Colston Budd Rogers & Kafes Pty Ltd
as Trustee for C & B Unit Trust
ABN 27 623 918 759

Our Ref: JH/10398/jj

Transport Planning
Traffic Studies
Parking Studies

15 December, 2017

Bennetts Green - Spotlight Property 2 Pty Ltd
c/- SPG Investments Pty Ltd
c/- Blueprint
Tenancy 1A
100 Market Street
SOUTH MELBOURNE VIC 3205

Attention: Matthew Skerrett
Email: matthew@blueprintaustralia.com.au

Dear Sir,

RE: BENNETTS GREEN BUNNINGS AND BULKY GOODS DEVELOPMENT

1. As requested, we are writing regarding matters raised by council and RMS in relation to the above development. We have previously prepared a report[1] which was submitted with the development application.

2. The council email of 27 September and RMS letters of 26 October 2017 include a number of traffic and parking matters. In response to the matters raised, amended plans have been prepared by the project architect. These matters, and our responses, are set out below.

Council email

3. Matters raised in the council email are discussed below.

DA/251/2013/A…

Access, Parking and Manoeuvring
- *Road Network*

An assessment of the vehicle access from Pacific Highway identified:
…
2) It is noted the drive thru traffic from the Family Restaurant exits onto the service road, and that there are 2 car parking spaces located on the service road. The manoeuvring and safety of these arrangements is questioned.

[1] Traffic Report for Section 96 Application and Two Development Applications for Approved Home Improvement Centre and Bulky Goods Development, Bennetts Green, July 2017 (Amended August 2017).

Suite 1801/Tower A, Zenith Centre, 821 Pacific Highway, Chatswood NSW 2067
P.O. Box 5186 West Chatswood NSW 1515 Tel: (02) 9411 2411 Fax: (02) 9411 2422
Directors - Geoff Budd - Stan Kafes - Tim Rogers - Joshua Hollis ACN 002 334 296
EMAIL: cbrk@cbrk.com.au

4. Vehicles will exit the drive-through onto the circulation road at the rear of the site. The two spaces adjacent to the food outlet are waiting bays for vehicles using the drive through.

5. The service road will be one-way and there will be good sight lines between vehicles on the circulation road and vehicles using the drive-through. The number of service vehicles using the circulation road will be low.

6. The proposed arrangements are therefore considered to be appropriate.

- *Building Products Warehouse and Showroom*
  1) *The access ramp/driveway from South Street to the rear service bay of the Building Products Warehouse and Showroom requires additional detail in the form of widths, clearances and the like, inclusive of swept paths from South Street, through the access ramp and within the service delivery bay…*

- *Servicing*
  1) *Details of service vehicles including swept paths are required for internal areas (deliveries and waste collection) for the Building Products Warehouse & Showroom as well as the Bulky Goods Units and Restaurant. Additionally movements at the (Bunnings service vehicles) South Street and the Pacific Highway access points are to be provided.*

7. Vehicle swept paths are attached to this letter as Figures 1 to 12.

- *Parking*
  1) *The development provides a total 846 car parking spaces, 13 additional non-discriminatory parking spaces and 2 waiting bays. An assessment based on the proposed GFA identified 697 car parking spaces and 14 non-discriminatory parking spaces as being required. Therefore as an excess in car parking is proposed a reduction is required as per Council's DCP and to improve landscaped outcomes.*

8. As noted in our report submitted with the development application, Section 5 (Access and Parking) of Part 4 (Development in Business Zones) of the Lake Macquarie City Council Development Control Plan 2014 sets out the following parking requirements for the proposed development:

   - hardware and building supplies – 2 spaces per lot plus one space per 50m^2;
   - bulky goods - two spaces per tenancy plus one space per 40m^2; and
   - petrol stations with convenience stores - one space per 60m^2 of convenience store area.

9. The DCP does not include specific parking requirements for drive-in take-away food outlets with drive-through facilities. By comparison, RMS has undertaken surveys of the parking demands of fast food outlets with drive-through facilities.

10. The RMS "Guide to Traffic Generating Developments" indicates that drive-in take-away restaurants with on-site seating and drive-through facilities should provide the greater of one space per two seats (internal) or one space per three seats (internal plus external).

11. Using the above rates, parking requirements for the proposed development are set out in Table 1.

Table 1: Parking requirements			
Component	**Size**	**Rate**	**Spaces**
Bunnings	16,806m^2	two/lot + 1/50m^2	338
Bulky goods	11 tenancies (14,760m^2)	two/tenancy + 1/40m^2	391
Fast food	170 seats	1/2 seats	85
Petrol	200m^2	1/60m^2	4
Total			**818**

12. Table 1 shows a requirement for 818 spaces, which is satisfied by the proposed provision of 837 spaces, including 17 disabled spaces. However, the architect's amended plans include additional landscaping, as shown on those drawings.

> *2) A minimum of 14 accessible parking spaces are to be provided throughout the development. The additional parking is to be provided for the Restaurant, the Service Station/Take Away Food Premises, and the Bulky Goods Units The Building Products Warehouse and Showroom provides an adequate number).*

13. The plans include 17 disabled parking spaces.

> *3) Wheel Stops are required where parking spaces front landscaping and pedestrian paths.*

14. Wheel stops are provided in a number of spaces on the amended plans. An appropriate condition of consent could be included regarding this matter.

> *4) Confirmation trailer parking is proposed within the Bunnings car park.*

15. The Bunnings car park includes three spaces for vehicles with trailers.

DA/1188/2017…

Traffic & Transport

- *The plans are ambiguous as to how vehicles will access the Take Away Food & Drink Premises. It appears vehicles are required to access the drive thru via the entrance of the Service Station, which could become quite congested considering queuing for petrol bowsers. Details are required on how vehicles will access the drive thru and what will prohibit these vehicles travelling on the Service Road in the opposite direction to Service Vehicles.*

16. Vehicles will enter this drive-through from the service station, in a similar manner to many other service station/fast food developments. The swept paths attached in Figure 12 show that with two vehicles queued at the petrol bowsers, other vehicles will be able to readily circulate to the drive-through.

17. There will be appropriate no entry signage at the western leg of the roundabout, which will apply to service vehicles and general traffic.

Design of parking and Service Areas

- *The internal driveway and car parking area (turning movements) appear not to conform to the DCP 2014 and AS2890 requirements with regard to AS 2890.6 Parking Facilities – Off-street parking for people with disabilities. Presently no accessible car park is provided for this development. The SEE states that six spaces are allocated for proposed lots 2 and 3 though none are shown in proximity to the development…*

18. The plans include a disabled parking space adjacent to the petrol station and fast food component.

Servicing

- *The proposed development has not achieved adequate facilities for service vehicles with regard to AS 2890.2 Parking Facilities – Off Street commercial vehicle facilities:*

    2. *Details for servicing the development have not been provided, for both Fuel Tankers and deliveries to the Service Station and Take Away Food and Drink Premises. Details are required in terms of both manoeuvring/swept paths and avoiding conflicts with customer vehicles noting the operation is proposed to be 24 hours /7 days a week.*

19. Swept paths are shown in the attached Figure 11. Typically, with petrol stations and fast food outlets, deliveries are made outside busy periods, such as early in the morning. However, the attached swept paths show that vehicles will be able to circulate with a tanker making a fuel delivery.

DA/1191/2017…

Design of Parking and Service Areas

- *The internal driveway and car parking area (turning movements) appear not to conform to the DCP 2014 and AS2890 requirements with regard to AS 2890.6 Parking Facilities – Off-street parking for people with disabilities. The SEE states that six spaces are allocated for proposed lots 2 and 3, noting however these are to be subdivided. Clarification is required of the allocation of accessible parking spaces – see comment under DA/251/2013/A.*

20. The plans include eight disabled parking spaces adjacent to the bulky goods tenancies.

Servicing

- *Details for servicing (deliveries & waste collection) the development are required in terms of manoeuvring/swept paths.*

21. Service vehicle swept paths are shown in Figures 1 to 12.

RMS letters

22. Matters raised by RMS in its 26 October letters are discussed below.

Roads and Maritime have reviewed the information provided and objects to the proposal in its current form. Roads and maritime request additional traffic modelling be undertaken to address the following potential impacts on the State road network:

- *Additional development at the end of Groves Road since the original modelling was completed has increased traffic on Groves Road which has resulted in changes being implemented recently to the lane configuration for right running vehicles (now double right turn and single left turn).*

- *Layout of the internal roundabout, pedestrian crossings and service station near the intersection of Groves Road/Pacific Highway appears to be congested with potential for possible queuing at the roundabout which may impede incoming traffic from Pacific Highway.*

- *The proposed additional service station and fast food and drink premises has not previously been accounted for in the traffic modelling and has the potential to impact the Groves Road/Pacific Highway intersection.*

- *Traffic modelling should be undertaken using SIDRA 7 network software to demonstrate that the propose changes to the approved development do not adversely affect the operational performance of the intersection of Pacific Highway / Groves Road. A network Model should include intersection of Pacific Highway / Groves Road and proposed internal roundabout.*

- *Traffic Counts should be included in the Traffic Report and the electronic copy of the traffic model should be submitted to RMS for review. Updated traffic counts at the intersection of Pacific Highway / Groves Road for weekday AM, Thursday PM and Saturday AM peak should be undertaken to inform the traffic modelling.*

23. We have undertaken updated traffic counts at the intersection of Pacific Highway with Groves Road for weekday afternoon and Saturday lunchtime periods. The results of the surveys are shown in Figures 14 and 15, and summarised in Table 2.

