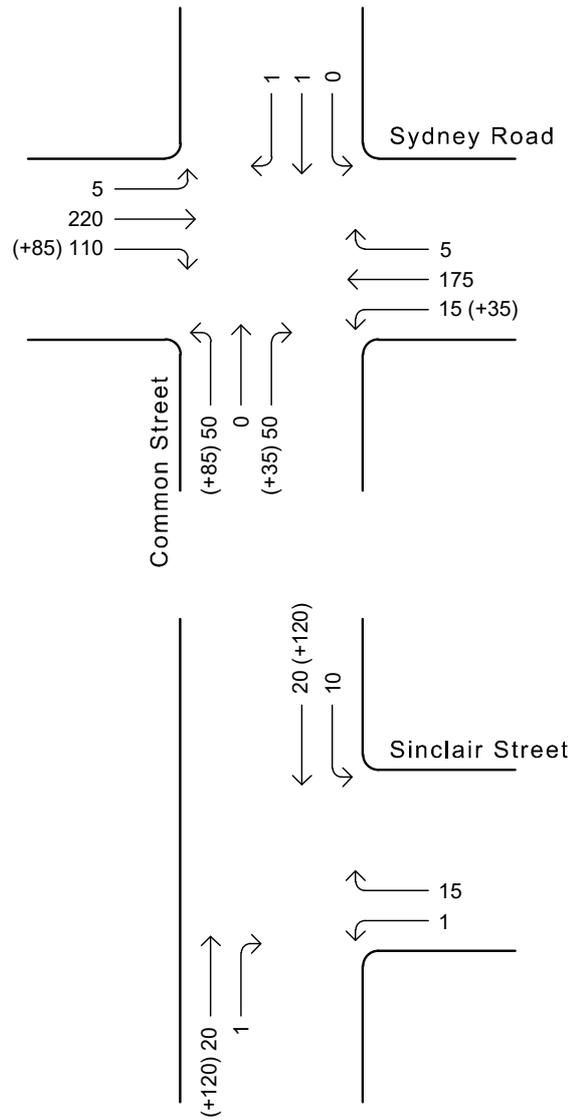


Location Plan

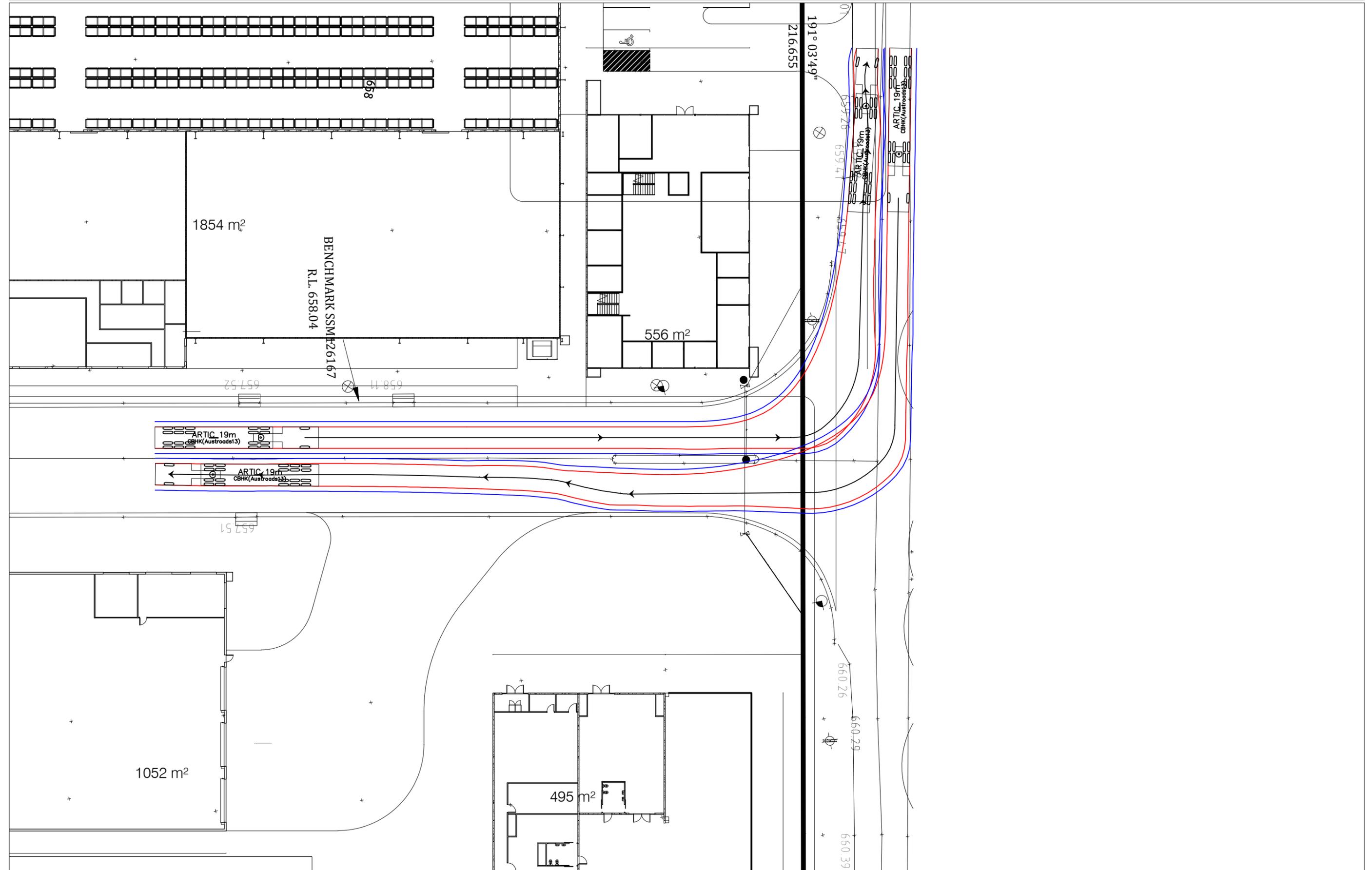
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**Existing weekday morning
