1 December 2017

Ertan Barkman
Project Manager
LandCorp
Level 3 Wesfarmers House, 40 The Esplanade
PERTH WA 6000

Our ref: 61/32804
Your ref:

Dear Ertan

Broome North Structure Plan Stage 2
Noise Assessment - Conditions Required for Residential Development

1 Introduction

1.1 Background

LandCorp propose to develop a residential area approximately three kilometres to the north of Broome Airport, known as Broome North Structure Plan Stage 2. The development is bordered by Broome Road to the east, Fairway Drive to the north and Magabala Road to the west.

GHD has previously undertaken noise assessments for Broome Speedway and/or Broome Motocross, presented to LandCorp in November 2012 and May 2013.

LandCorp has requested that GHD undertake a review of previous noise assessments to assess mitigation measures which will allow development of Broome North Structure Plan Stage 2, subject to Broome Motocross being relocated and Broome Speedway remaining operational under an approved Noise Management Plan.

1.2 Scope of work

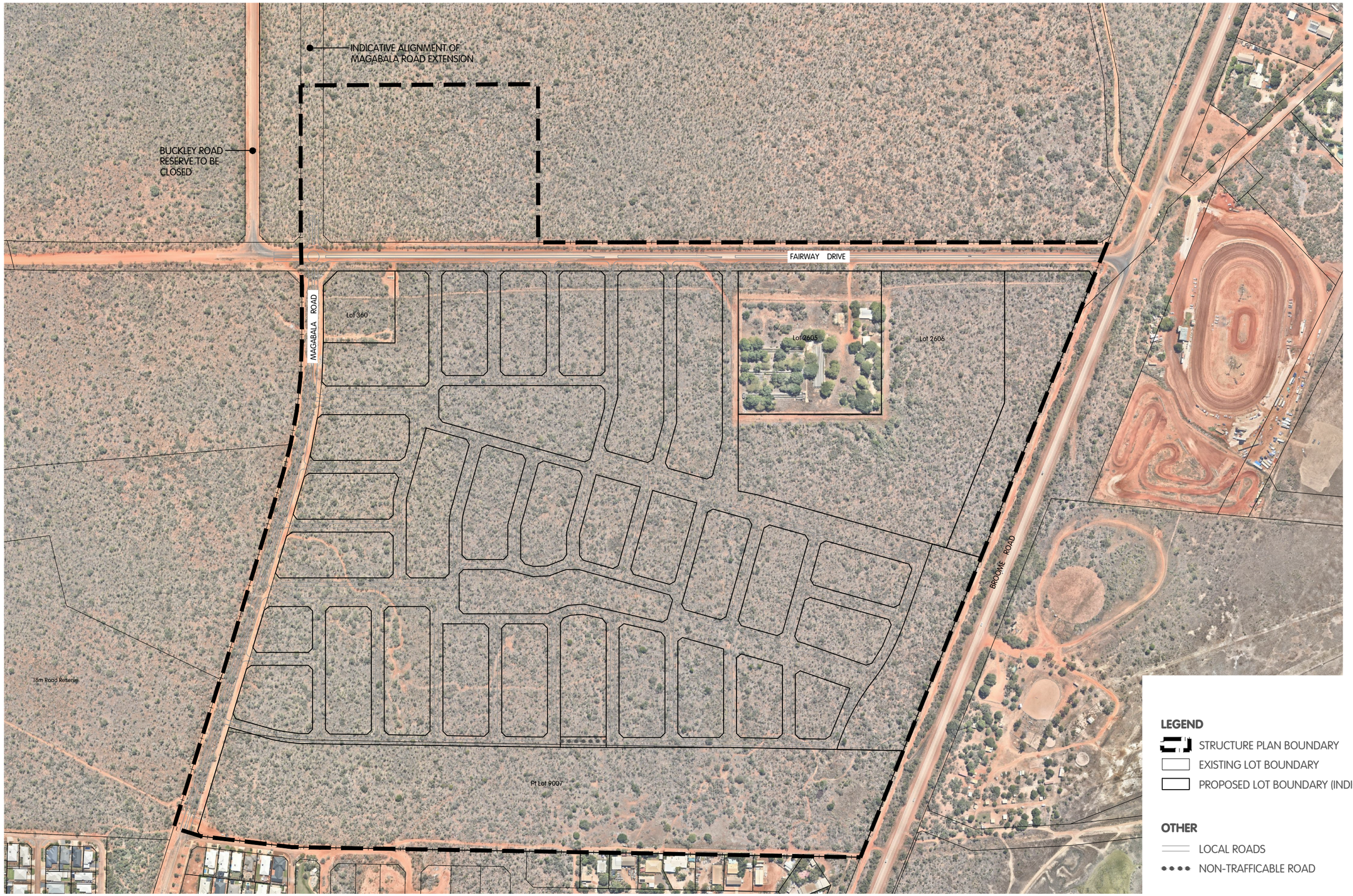
This letter report presents:

- A review of previous noise assessments undertaken for Broome North Structure Plan Stage 2.
- Assessment of mitigation measures which will allow development of Broome North Structure Plan Stage 2.

1.3 Proposed development

The proposed development is bordered by Broome Road to the east, Fairway Drive to the north and Magabala Road to the west.

Figure 1 shows the location of the proposed residential development and Figure 2 shows the current structure plan.



N

LEGEND

- STRUCTURE PLAN BOUNDARY
- EXISTING LOT BOUNDARY
- PROPOSED LOT BOUNDARY (INDICATIVE)

OTHER

- LOCAL ROADS
- NON-TRAFFICABLE ROAD

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BROOME NORTH

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CADASTRAL INFORMATION
SOURCE: SLIP LANDGATE
YYMMDD: 170614
DWG REF: 170614 BROOME B94
PROJECTION: BRO94

AERIAL PHOTOGRAPHY
SOURCE: NEARMAPS
YYMMDD: 170614

SIZE A3
1:5000
0 metres 50 100 150 200 250

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E	UPDATE BASE LAN BRO RD1 201J	171107	SB	DP
D	RESIDENTIAL FREE AREA	160729	RF	DP
C	PLAN UPDATES	160722	RF	DP
B	DESIGN MODIFICATIONS	160705	RF	DP
A	PLAN BASE RD1 112F	160630	RF	DP

STRUCTURE PLAN - STAGE 2: AERIAL PHOTO
Broome North
Shire of Broome

REF NO.	DRAW NO.	REV.
LAN BRO	**RD1 200**	**E**

INDICATIVE ALIGNMENT OF MAGABALA ROAD EXTENSION

BUCKLEY ROAD RESERVE TO BE CLOSED

FAIRWAY DRIVE

MAGABALA ROAD

BROOME ROAD

R25 - R40

18m Road Reserve

HP

Lot 360

Lot 2605

Lot 2606

PS / HS

Pt Lot 9007

PAW

N

LEGEND

- STRUCTURE PLAN BOUNDARY
- EXISTING LOT BOUNDARY
- PROPOSED LOT BOUNDARY (INDICATIVE)

LOCAL SCHEME RESERVES

- PARKS, RECREATION & DRAINAGE
- ENVIRONMENTAL CULTURAL CORRIDOR
- PUBLIC PURPOSE DENOTED AS FOLLOWS:
  - PS / HS — PRIMARY SCHOOL / HIGH SCHOOL
  - HP — HORIZON POWER

ZONES

- RESIDENTIAL

OTHER

- R CODES
- RESIDENTIAL FREE AREA*
- INTEGRATOR ARTERIAL B
- NEIGHBORHOOD CONNECTOR
- MAJOR ACCESS STREET
- LOCAL ROADS
- NON-TRAFFICABLE ROAD
- LEFT-IN / LEFT-OUT INTERSECTION
- SWALE
- SHARED PATH

*No residential development is permitted within the 'Residential Free until such time as the Broome Motocross facility is relocated.