Table 2: Existing two-way (sum of both directions) peak hour traffic flows

Road	**Location**	**Weekday AM**	**Weekday PM**	**Saturday**
Pacific Highway	North of Groves Road	3,455	3,790	3,135
	South of Groves Road	3,375	3,675	2,915
Groves Road	East of Pacific Highway	360	685	750

24. Table 2 shows that Pacific Highway carried some 2,900 to 3,800 vehicles per hour two-way during the surveyed peak hours. Groves Road carried some 350 to 750 vehicles per hour two-way.

25. Additional development traffic flows through the Pacific Highway/Groves Road intersection, and through the internal roundabout intersection, are also shown in Figures 14 and 15.

26. The additional development traffic flows have been modelled using SIDRA 7 Network. 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. 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:

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

27. 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.

28. The options for the phasing of the Groves Road intersection include:

    - split phasing;
    - conventional phasing; and
    - diamond phasing.

29. Each of the three options for phasing could provide adequate capacity. However, during assessment of the approved development, RMS indicated its preference for diamond phasing. Therefore, we have modelled the intersection with diamond phasing, including a dedicated right turn lane on Groves Road and a shared left/through lane (consistent with the approved development). This would require a change in the lane discipline on the Groves Road approach.

30. The development was previously assessed for weekday afternoon and Saturday peak periods. As a significant proportion of the development would either not be open or busy during the morning peak hour, and morning flows are less than afternoon flows, we have not further assessed the morning peak hour.

31. The SIDRA 7 Network analysis found that the signalised intersection of Pacific Highway with Groves Road and the site access would operate with average delays of less than 42 seconds per vehicle during peak periods. This represents level of service C, a satisfactory level of service.

32. The internal roundabout would operate with average delays, for the highest delayed movement, of less than 15 seconds per vehicle during peak periods. This represents level of service A/B, a good level of service.

33. The SIDRA analysis estimates that the 95 per cent back of queue, for vehicle entering the site from Pacific Highway and approaching the roundabout, would be some 26 metres. The Groves Road intersection is some 40 metres from the roundabout. Therefore, queues from the internal roundabout would not affect the Pacific Highway.

    - *The proposed left in/let out access off Lake Street is most likely to be used by the vehicles approaching from the north to avoid going through two sets of traffic lights on Pacific Highway, which may result in additional queuing in the right hand turn lane at the intersection of the Pacific Highway / Newcastle Inner City Bypass. Proposed access therefore should be restricted to service vehicles entry and exit only.*

34. This matter was considered in association with the approved development. The traffic modelling undertaken at that time included a proportion of customer traffic using the Lake Street access. The number of vehicles using this access was modest, at some 20 to 40 per hour (one to two cars per cycle of the traffic signals). It is therefore not considered necessary to restrict the Lake Street access to service vehicles only.

- *Removal of the cul-de-sac at the end of service road along the rear of the bulky goods sites Lot 2, 3 and 4 will enable service vehicles to enter and exit the site from the local area via South Street rather than being restricted to the Lake Street access.*

35. This matter is noted. The service road along this part of the site is one-way northbound. Therefore:

    - service vehicles approaching from both the north and south would more efficiently use the highway, rather than South Street; and

    - the internal layout will direct exiting service vehicles towards Pacific Highway rather than South Street.

    - *Concern is raised regarding proposed changes to the service road access driveway at the southern boundary of the site, with entry now proposed via South Street and exit via the Pacific Highway. This is likely to result in conflict between exiting heavy vehicles and the vehicles turning left at the proposed access point further north. In addition, heavy vehicles heading south will need to go around the entire site via Pacific Highway, Lake Road and South St. Consideration therefore should be given to reconfigure the site to provide safe entry and exit and adequate storage of heavy vehicles on site.*

36. Exiting Bunning service vehicles would give way to northbound traffic on Pacific Highway. There is excellent sight distance to the south along Pacific Highway. There are also gaps in the traffic stream created by the adjacent traffic signals at South Street.

37. The number of service vehicles will be low, at an average of less than five per hour.

38. The proposed service vehicle exit is more than 200 metres from the southern signalised site access.

39. Therefore, because:

    - the number of exiting service vehicles will be low;
    - there are good sight lines along Pacific Highway;
    - exiting vehicles will readily be able to use gaps in the traffic stream; and
    - there is substantial distance between the proposed exit and the southern signalised site access;

    no unusual issues would arise as a result of the proposed service vehicle exit.

40. Additionally, Bunnings has advised the following in relation to the proposed access arrangements:

    The direction of our delivery vehicles is a matter of a critical importance to our layout and represents the superior operational outcome for Bunnings.

1. *The recently opened Bonnyrigg Warehouse (at 1-19 Bonnyrigg Avenue) includes an egress only driveway to Elizabeth Drive (an RMS) road which is used by Bunnings' delivery trucks. This egress is located at the commencement of the left turn slip lane being 80m from the Bonnyrigg Ave lights*
2. *Bunnings' delivery trucks in non-metro locations typically attend our stores between 7am-4pm on weekdays only, with an average of 3-4 movements per hour. The majority (ie approx. ¾ of delivery trucks will be rigid trucks of varying sizes.)*
3. *Retaining the current arrangement of entry from Highway & exit to South Street will not permit any truck "queuing" safely on-site. Bunnings' loading arrangement only enable 1 truck to be unloaded at one time.*
4. *There is no amenity difference to South Street, given trucks are approved to use South Street in the approved DA*
5. *The modified design enable trucks to smoothly and safely turn from South Street to enter site without the need to traverse up ramp, prop on a slope to give way, in a residential street, which is the current DA approved scheme*

- *Concern regarding the straightened on-site road from South Street to the Pacific Highway with the potential to generate through trips, with potential impact on the southern traffic control signals intersection.*

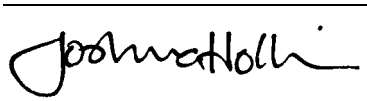
41. With regards to this matter, there would be no advantage to northbound traffic on the highway to travel through the site to reach South Street. Northbound traffic would have already passed the South Street intersection and it would be quicker to use South Street directly rather than travel through the site and car park and turn right onto South Street.

42. The new southern signalised intersection does not include right turns for vehicles exiting the site onto Pacific Highway. Therefore, southbound traffic would not be able to turn from South Street into the site and use these traffic signals to continue south along the highway.

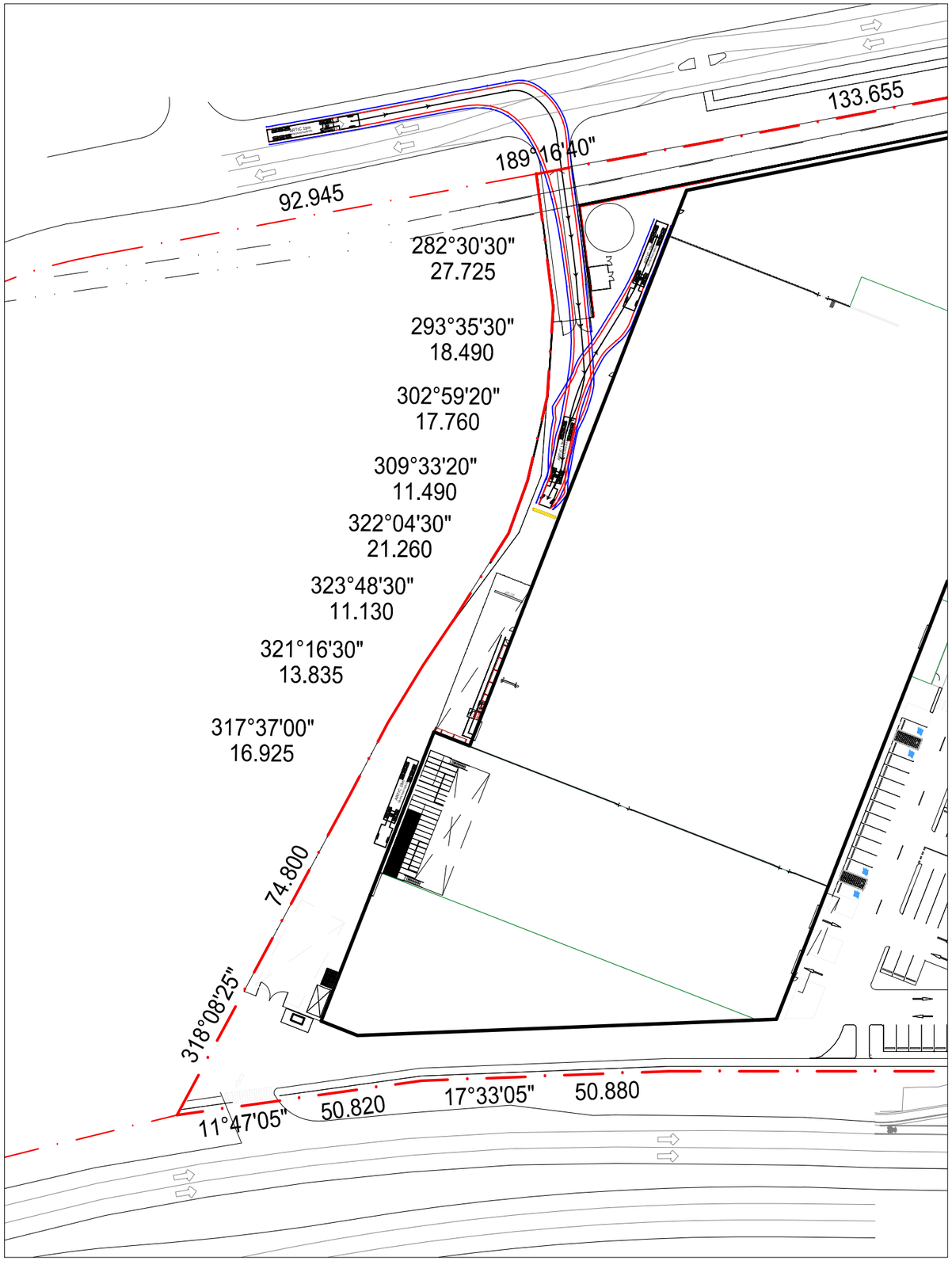
43. The potential for use of this connection as a short cut is therefore not considered to be significant.