peak hour traffic flows plus
development traffic
Figure 2**



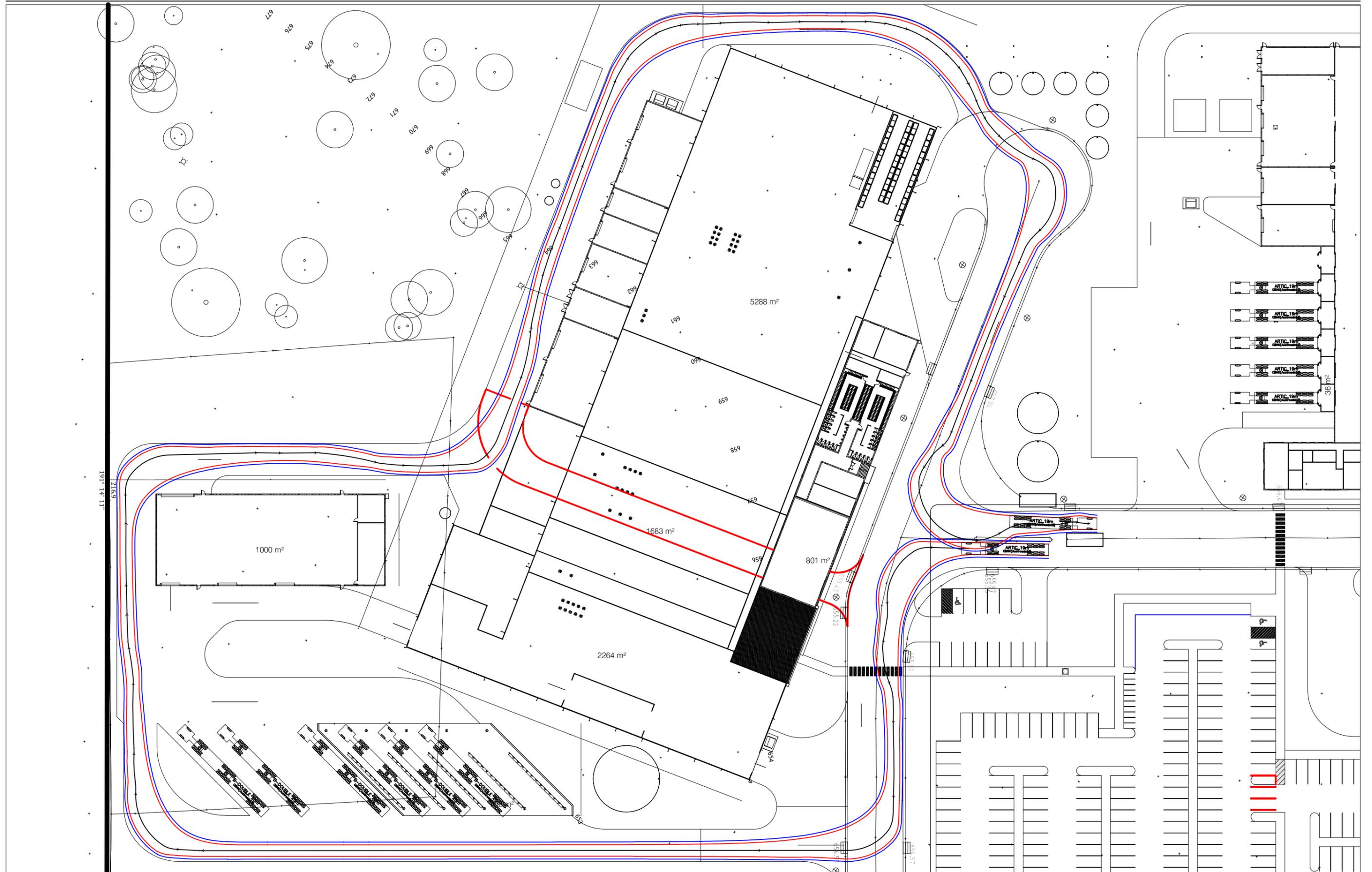
**Existing weekday afternoon
peak hour traffic flows plus