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STRUCTURE PLAN - STAGE 2: PLAN 1
Broome North
Shire of Broome

REF NO.	DRAW NO.	REV.
LAN BRO	**RD1 200**	**E**

2 Previous noise assessments

2.1 Broome Speedway (November 2012)

GHD completed noise monitoring and modelling of the noise impacts from Broome Speedway, presented to LandCorp in November 2012. This assessment indicated that on occasions Broome Speedway would generate noise levels which may impact on residents in the Broome North Structure Plan Stage 2 development.

The results of this assessment were reported in *Broome North LDP2 Development Noise Assessment,* prepared for LandCorp by GHD, November 2012. Worst case predicted L_{A10} noise levels from Broome Speedway are shown in Figure 11 in the above report (reproduced at Attachment B1).

2.2 Broome Speedway (April 2013)

Department of Environmental Regulation (DER) Noise Branch provided comment that the sound power levels used in the above noise assessment were likely an underestimate for worst case noise levels resulting when sprint cars compete. The noise levels for the previous assessment were monitored from demolition derby cars, not the louder sprint cars.

As a result, GHD remodelled the potential impacts from Broome Speedway using higher sound power levels as provided by DEC Noise Branch. This assessment indicated that on occasions Broome Speedway would generate noise levels which may impact on residents in the Broome North Structure Plan Stage 2 development, to a greater extent than demonstrated by the initial assessment.

The results of this assessment were reported in *Broome North LDP2 Development Noise Assessment,* prepared for LandCorp by GHD, November 2012 – Reissued with addendum April 2013. Worst case predicted L_{A10} noise levels from Broome Speedway are shown in Figure 21 in the above report (reproduced at Attachment B2).

2.3 Broome Motocross and Broome Speedway (April 2013)

Noise modelling was undertaken to determine the noise impact at the Broome North Structure Plan Stage 2 development resulting from the Broome Motocross and cumulatively from Broome Motocross and Broome Speedway during events or practice. This assessment indicated that due to its proximity and track layout, noise generated from on track activities at Broome Motocross were slightly higher than those from Broome Speedway.

Due to the scheduling of events, cumulative impacts resulting from motocross and speedway activities simultaneously would only occur on Saturday afternoons between 5.30 pm (when speedway events commence) to 7.00 pm (when motocross events or practice concluded).

Assessment of the cumulative impacts during operation of both Broome Motocross and Broome Speedway showed that noise levels were slightly higher cumulatively than for either motocross or speedway noise sources in isolation. This assessment demonstrated the need to develop mitigation measures in order for development to occur.

The results of this assessment were reported in *Broome North LDP2 Development Noise Assessment,* prepared for LandCorp by GHD, April 2013. Worst case predicted L_{A10} noise levels cumulatively from Broome Motocross and Broome Speedway are shown in Figure 13 in the above report (reproduced at Attachment B3).

3 Mitigation measures

As noise modelling indicated noise levels from operation of Broome Motocross and/or Broome Speedway lead to noise impacts which exceed assigned levels within the development area, a series of mitigation measures were presented as follows:

- Scheduling of events and practice to minimise noise impacts on the proposed development area.
- Construction of a barrier (noise wall or similar) adjacent to the motocross and/or speedway tracks.
- Longer term relocation of the motocross and speedway tracks to new locations providing suitable buffers between existing or future residential areas.

Mitigation measures are able to be implemented during development of the Broome North Structure Plan Stage 2 development. Mitigation measures available for consideration include:

- Construction of a barrier (noise wall or similar) adjacent to the proposed Broome North Structure Plan Stage 2 development.
- Reducing outdoor levels by implementing 'quiet house' design measures outlined in SPP 5.4[1] relating to screening of outdoor areas with the residence itself (building orientation considerations) or screen walls.
- Reducing internal noise levels by implementing 'deemed to comply packages' outlined in SPP 5.4 relating to improving noise insulation of residences.
- Providing information to new residents within the development of the potential noise impacts from speedway and motocross events (notifications on titles).

On review of the presented mitigation measures, in discussion with DER Noise Branch, a series of conditions for residential development to occur were developed.

4 Conditions required for residential development

As the development of Broome North Structure Plan Stage 2 will be progressed based on Broome Motocross being relocated and Broome Speedway remaining in operation under an approved Noise Management Plan, conditions for development have been developed as follows.

Noise levels resulting from Broome Speedway in isolation were predicted to exceed assigned noise levels at residences within the proposed development.

Noise mitigation measures outlined in *State Planning Policy 5.4 – Road and Rail Transport Noise and Freight Considerations in Land Use Planning* (SPP 5.4) pertain to reducing transport noise resulting from major roads and railways. In determining the required level of mitigation to maintain outdoor and indoor amenity, assessment was made against outdoor and indoor criteria established by SPP 5.4, outlined in Table 1. As speedway events conclude prior to 10.00 pm, the day criteria have been used.

Assessment was made against predicted L_{A10} noise levels, as L_{A10} noise levels are considered to most closely represent L_{Aeq} criteria specified in SPP 5.4. This approach has been reviewed and agreed to by DER Noise Branch.

[1] *Implementation Guidelines for State Planning Policy 5.4 Road and Rail Transport Noise and Freight Considerations in Land Use Planning*, Perth, May 2009.

Table 1 Outdoor and indoor noise criteria (dBA)

Time of day	Outdoor noise criteria L_{Aeq}	Indoor noise criteria L_{Aeq}
Day (6.00 am to 10.00 pm)	55	40
Night (10.00 pm to 6.00 am)	50	35

4.1 Reducing outdoor noise levels by screening outdoor areas

Outdoor noise levels are reduced by 5-10 dBA by screening outdoor areas such that the building forms a barrier between noise from speedway events. Such screening is achieved by either:

- Locating outdoor living areas so as to maximise the screening effects of buildings and any barrier walls.
- Designing walls to screen part or all of the affected property.
- To ensure an appropriately sized outdoor area is adequately screened may require designated building envelopes to be specified for each lot.

Based on the day outdoor noise criterion outlined in Table 1 and the reduction of up to 10 dBA achieved through building screening:

- Development areas with predicted L_{A10} noise levels below 55 dBA will require no additional mitigation. Only notifications on the title advising of possible noise impacts from Broome Speedway would be required.
- Development areas with predicted L_{A10} noise levels between 55 dBA and 66 dBA would require building screening (building envelopes) or fencing in order to meet an outdoor noise level of 55 dBA.
- Development areas predicted to exceed L_{A10} noise levels of 66 dBA will remain development free.