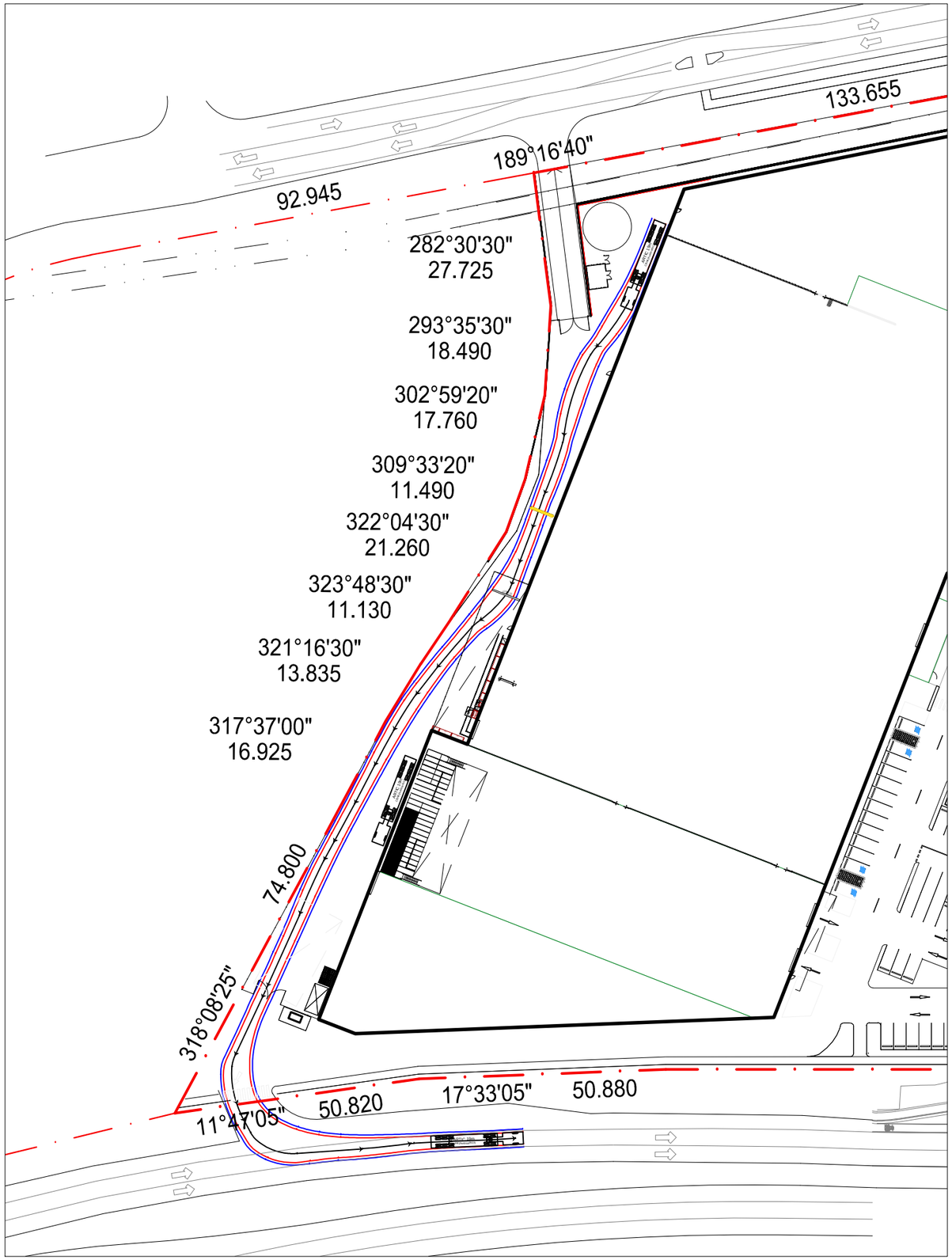
44. We trust the above provides the information you require. Finally, if you should have any queries, please do not hesitate to contact us.

Yours faithfully,
COLSTON BUDD ROGERS & KAFES PTY LTD



J Hollis
Director





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19.0m ARTICULATED VEHICLE SWEPT PATHS

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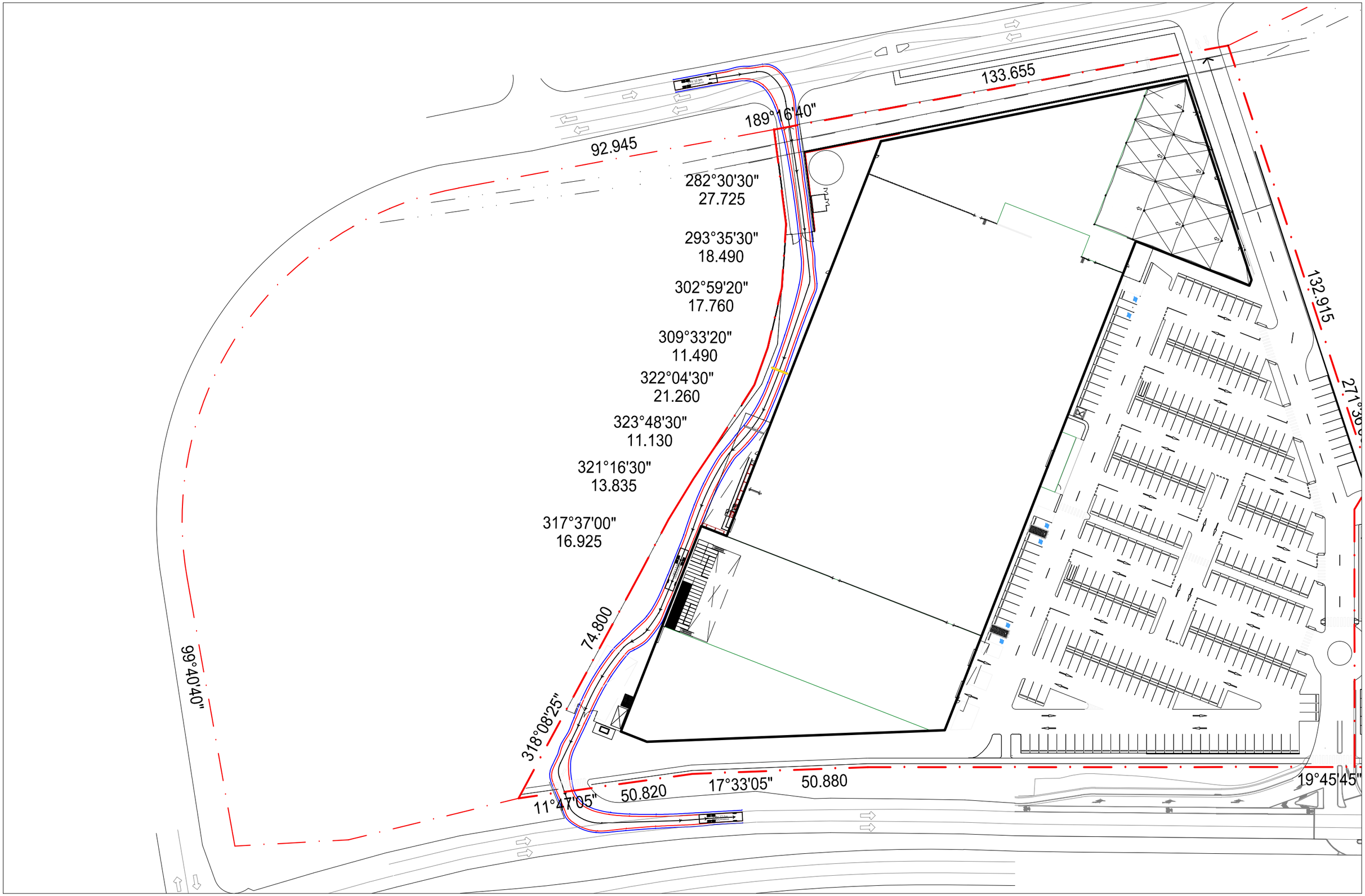