development traffic
Figure 3**



NOTE:
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 SURVEY AND FINAL DESIGN. TRAFFIC MEASURES
 PROPOSED IN THIS PLAN ARE CONCEPT ONLY AND
 ARE SUBJECT TO FINAL DESIGN BY CIVIL ENGINEERS.

— Swept Path of Vehicle Body
 — Swept Path of Clearance to Vehicle Body

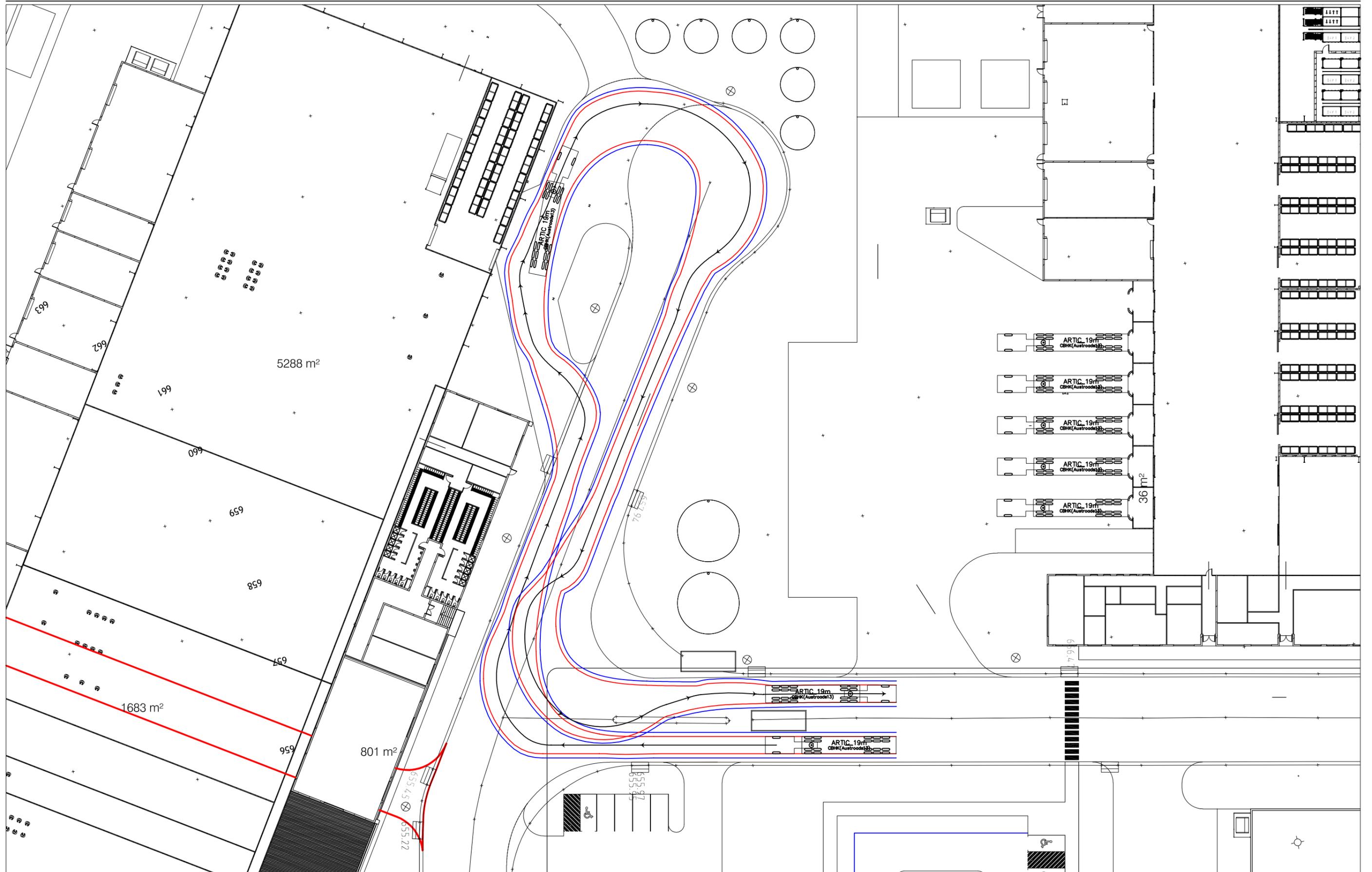