4.2 Reducing indoor noise levels by improving noise insulation of buildings

With regard to indoor noise levels, a typical residence (not accounting for any additional attenuation provided for by cyclone proof design) would see indoor levels approximately 15 dBA lower than outdoor levels (a predicted outdoor level of 55 dBA will result in indoor noise level approximately 40 dBA).

Indoor noise levels are reduced by increasing insulation to reduce noise levels within a residence. SPP 5.4 outlines two ‘deemed to comply’ packages for residential development, Package A and Package B.

Based on day indoor noise criterion outlined in Table 1 and the reduction achieved by implementing design Package A (approximately 5 dBA) and Package B (approximately 10 dBA):

- Development areas with predicted day L_{A10} noise levels below 55 dBA will require no additional noise insulation. Only notifications on the title advising of possible noise impacts from Broome Speedway would be required.
- Development areas with predicted day L_{A10} noise levels between 55 dBA and 60 dBA will require Package A noise insulation.
- Development areas with predicted day L_{A10} noise levels between 60 dBA and 66 dBA will require Package B noise insulation, in order to meet an internal noise level of 40 dBA.
- Development areas predicted to exceed L_{A10} noise levels of 66 dBA will remain development free.

4.3 Broome Speedway events

Based on information that Broome Motocross will be relocated and only Broome Speedway will remain in operation under an approved Noise Management Plan, Figure 3 presents a summary of requirements for residential development to occur for worst case noise impacts predicted from the Broome Speedway in isolation. These requirements are based on predicted L_{A10} noise levels, as shown in Figure 21 of the addendum report reissued in April 2013 (reproduced at Attachment B3).

Figure 3 shows that approximately two thirds of the proposed Broome North LDP2 development would only require notifications on the title advising of possible noise impacts from Broome Speedway (shaded light blue). The remaining area would require noise mitigation to reduce indoor (noise insulation Package A) and outdoor noise (2.0 m high solid fencing) levels to comply with SPP 5.4 criteria (shaded light green). The remaining areas potentially requiring noise mitigation directly adjacent to Broome Speedway to reduce indoor and outdoor noise or required to remain development free are located within the area designated public purpose (primary or high school) (shaded yellow) or parks, recreation and drainage (shaded dark green).

4.4 Broome Speedway events with noise wall

Figure 4 presents a summary of requirements for residential development to occur for worst case noise impacts predicted from the Broome Speedway in isolation, including mitigation by constructing a noise wall. As can be seen, construction of a noise wall further increases the area available for development only requiring notifications on titles.

Three options for noise wall construction have been considered, with each resulting in similar noise reductions being achieved such that conditions presented in Figure 4 are achieved. The three options considered are as follows:

- Construction of a 3.2 m high noise wall along Broome Road, adjacent to the Broome North Structure Plan Stage 2 development, extending from the corner of Fairway Drive to 450 m along Broome Road, as shown in yellow on Figure 4. This noise wall could be constructed as per standard noise walls in the Pilbara region.
- Construction of a 3.2 m high, 350 m long noise wall along Broome Road, adjacent to Broome Speedway, as shown in green on Figure 4. This noise wall could be constructed as per standard noise walls in the Pilbara region.
- Construction of a 3.2 m high, 200 m long noise wall adjacent to the speedway track, as shown in red on Figure 4. This noise wall would require construction from Perspex or similar see through material in order to prevent visual obstruction to the speedway track for spectators.

LEGEND

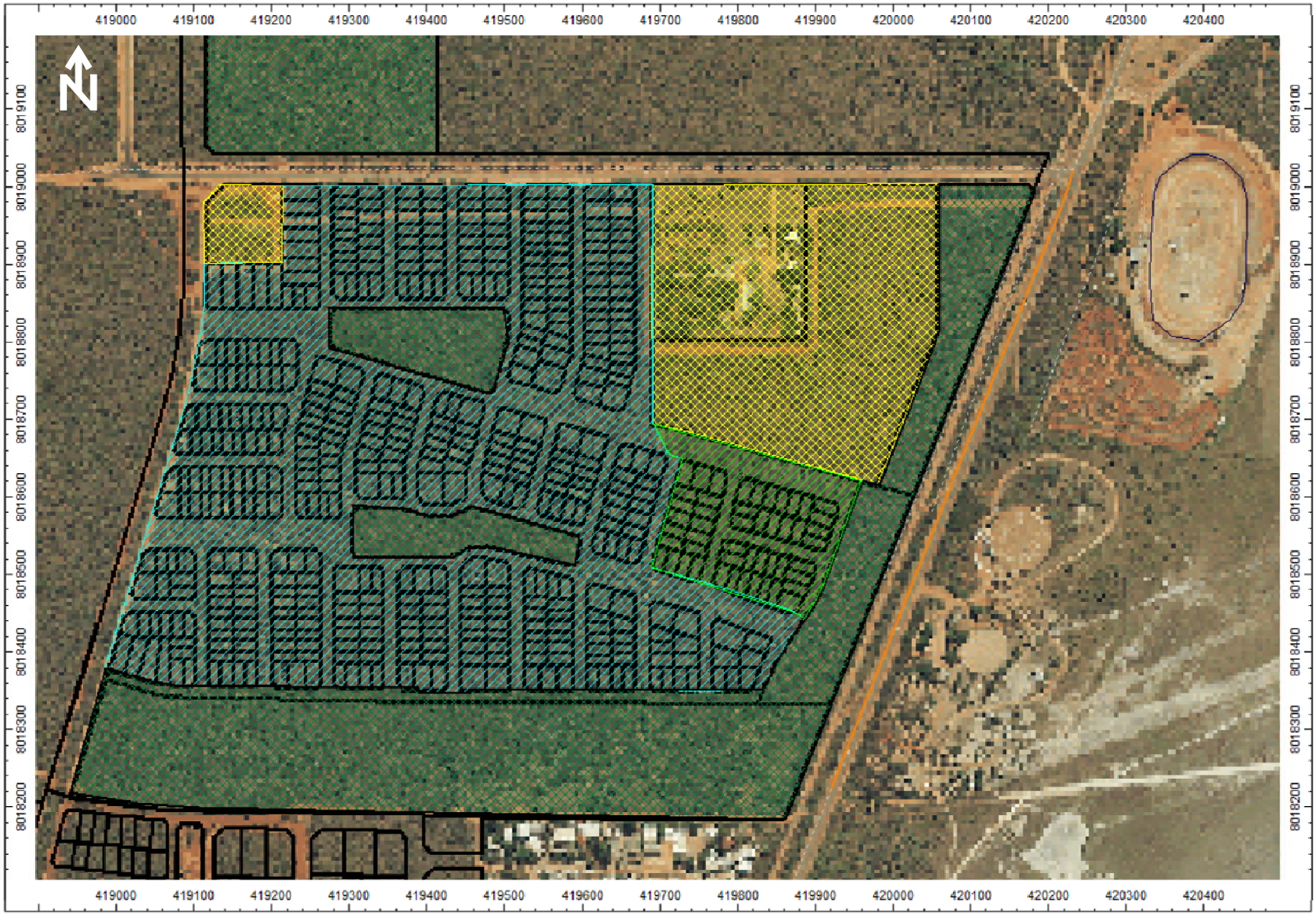
- Broome Speedway noise source
- Parks, recreation and drainage
- Public purpose