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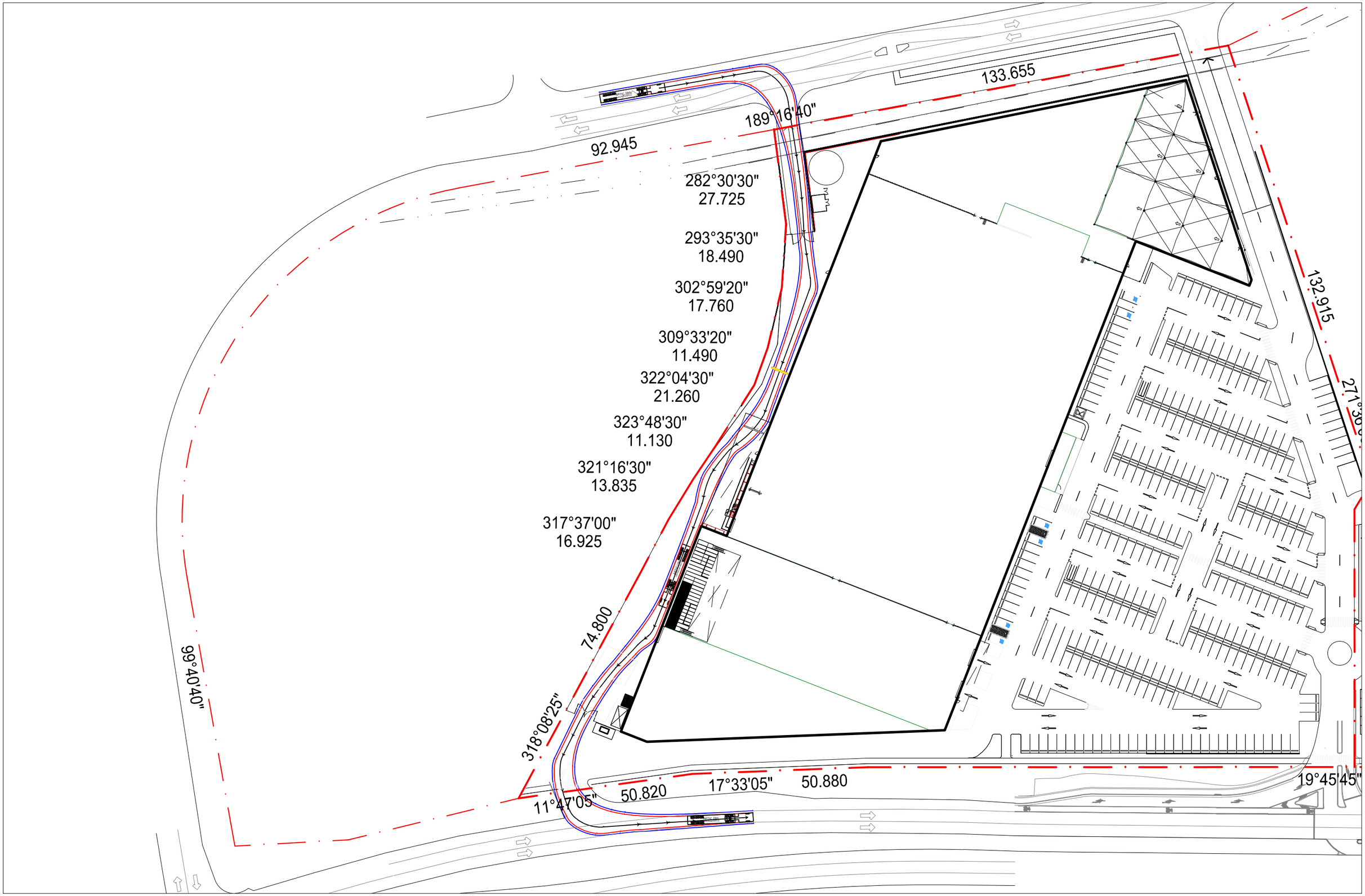

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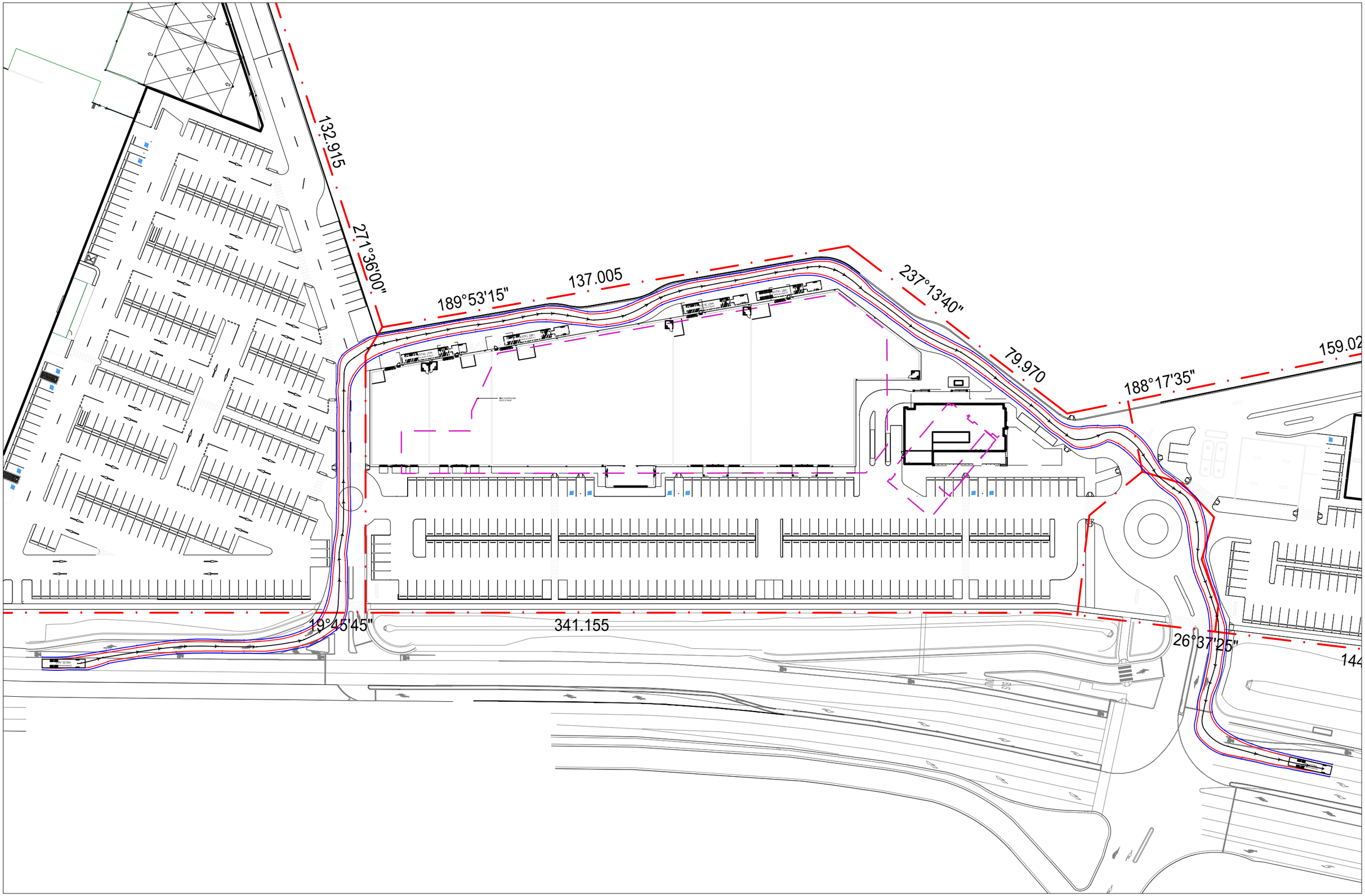