**19.0m ARTICULATED
 VEHICLE SWEEP PATHS**



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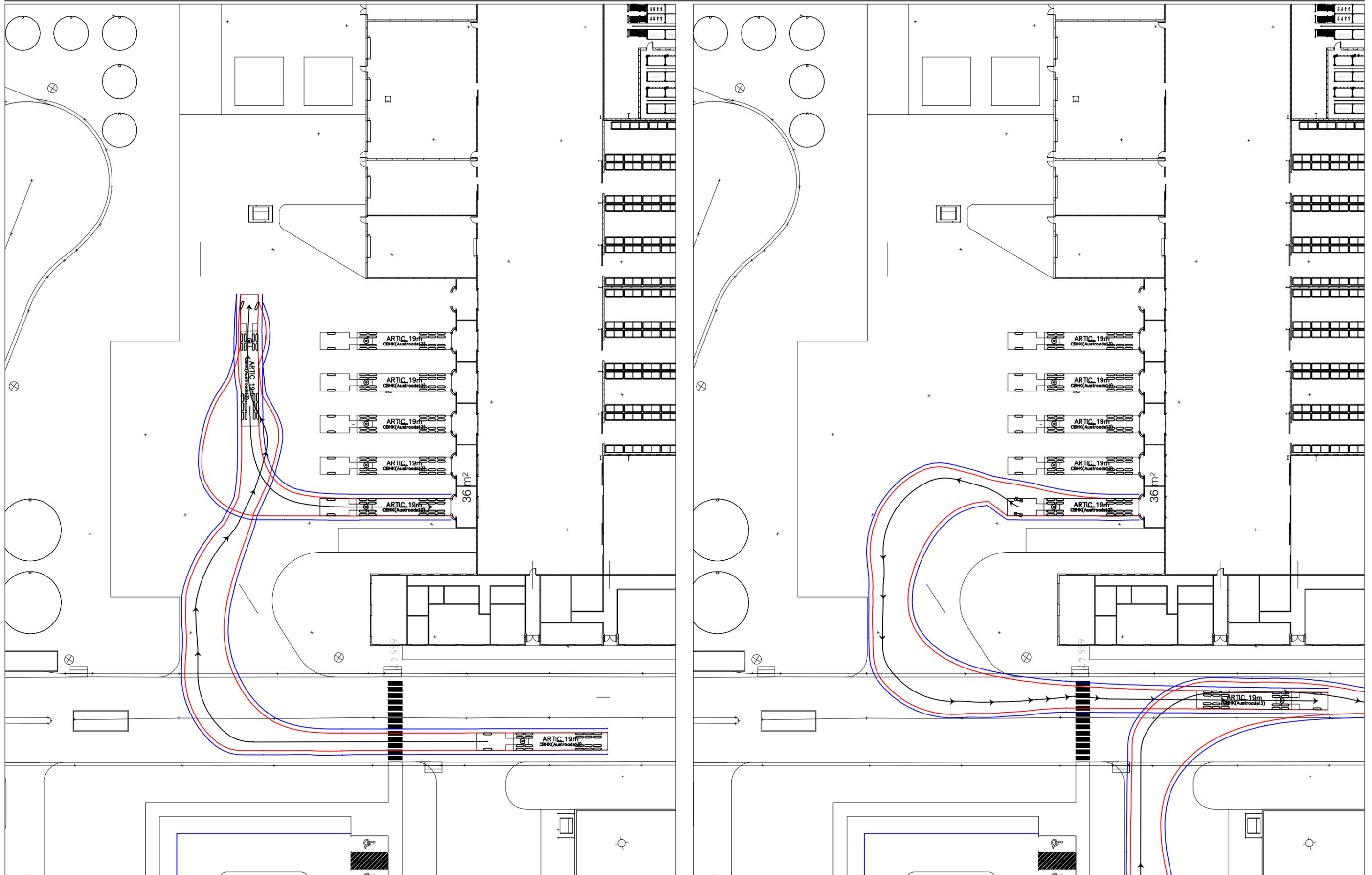