Mitigation options

- Indoor: Implement noise insulation Package A

  Outdoor: Area plans showing building envelopes and fencing (min. 2 m high solid fence) to provide a screened outdoor area
- Only requires notifications on the title advising of possible noise impacts from Broome Speedway

Note: All development areas in Broome North LDP2 will require notifications on the title advising of possible noise impacts from Broome Speedway



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Metres (at A3)

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HORIZONTAL DATUM:	Geocentric Datum of Australia (GDA)
GRID:	Map Grid of Australia 1994, Zone 50

DATE	FILE LOCATION
01.12.2017	G:/61/32804
REVISION	DRAWING NO.
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BROOME NORTH STRUCTURE PLAN STAGE 2

Noise Assessment

SUMMARY OF REQUIREMENTS SPEEDWAY EVENTS (NO NOISE WALL)

Conditions required for residential development

FIGURE 3

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LEGEND

- Broome Speedway noise source
- Parks, recreation and drainage
- Public purpose

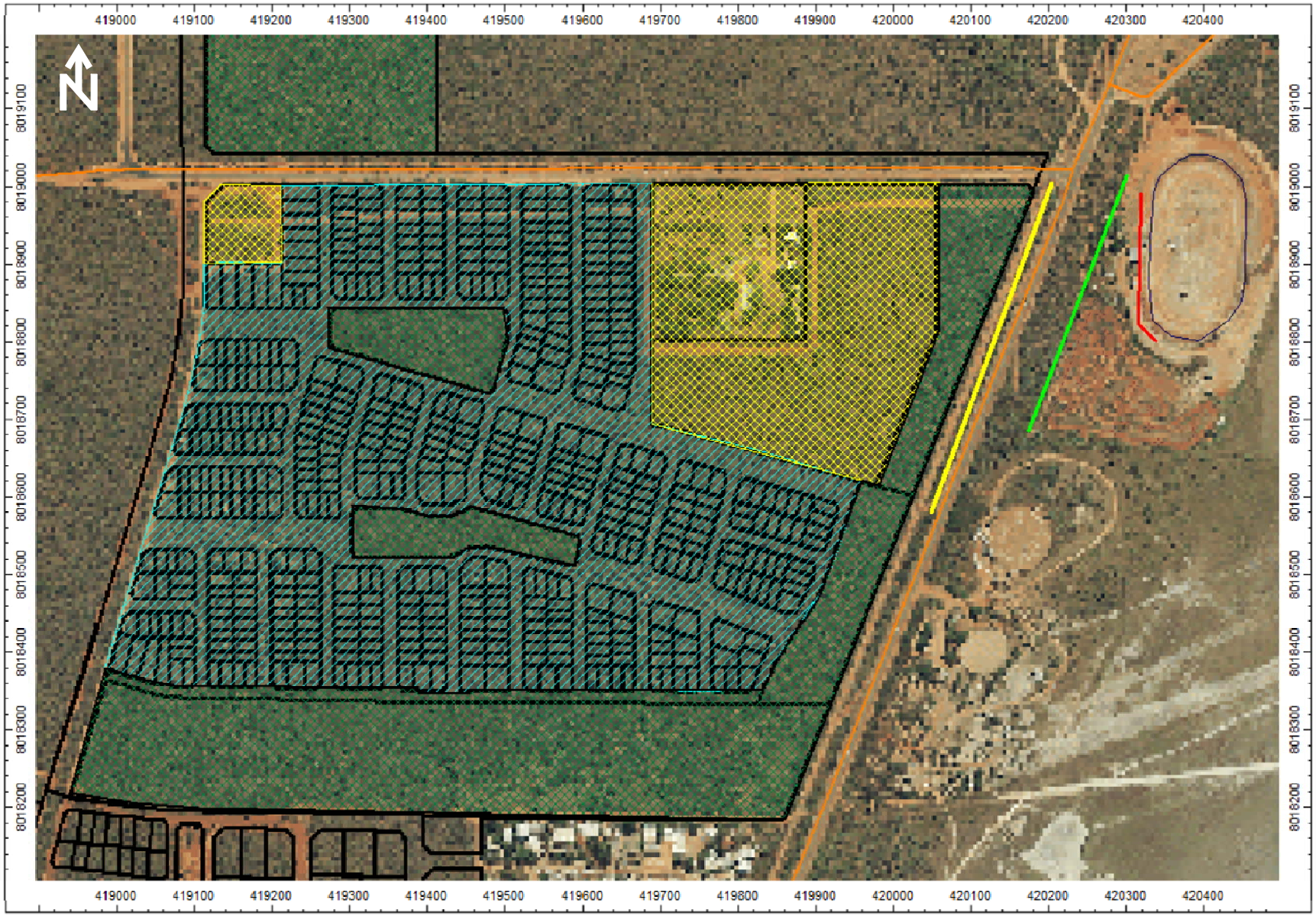
Noise wall options

- 3.2 m high noise wall, extending from the corner of Fairway Drive to 450 m along Broome Road
- 3.2 m high, 350 m long noise wall along Broome Road, adjacent to Broome Speedway
- 3.2 m high, 200 m long noise wall adjacent to the speedway track

Mitigation options

- Only requires notifications on the title advising of possible noise impacts from Broome Speedway

Note: All development areas in Broome North LDP2 will require notifications on the title advising of possible noise impacts from Broome Speedway



SCALE

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Metres (at A3)

CREATED	CHECKED	APPROVED
JF	JF	JF

MAP PROJECTION:	Universal Transverse Mercator
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BROOME NORTH STRUCTURE PLAN STAGE 2

Noise Assessment

SUMMARY OF REQUIREMENTS SPEEDWAY EVENTS (NOISE WALLS)

Conditions required for residential development

FIGURE 4

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5 Conclusions

GHD has undertaken a review of previous noise assessments to assess mitigation measures which would allow development of Broome North Structure Plan Stage 2, subject to Broome Motocross being relocated and Broome Speedway remaining operational under an approved Noise Management Plan.

Based on this review and that Broome Motocross will be relocated and only Broome Speedway will remain in operation, Figure 3 presents a summary of requirements for residential development to occur for worst case noise impacts predicted from the Broome Speedway in isolation.

This provides opportunity for LandCorp to develop approximately 85% of the proposed development area, whilst only requiring notifications on the title advising of possible noise impacts from Broome Speedway. The remaining 15% of the proposed development area would require implementation of noise insulation Package A and area plans showing building envelopes and fencing to show a screened outdoor area with minimum 2.0 m high fencing.

Construction of a noise wall will provide opportunity for LandCorp to develop the entire development area, as shown in Figure 4, whilst only requiring notifications on the title advising of possible noise impacts from Broome Speedway.