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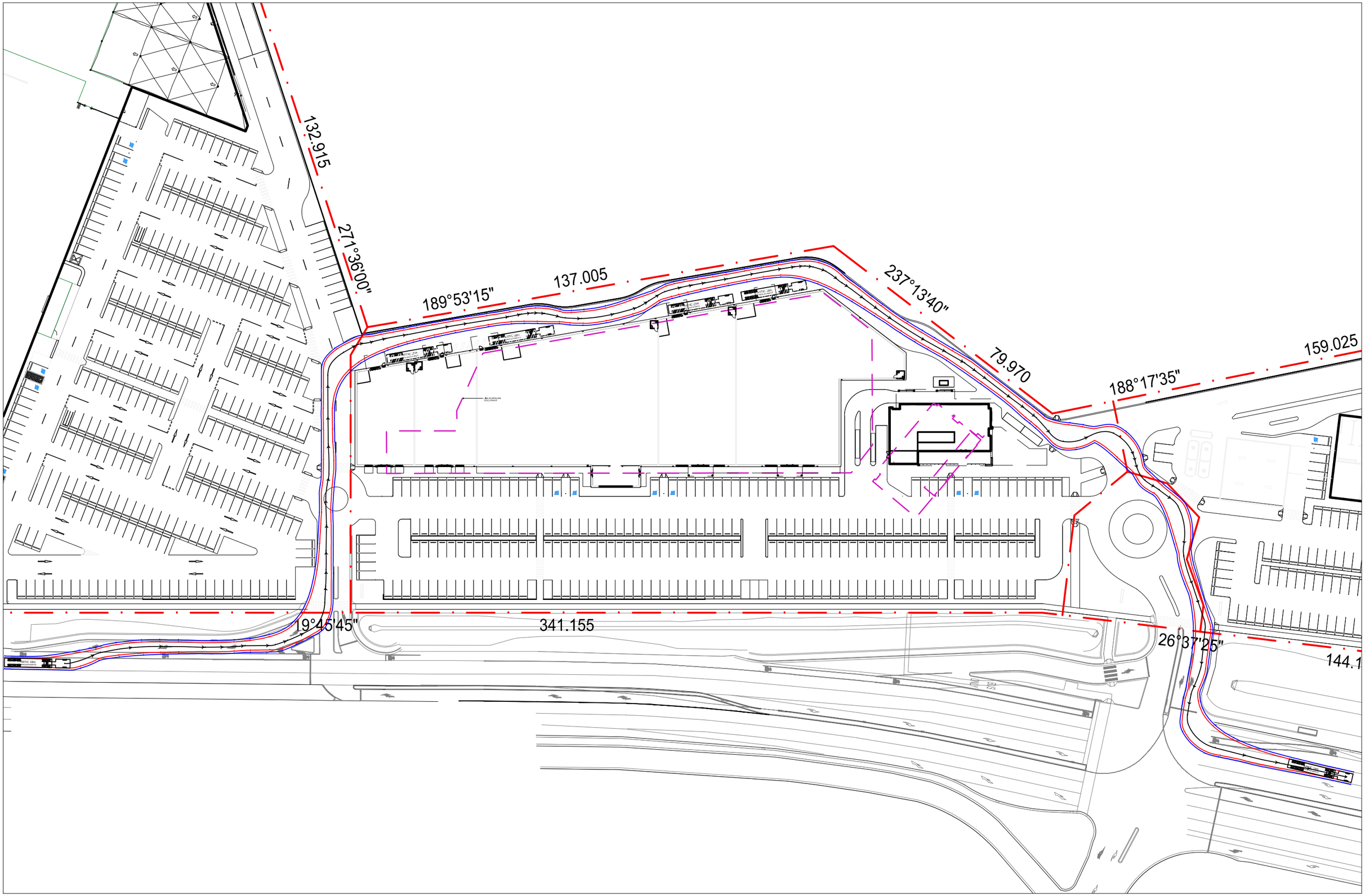

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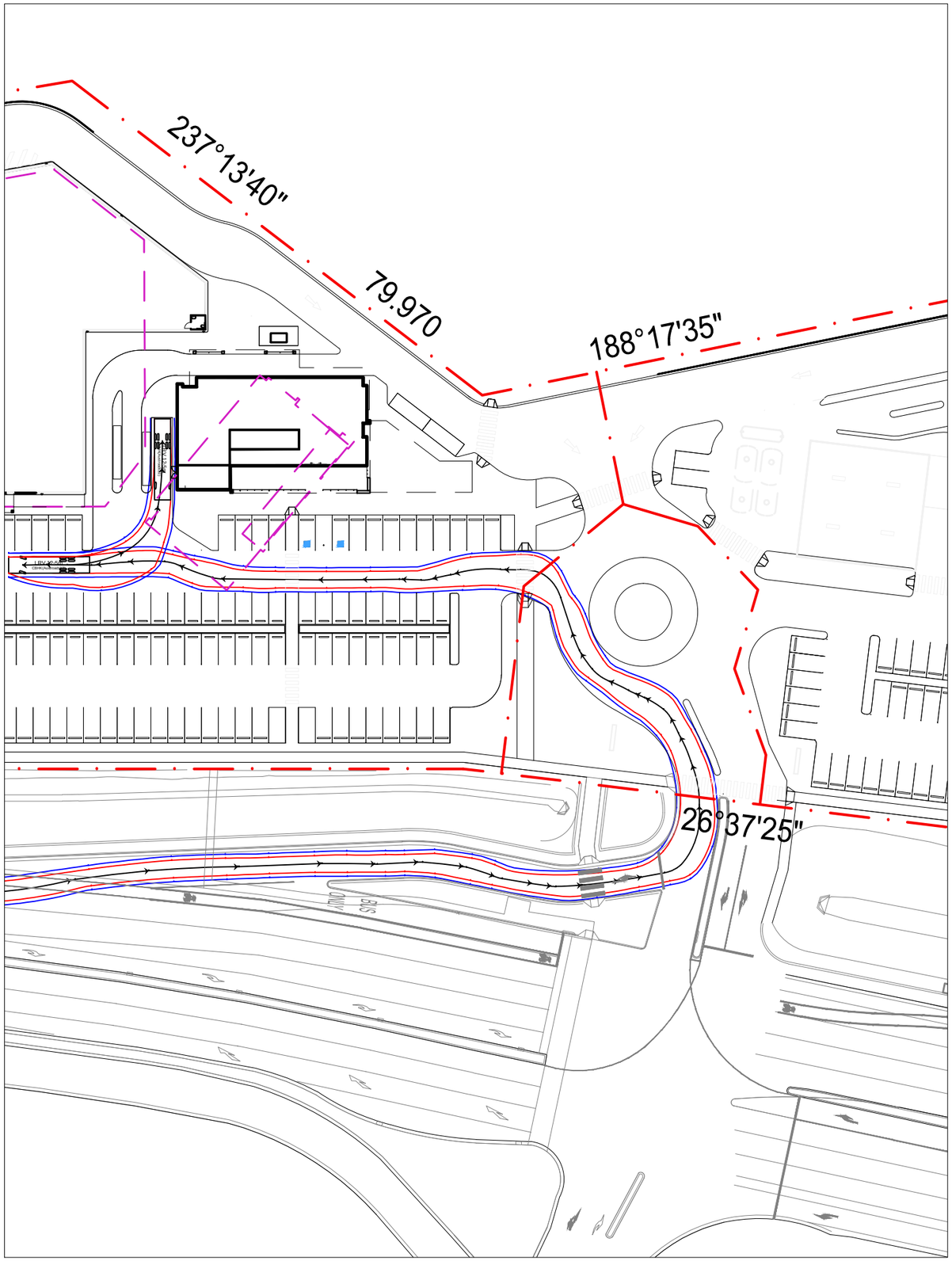