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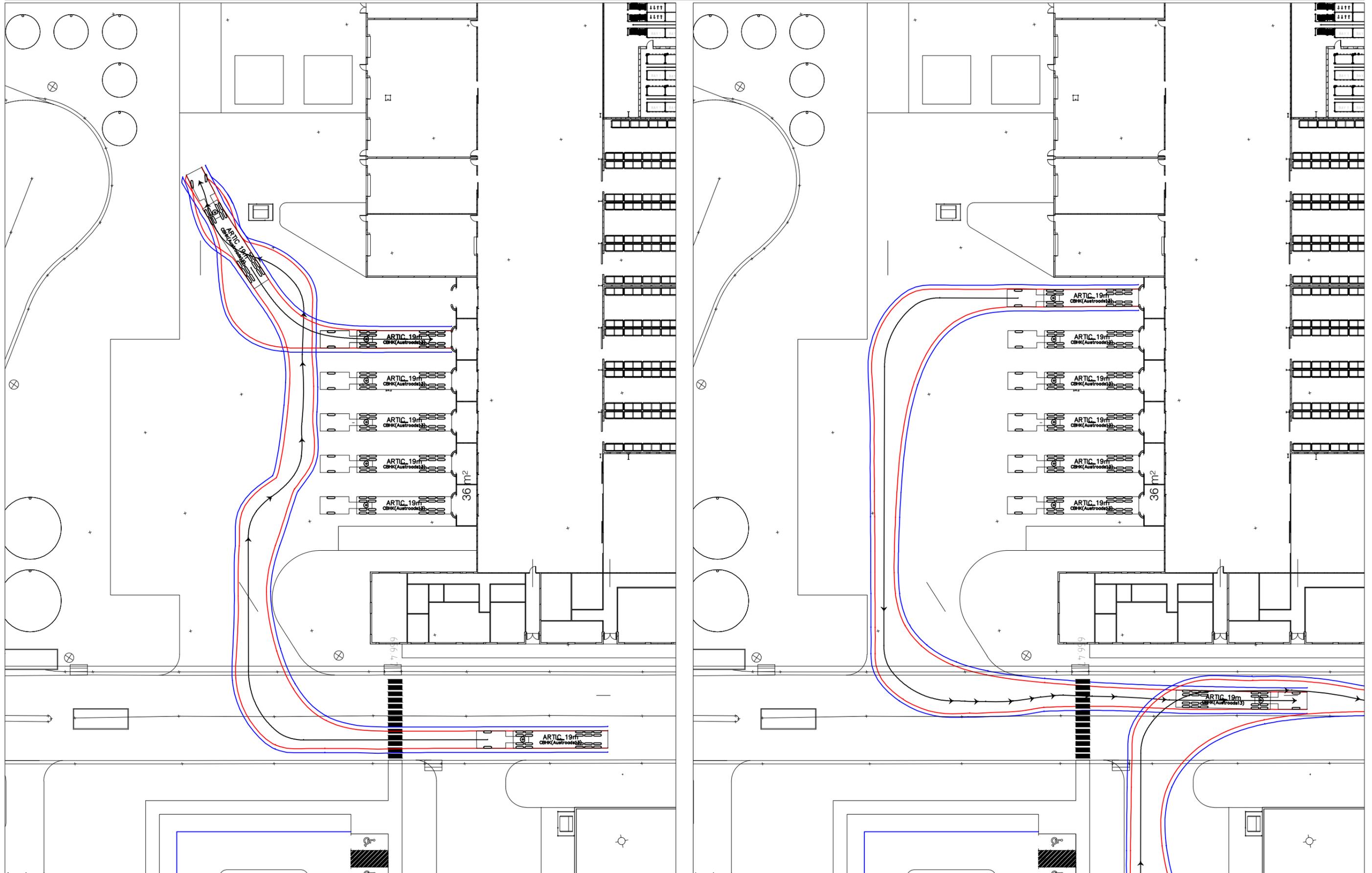
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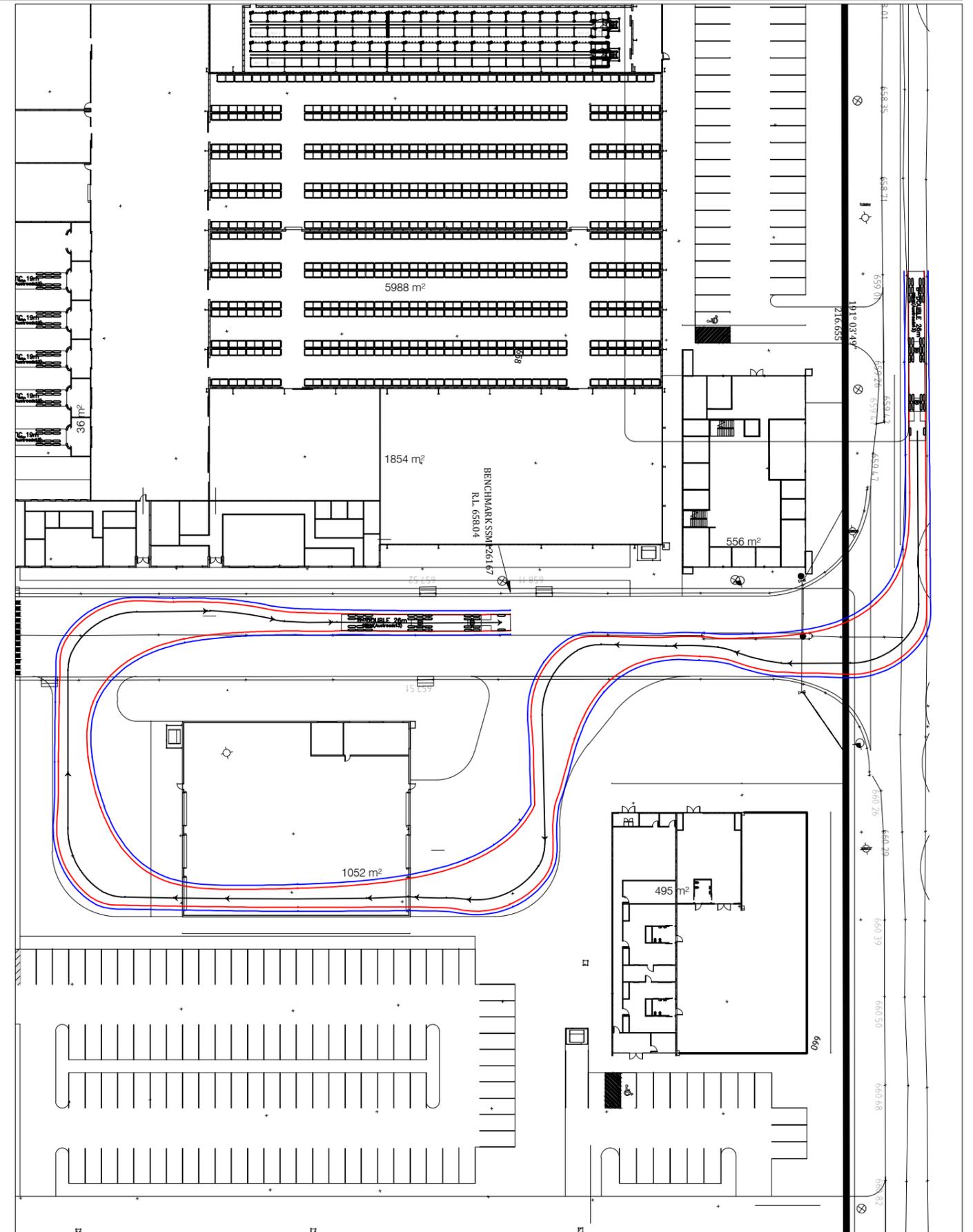