In the event that the Broome North Structure Plan 2 development proceeds and the Broome Motocross has yet to be relocated, Figure A1 and Figure A2 (Attachment A) present a summary of requirements for residential development to occur for worst case noise impacts predicted from the Broome Speedway and Broome Motocross, with and without construction of a noise wall.

6 Limitations

This report has been prepared by GHD for LandCorp and may only be used and relied on by LandCorp for the purpose agreed between GHD and LandCorp as set out in this report.

GHD otherwise disclaims responsibility to any person other than LandCorp arising in connection with this report. GHD also excludes implied warranties and conditions, to the extent legally permissible.

The services undertaken by GHD in connection with preparing this report were limited to those specifically detailed in Section 1.2 of this report. It is not the intention of the assessment to cover every element of the acoustical environment, but rather to conduct the assessment with consideration to the prescribed work scope.

The opinions, conclusions and any recommendations in this report are based on conditions encountered and information reviewed at the date of preparation of the report. GHD has no responsibility or obligation to update this report to account for events or changes occurring subsequent to the date that the report was prepared.

The opinions, conclusions and any recommendations in this report are based on assumptions made by GHD described in this report. GHD disclaims liability arising from any of the assumptions being incorrect.

GHD has prepared this report on the basis of information provided by LandCorp and others who provided information to GHD, which GHD has not independently verified or checked beyond the agreed scope of work. GHD does not accept liability in connection with such unverified information, including errors and omissions in the report which were caused by errors or omissions in that information.

The opinions, conclusions and any recommendations in this report are based on information obtained from, and testing undertaken at or in connection with, specific sample points. Site conditions at other parts of the site may be different from the site conditions found at the specific sample points.

7 Closing

This letter report presents a review of noise assessments undertaken to date for Broome North Structure Plan Stage 2 and provides a summary of requirements for residential development to occur, in consideration of worst case noise impacts from Broome Speedway.

Please contact the undersigned with any queries related to this project.

Regards

James Forrest
Principal Environmental Scientist / Team Leader – Air & Noise Assessments (WA)
Service Line Leader – Air & Noise (Australia, Asia Pacific, United Kingdom & Middle East)
08 6222 8380 / 0406 522 496

Attachment A

A1 Conditions required for residential development

A1.1 Broome Motocross and Broome Speedway events

As the development of Broome North Structure Plan Stage 2 will be progressed based on Broome Motocross being relocated and Broome Speedway remaining in operation under an approved Noise Management Plan, conditions for development have been developed as follows.

Figure A1 presents a summary of requirements for residential development to occur for worst case noise impacts predicted from the Broome Motocross and Broome Speedway operating, as was presented to Shire of Broome in April 2013. These requirements are based on predicted LA_{10} noise levels, as shown in Figure 13 of the April 2013 report (reproduced at Attachment B3).

Figure A1 shows that a substantial proportion (approximately 50%) of the proposed Broome North Structure Plan Stage 2 development area would require noise mitigation to reduce indoor and outdoor noise levels to comply with SPP 5.4 criteria (areas shaded light green, orange and red). A small proportion (shaded purple) would remain development free. The remaining area (approximately 40%) would only require notifications on the title advising of possible noise impacts from Broome Speedway or Motocross (blue shading).

A1.2 Broome Motocross and Broome Speedway events with a noise wall

Figure A2 presents a summary of requirements for residential development to occur for worst case noise impacts predicted from the Broome Motocross and Broome Speedway operating, including mitigation by constructing a noise wall. The noise wall would be a 3.2 m high noise wall along Broome Road, adjacent to the Broome North Structure Plan Stage 2 development, extending from the corner of Fairway Drive to 450 m along Broome Road, as shown in yellow on Figure A2.

Figure A2 shows that a substantial proportion (approximately 70%) of the proposed Broome North Structure Plan Stage 2 development area would only require notifications on the title advising of possible noise impacts from Broome Speedway or Motocross (blue shading). The remaining proposed development area would require noise mitigation to reduce indoor and outdoor noise levels to comply with SPP 5.4 criteria (areas shaded light green and orange).

LEGEND

- Broome Speedway noise source
- Parks, recreation and drainage
- Public purpose

Mitigation options

- Residential free area
- Indoor: Implement noise insulation packages to meet 40 dB

  Outdoor: Area plans showing building envelopes and fencing to provide a screened outdoor area to meet 55 dB
- Indoor: Implement noise insulation Package B

  Outdoor: Area plans showing building envelopes and fencing (min. 2.4 m high solid fence) to provide a screened outdoor area
- Indoor: Implement noise insulation Package A

  Outdoor: Area plans showing building envelopes and fencing (min. 2 m high solid fence) to provide a screened outdoor area
- Only requires notifications on the title advising of possible noise impacts from Broome Speedway or Motocross

Note: All development areas in Broome North LDP2 will require notifications on the title advising of possible noise impacts from Broome Speedway or Motocross

SCALE

0 100 200

Metres (at A3)

CREATED	CHECKED	APPROVED
JF	JF	JF

MAP PROJECTION:	Universal Transverse Mercator
HORIZONTAL DATUM:	Geocentric Datum of Australia (GDA)
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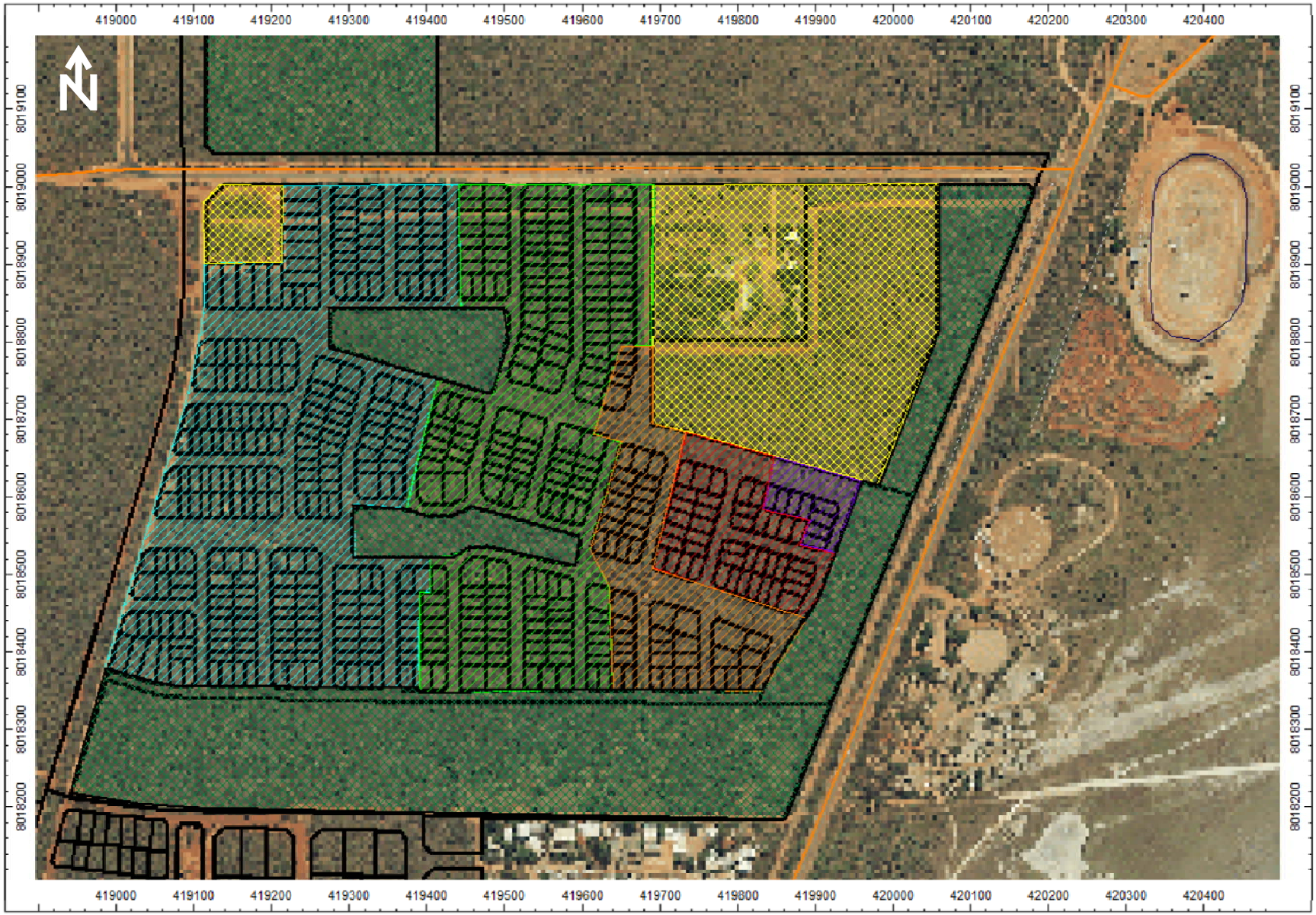