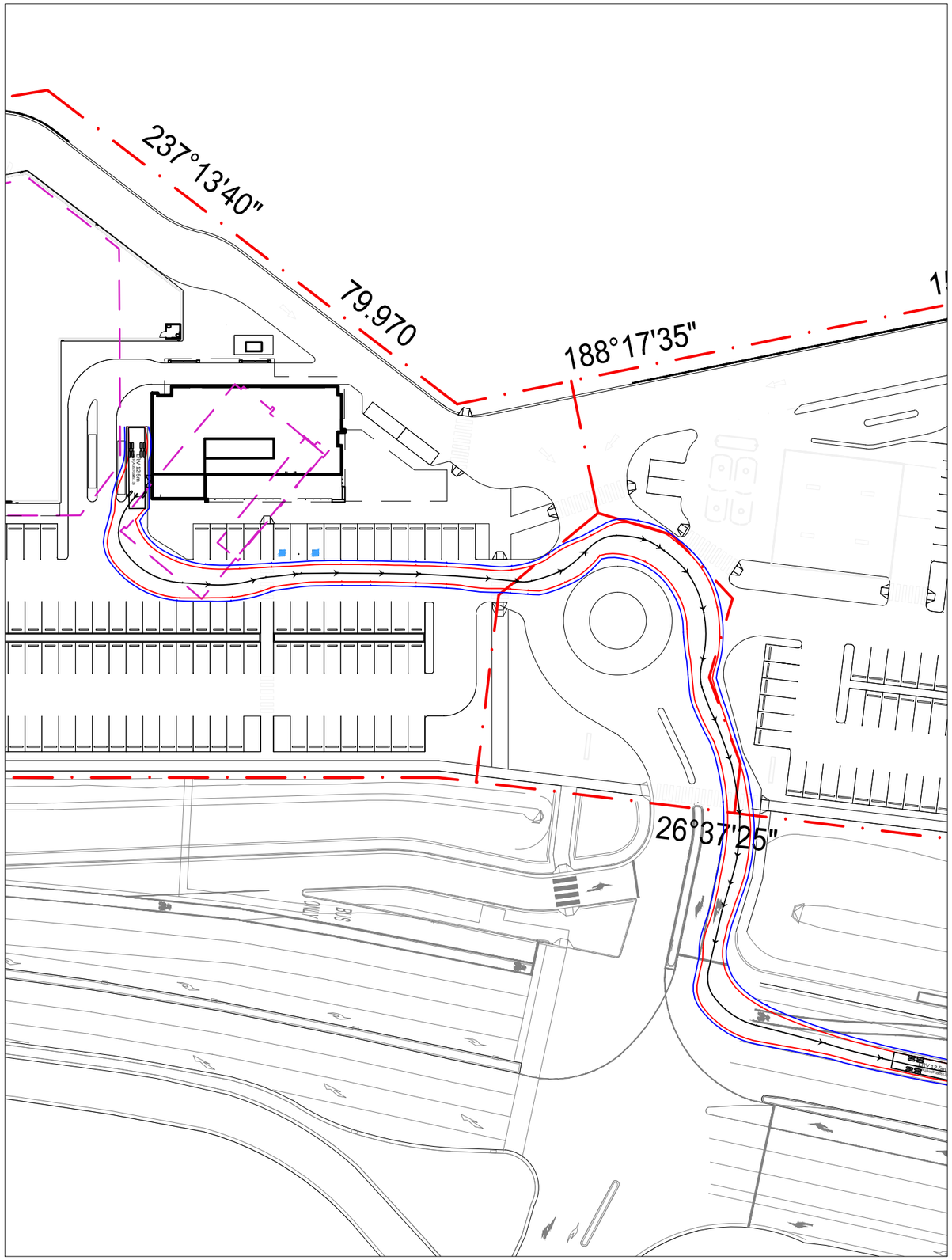

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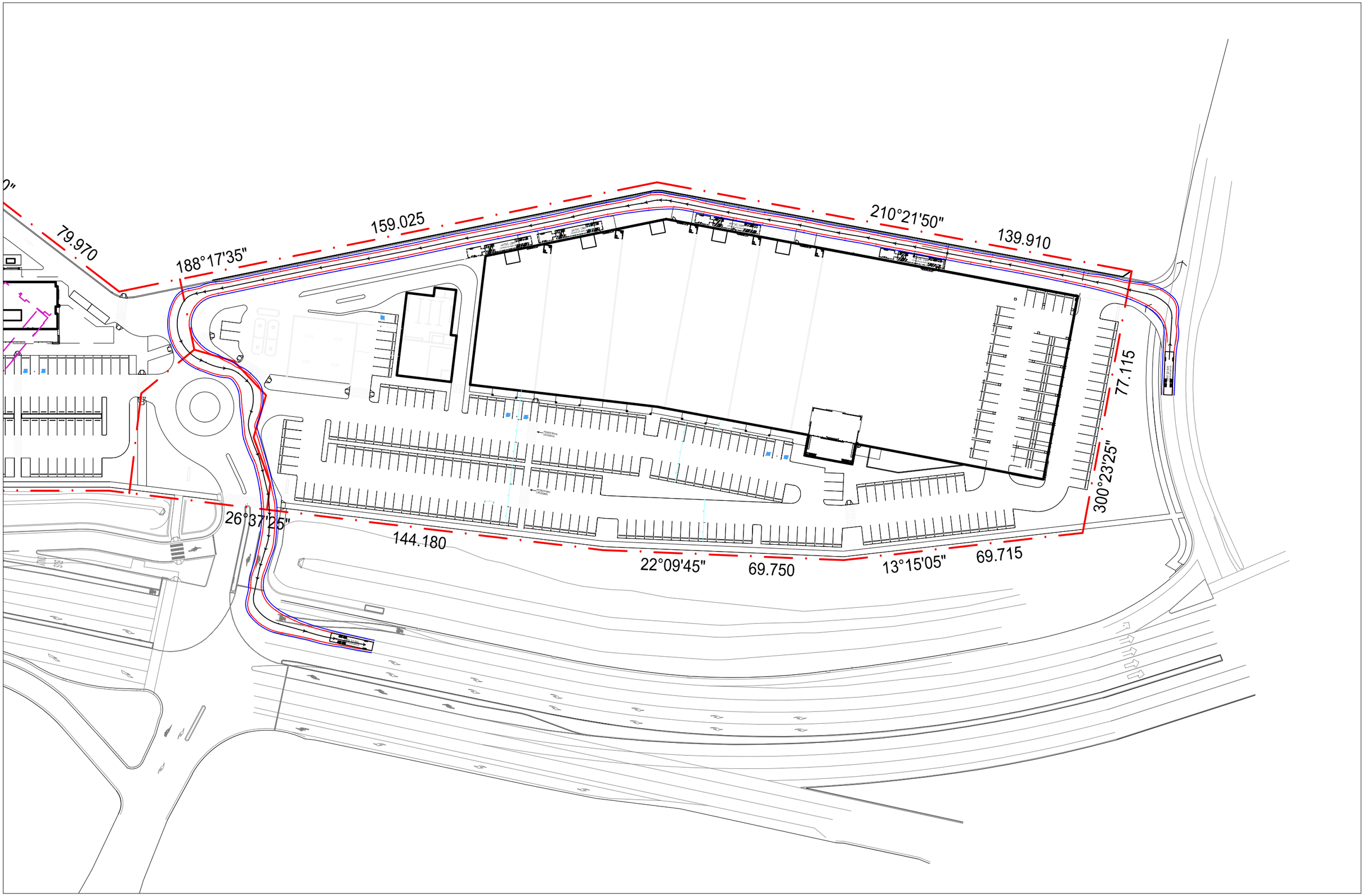

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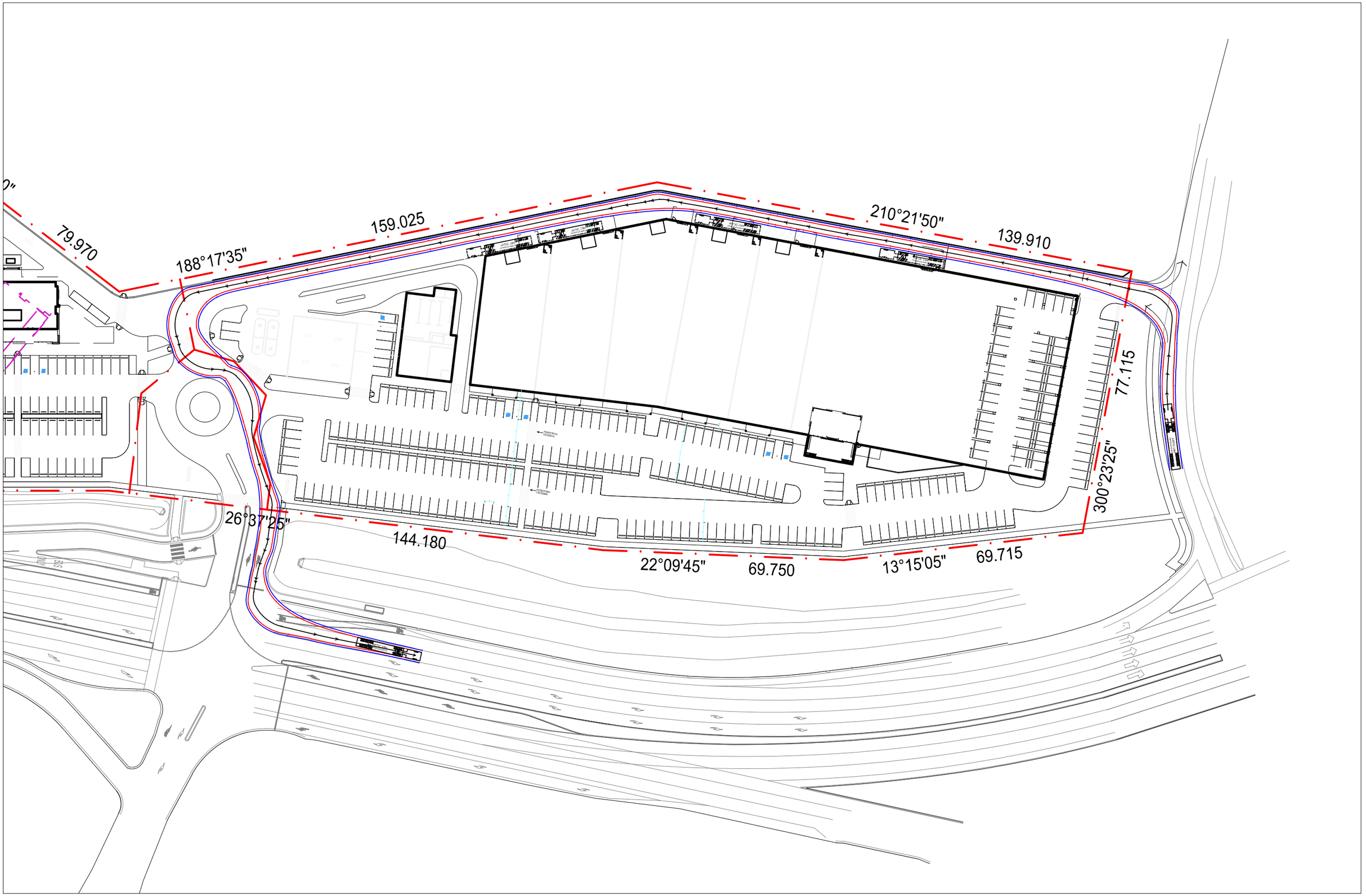