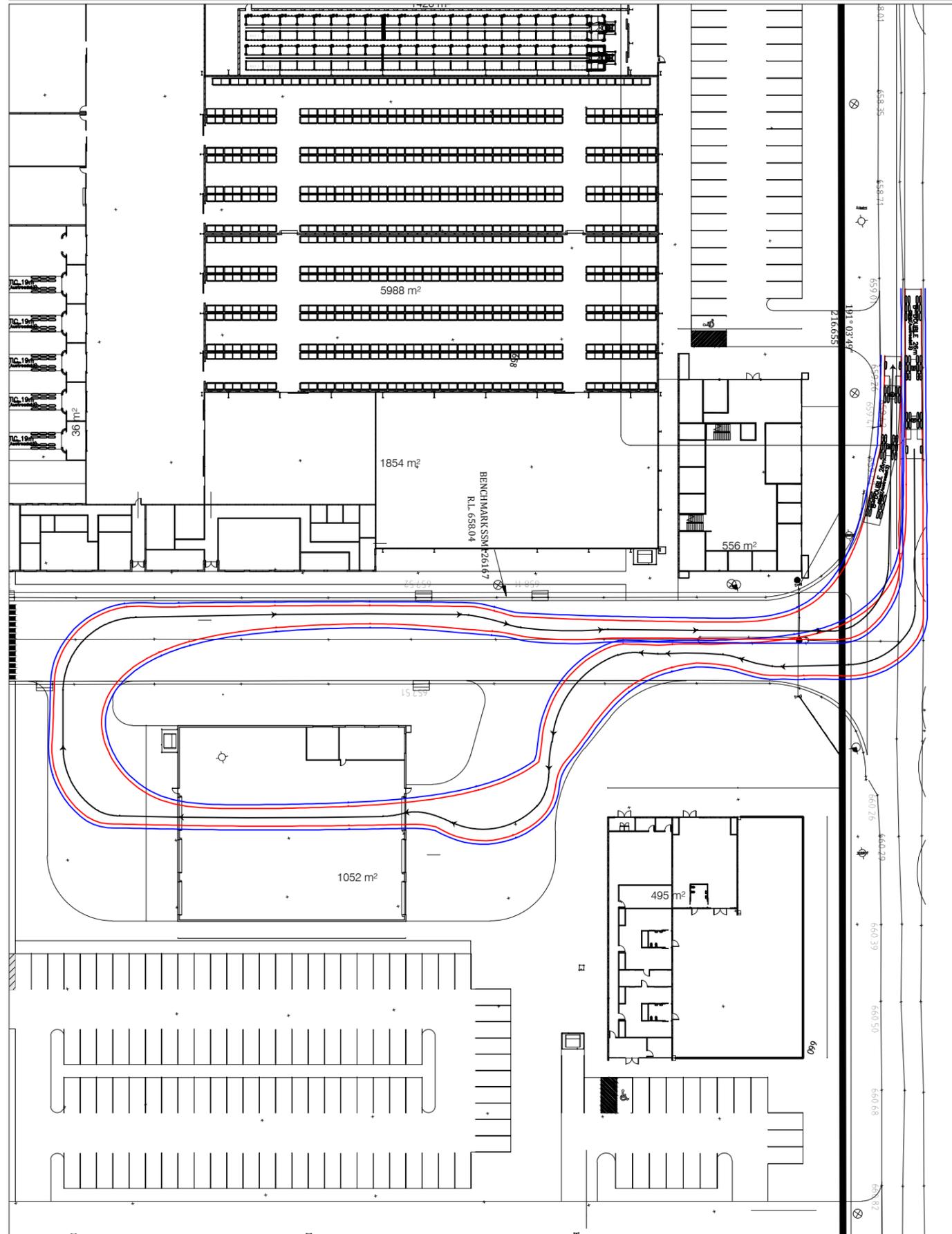
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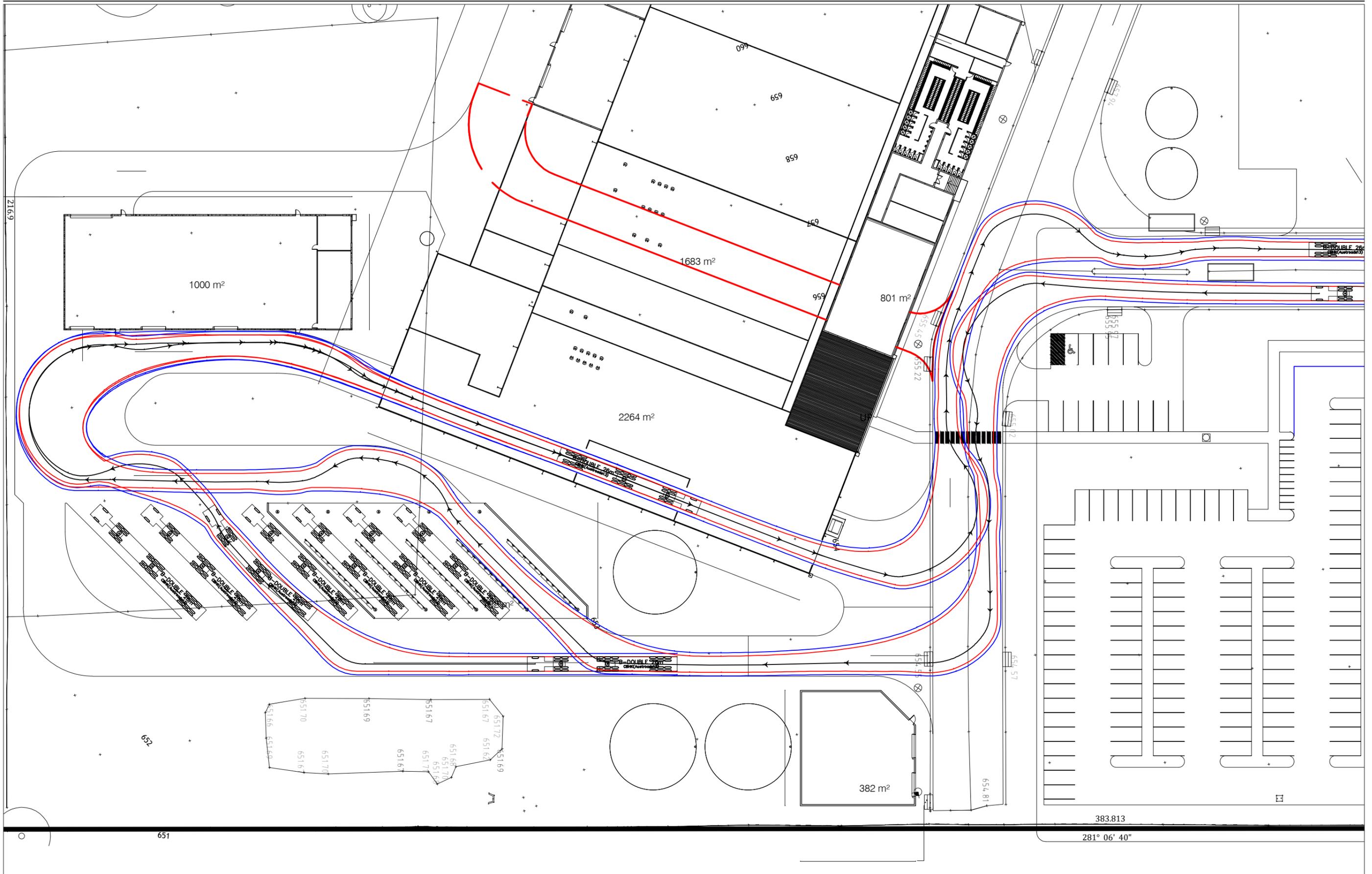
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**26.0m B-DOUBLE VEHICLE
 SWEEP PATHS**



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**26.0m B-DOUBLE VEHICLE
 SWEEP PATHS**