BROOME NORTH STRUCTURE PLAN STAGE 2

Noise Assessment

SUMMARY OF REQUIREMENTS SPEEDWAY AND MOTOCROSS EVENTS (NO NOISE WALL)

Conditions required for residential development

FIGURE A1

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LEGEND

- Broome Speedway noise source
- Parks, recreation and drainage
- Public purpose

Noise wall option

- 3.2 m high noise wall, extending from the corner of Fairway Drive to 450 m along Broome Road

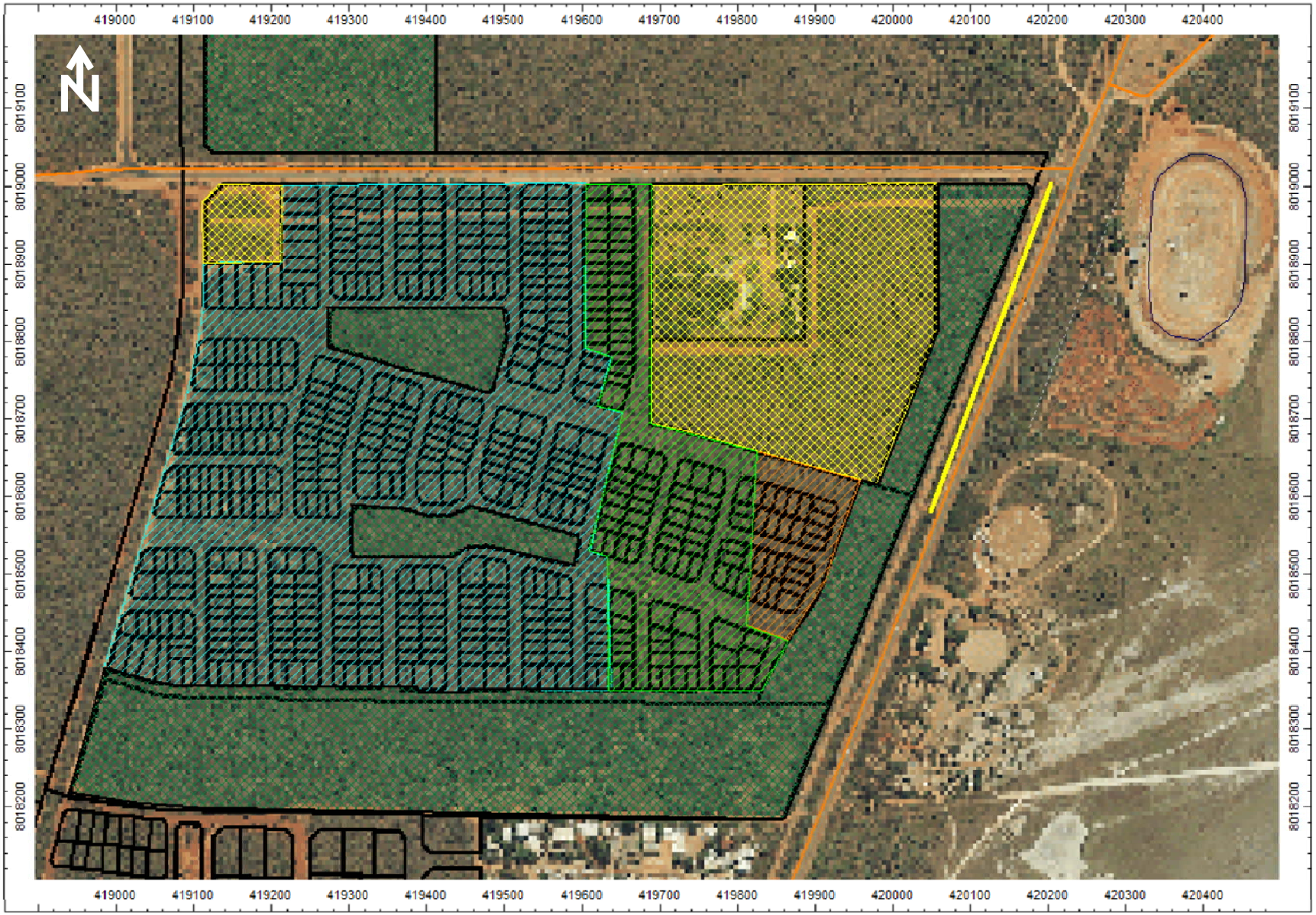
Mitigation options

- Indoor: Implement noise insulation Package B

  Outdoor: Area plans showing building envelopes and fencing (min. 2.4 m high solid fence) to provide a screened outdoor area
- Indoor: Implement noise insulation Package A

  Outdoor: Area plans showing building envelopes and fencing (min. 2 m high solid fence) to provide a screened outdoor area
- Only requires notifications on the title advising of possible noise impacts from Broome Speedway or Motocross

Note: All development areas in Broome North LDP2 will require notifications on the title advising of possible noise impacts from Broome Speedway or Motocross



SCALE

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Metres (at A3)

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BROOME NORTH STRUCTURE PLAN STAGE 2

Noise Assessment

SUMMARY OF REQUIREMENTS SPEEDWAY AND MOTOCROSS EVENTS (NOISE WALL)