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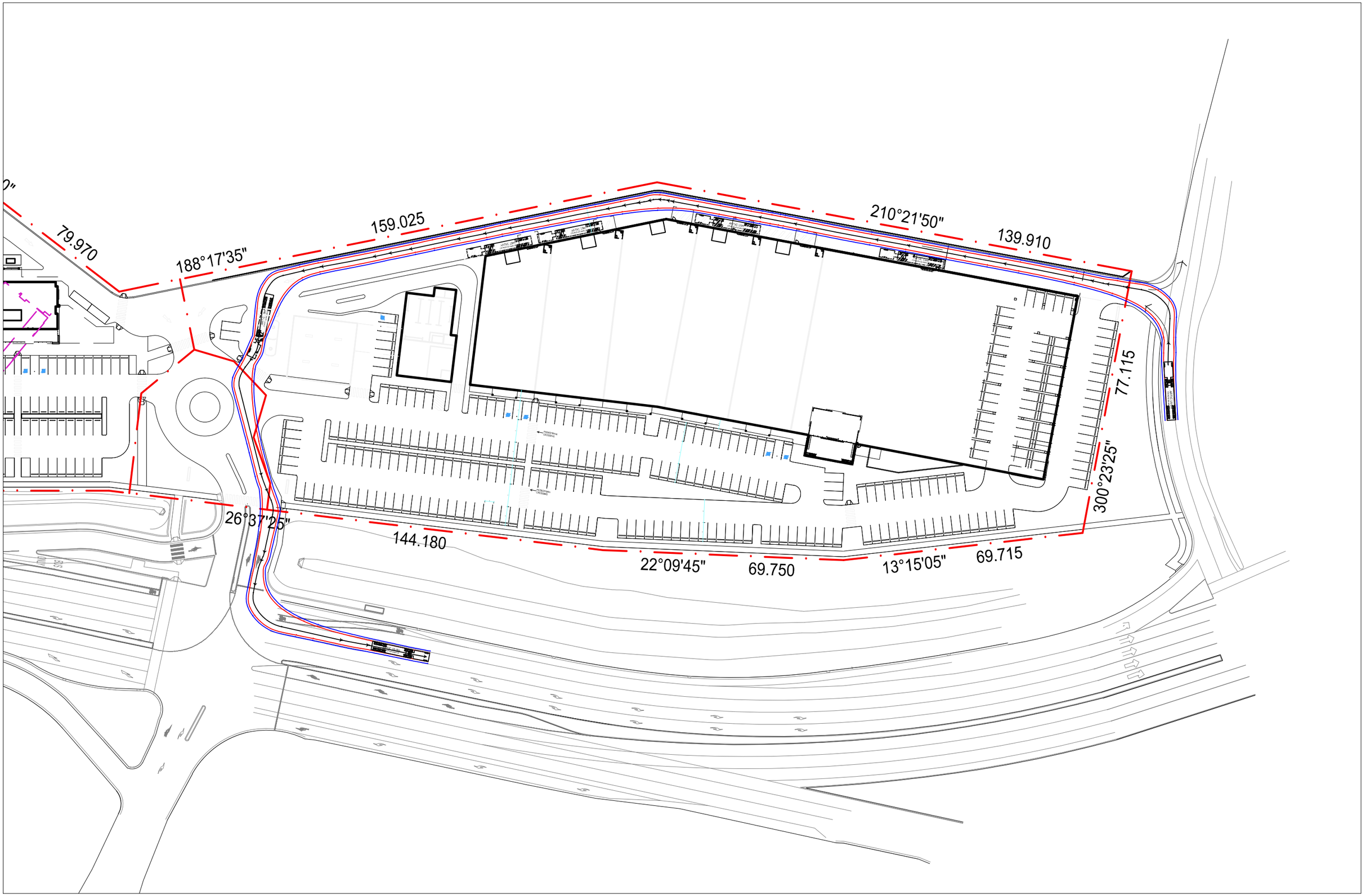

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16.9m ARTICULATED VEHICLE SWEPT PATHS

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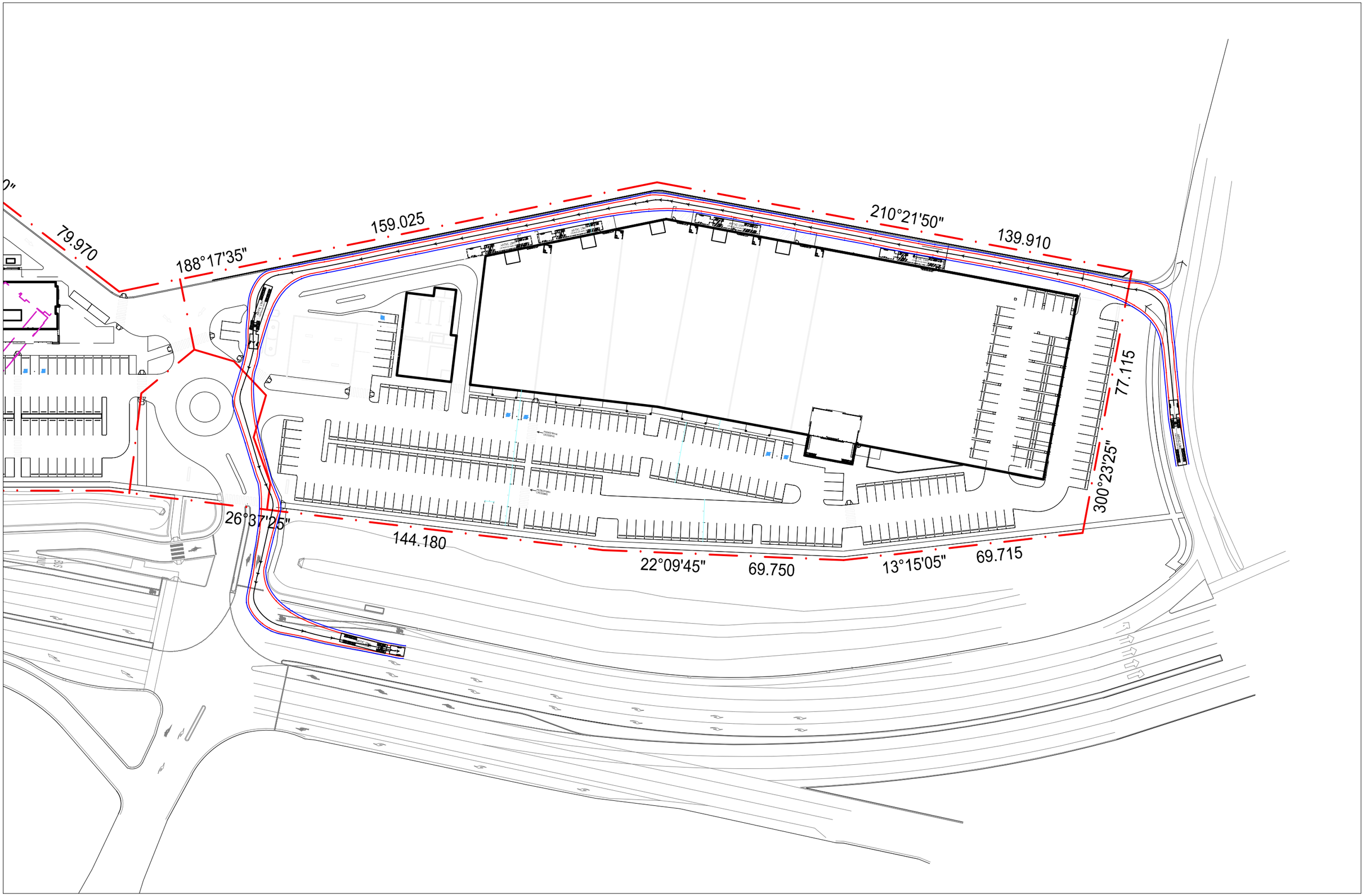