Conditions required for residential development

FIGURE A2

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Attachment B

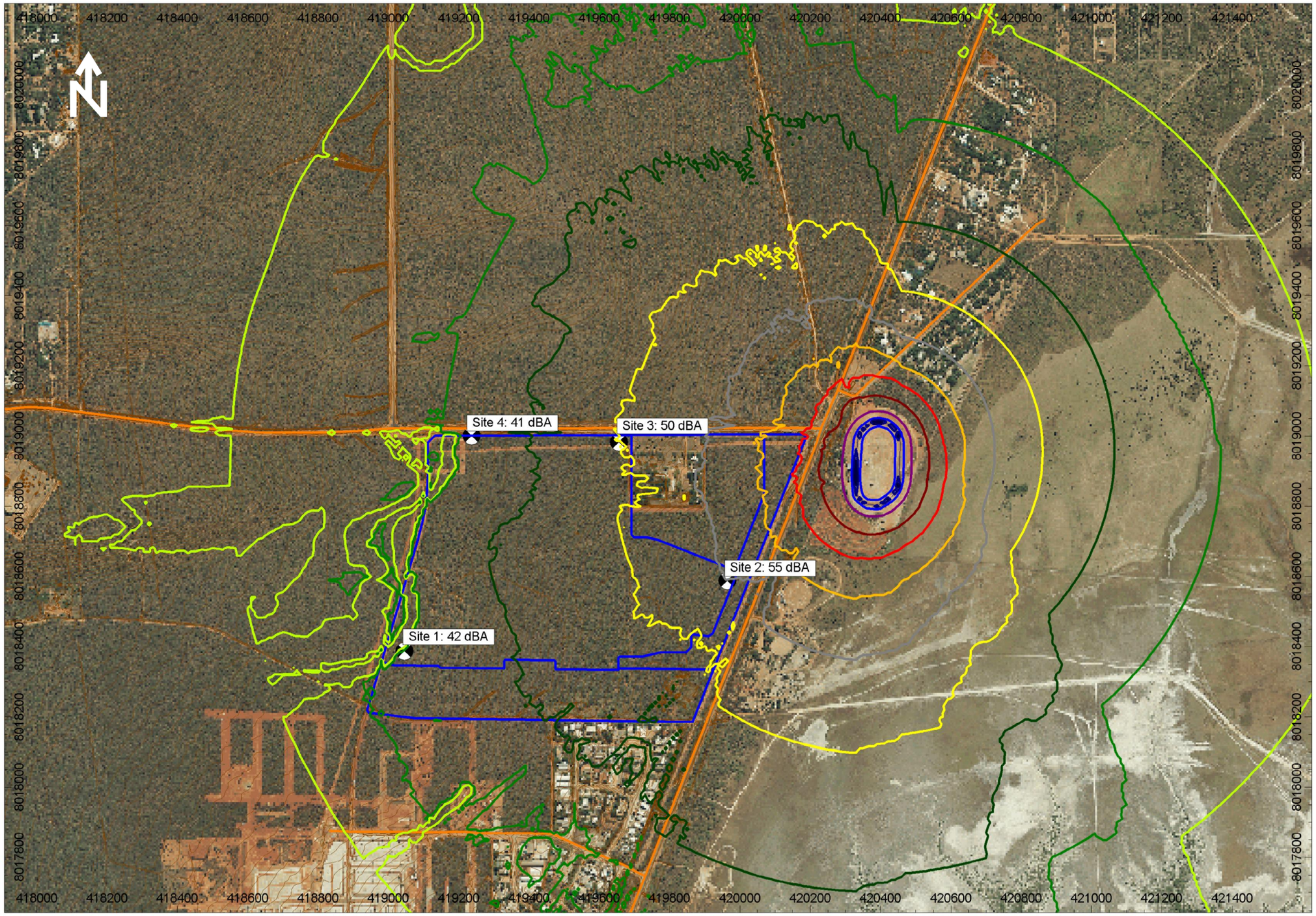
B1 Previous noise modelling

PREDICTED NOISE LEVELS

- 35 dBA
- 40 dBA
- 45 dBA
- 50 dBA
- 55 dBA
- 60 dBA
- 65 dBA
- 70 dBA
- 75 dBA
- 80 dBA
- 85 dBA
- 90 dBA

LEGEND

- Noise sensitive receptor
- Line noise source
- Development area boundary
- Evening assigned level



SCALE

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Metres (at A3)

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REVISION	DRAWING NO.
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BROOME NORTH LDP2 DEVELOPMENT

Noise Assessment

PREDICTED EVENING NOISE LEVELS

Noise contours: LA 10
Grid height: 1.5 m
Worst case conditions

FIGURE 11

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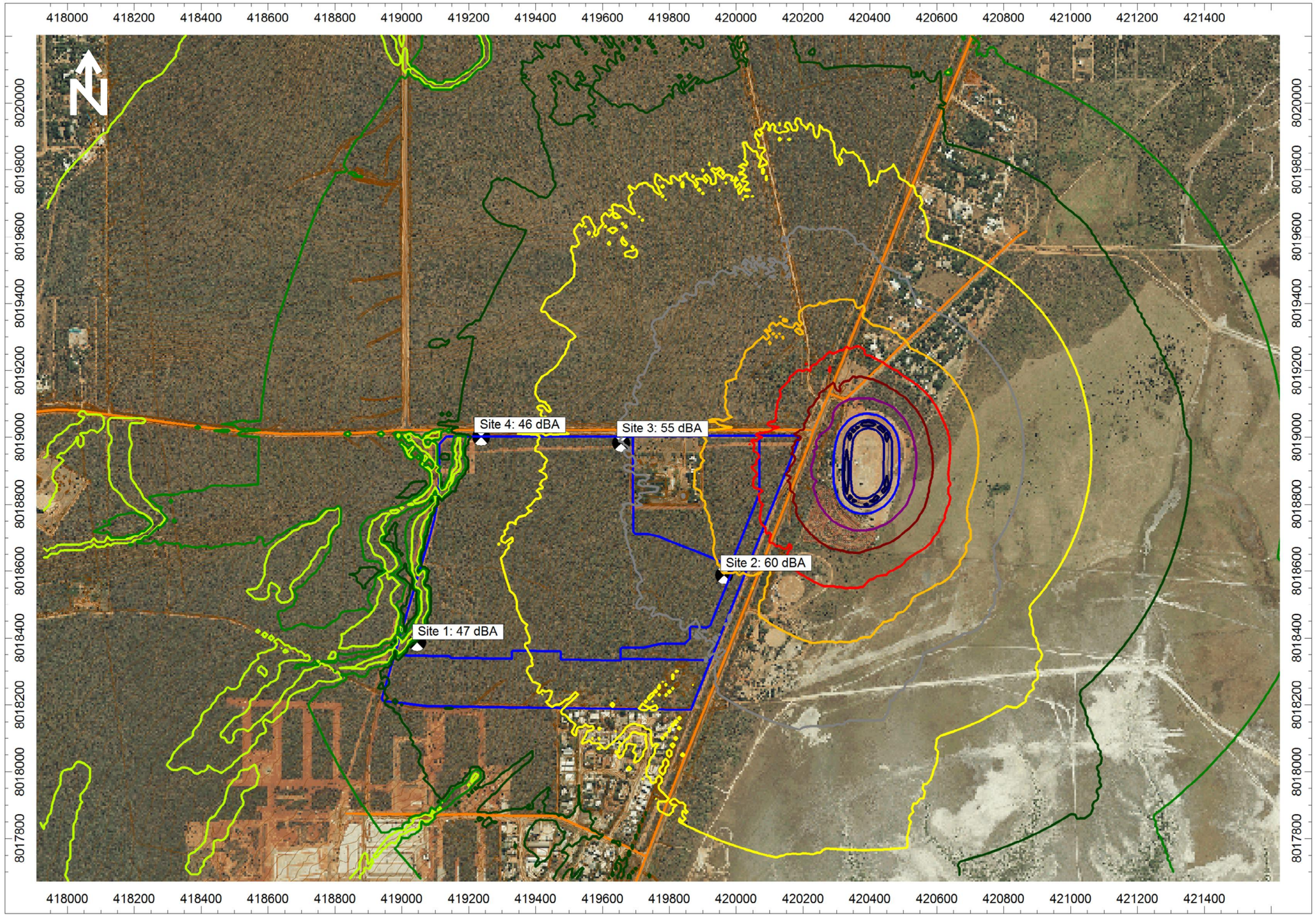
PREDICTED NOISE LEVELS

- 35 dBA
- 40 dBA
- 45 dBA
- 50 dBA
- 55 dBA
- 60 dBA
- 65 dBA
- 70 dBA
- 75 dBA
- 80 dBA
- 85 dBA
- 90 dBA

LEGEND

- Noise sensitive receptor
- Line noise source
- Development area boundary
- Evening assigned level



SCALE

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Metres (at A3)

CREATED	CHECKED	APPROVED
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GRID: Map Grid of Australia 1994, Zone 50

DATE	FILE LOCATION
10.04.2013	G:/61/28666/CADNA/SRF

REVISION	DRAWING NO.
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BROOME NORTH LDP2 DEVELOPMENT

Noise Assessment

PREDICTED EVENING NOISE LEVELS

Noise contours: LA 10
Grid height: 1.5 m
Worst case conditions

FIGURE 21

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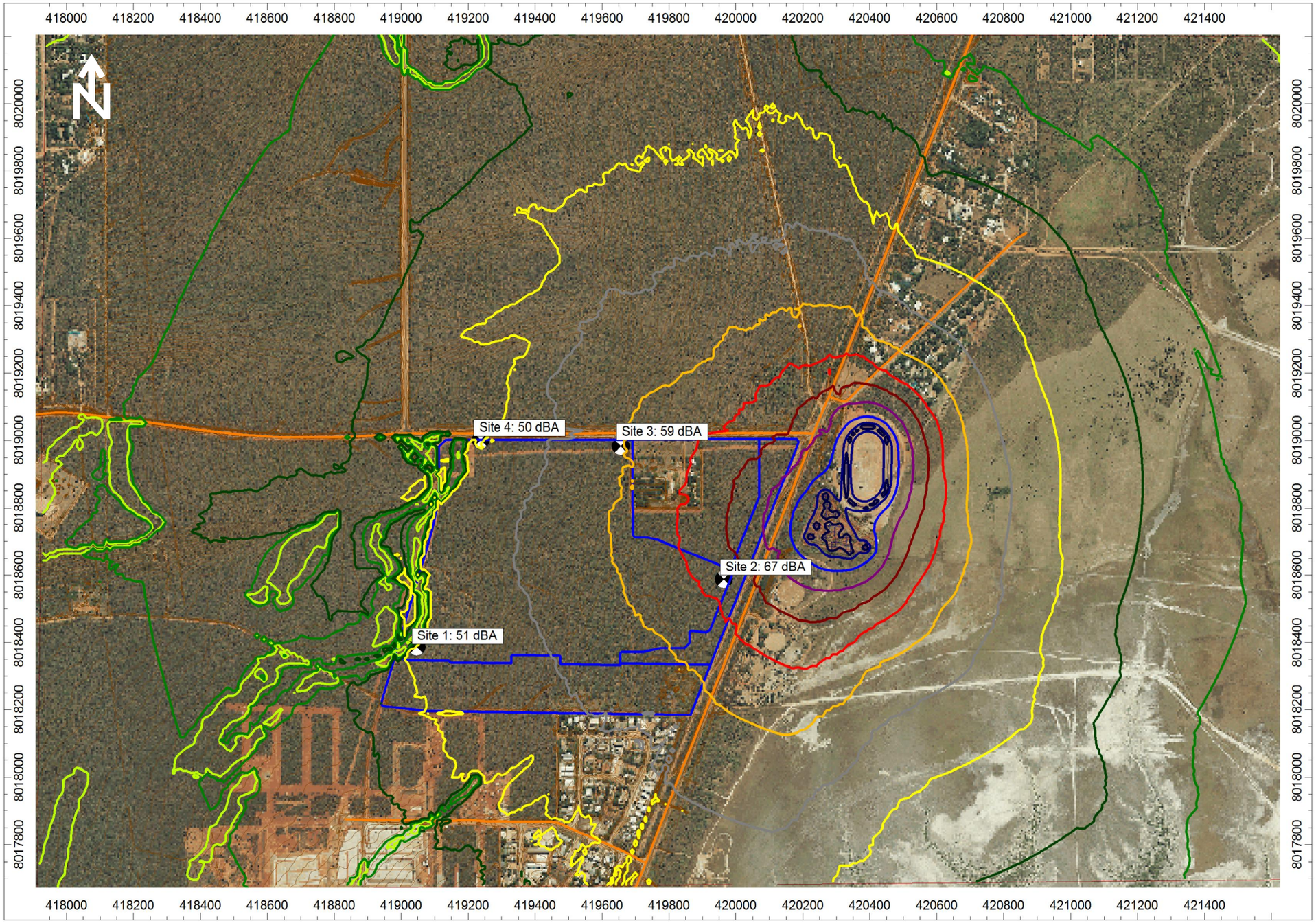
PREDICTED NOISE LEVELS

- 35 dBA
- 40 dBA
- 45 dBA
- 50 dBA
- 55 dBA
- 60 dBA
- 65 dBA
- 70 dBA
- 75 dBA
- 80 dBA
- 85 dBA
- 90 dBA

LEGEND

- Noise sensitive receptor
- Line noise source
- Point noise source
- Development area boundary
- Daytime assigned level (45 dBA)



SCALE

0 200 400 600

Metres (at A3)

CREATED	CHECKED	APPROVED
JF	VC	JF

MAP PROJECTION: Universal Transverse Mercator
HORIZONTAL DATUM: Geocentric Datum of Australia (GDA)
GRID: Map Grid of Australia 1994, Zone 50

DATE	FILE LOCATION
11.4.2013	G:/61/29295/CADNA/

REVISION	DRAWING NO.
0	

BROOME NORTH LDP2 DEVELOPMENT

Noise Assessment

PREDICTED DAYTIME NOISE LEVELS MOTOCROSS AND SPEEDWAY EVENTS

Noise contours: LA 10
Grid height: 1.5 m
Worst case conditions

FIGURE 13

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