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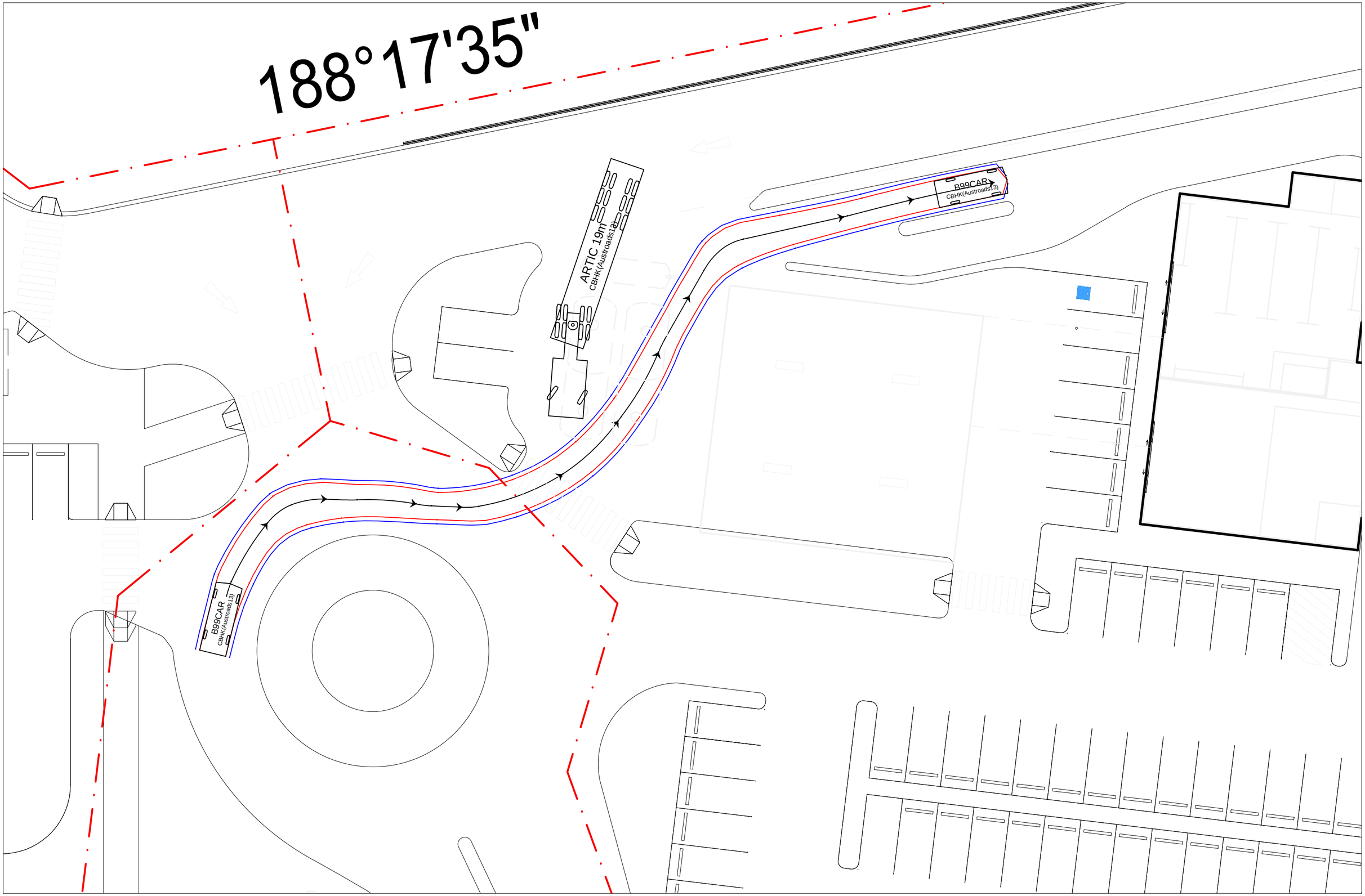

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B99 VEHICLE SWEPT PATHS

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188°17'35"

B99CAR
CBHK(Austroads13)

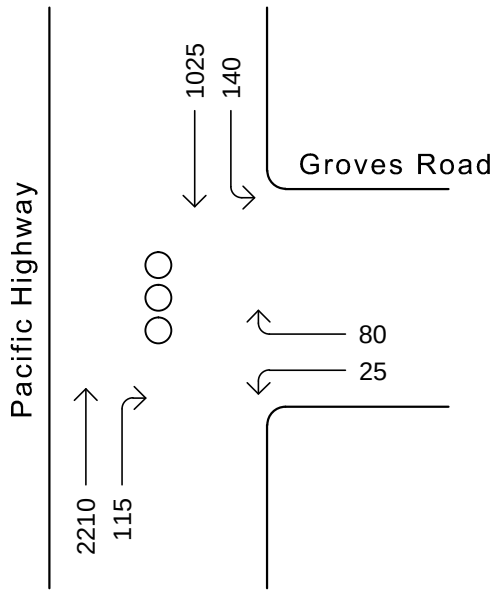
NOTE:
SKETCH PLAN ONLY. PROPERTY BOUNDARIES, UTILITIES, KERBLINES & DIMENSIONS ARE SUBJECT TO SURVEY AND FINAL DESIGN. TRAFFIC MEASURES PROPOSED IN THIS PLAN ARE CONCEPT ONLY AND ARE SUBJECT TO FINAL DESIGN BY CIVIL ENGINEERS.

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

B99 VEHICLE SWEPT PATHS

DRAWN BY CBRK Pty Ltd_mc Ref: 10398 14 DECEMBER 2017

12



LEGEND

100 - Existing Peak Hour Traffic Flows

- Traffic Signals

Existing weekday morning peak hour traffic flows

Colston Budd Rogers & Kafes Pty Ltd

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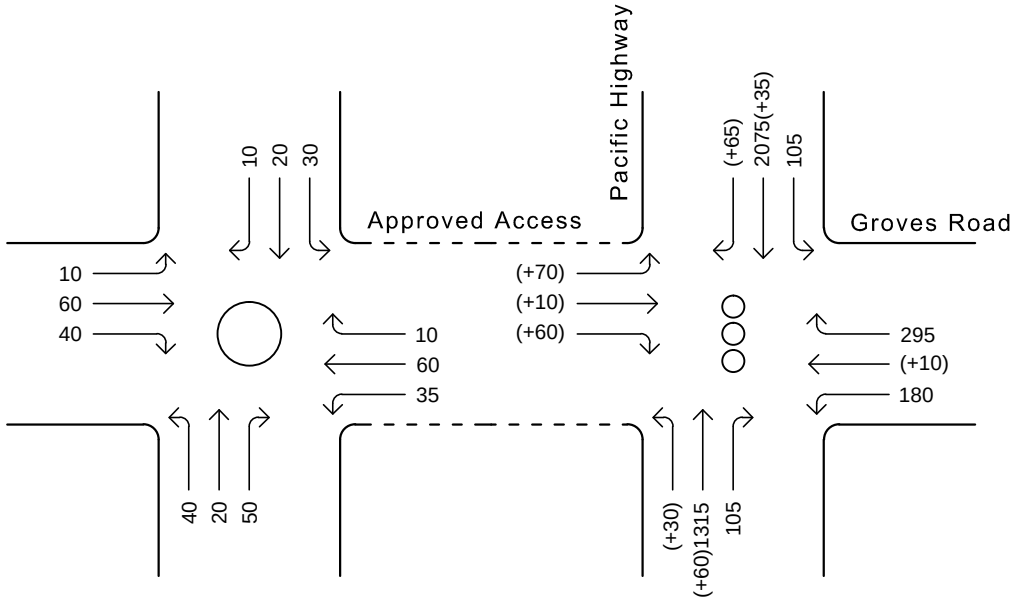
Figure 13



LEGEND

100 - Existing Peak Hour Traffic Flows
(+10) - Additional Development Traffic
- Traffic Signals
- Roundabout

Existing weekday afternoon peak hour traffic flows plus development traffic

Colston Budd Rogers & Kafes Pty Ltd

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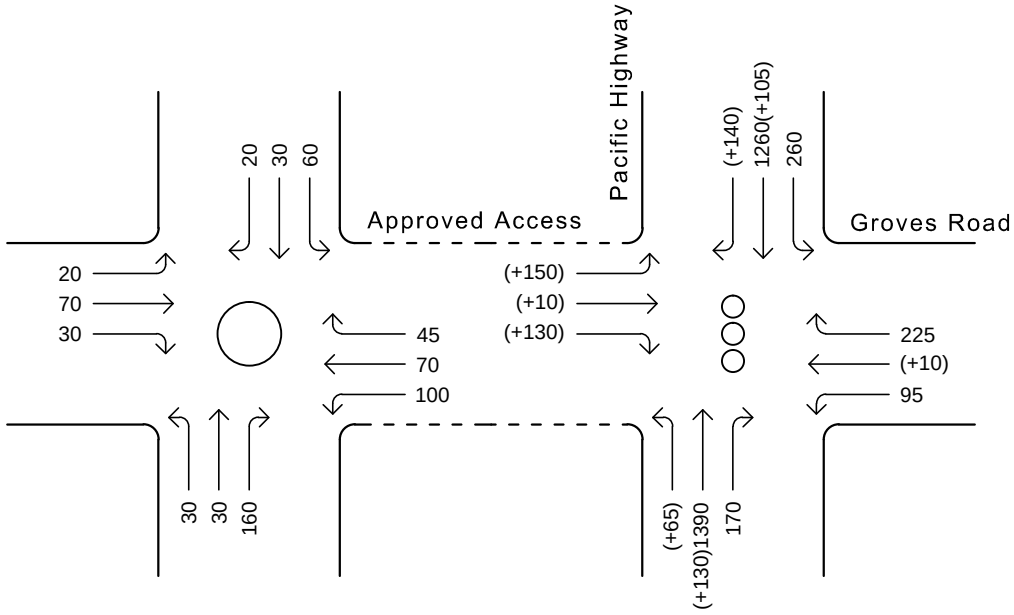
Figure 14



LEGEND

100 - Existing Peak Hour Traffic Flows
(+10) - Additional Development Traffic
- Traffic Signals
- Roundabout

Existing Saturday midday peak hour traffic flows plus development traffic

Colston Budd Rogers & Kafes Pty Ltd

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Figure 15