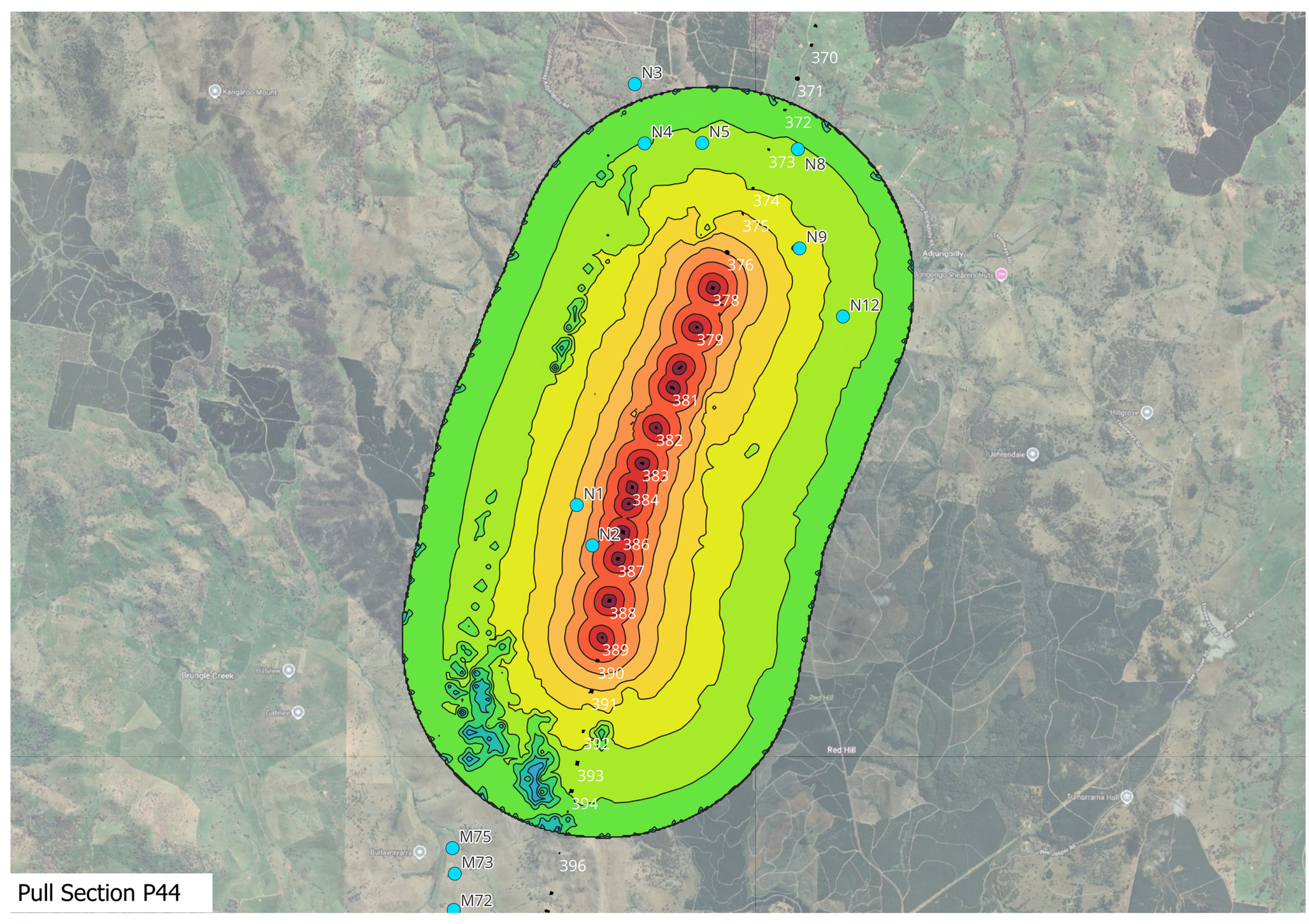


HLE - Helicopter Operations
Tower Stringing

Noise Contours

Legend

- Receivers

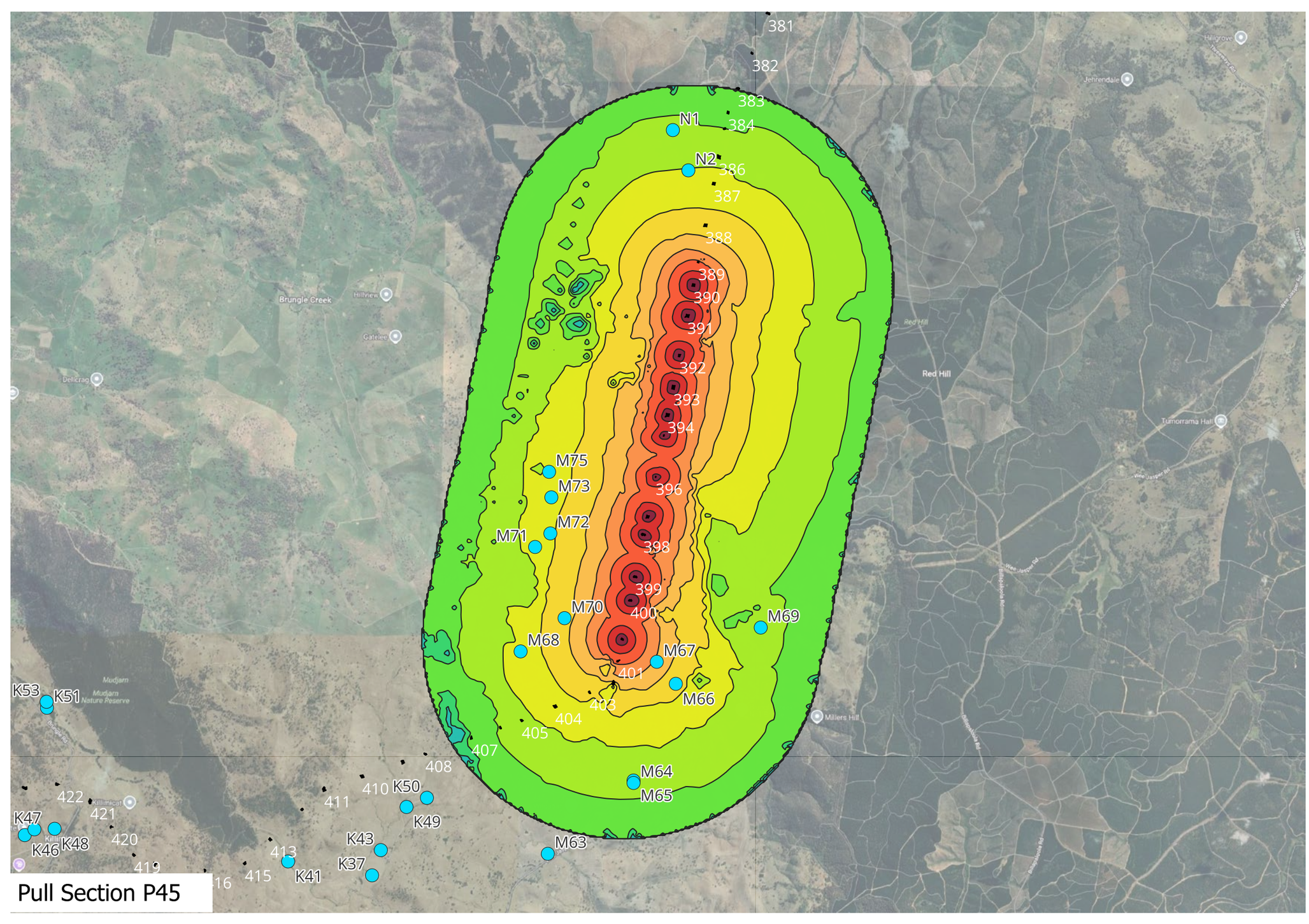
Predicted noise levels (dBA)

- 30
- 35
- 40
- 45
- 50
- 55
- 60
- 65
- 70
- 75
- 80
- 85 >

0 0.5 1 km



Pull Section P44



HLE - Helicopter Operations
Tower Stringing

Noise Contours

Legend

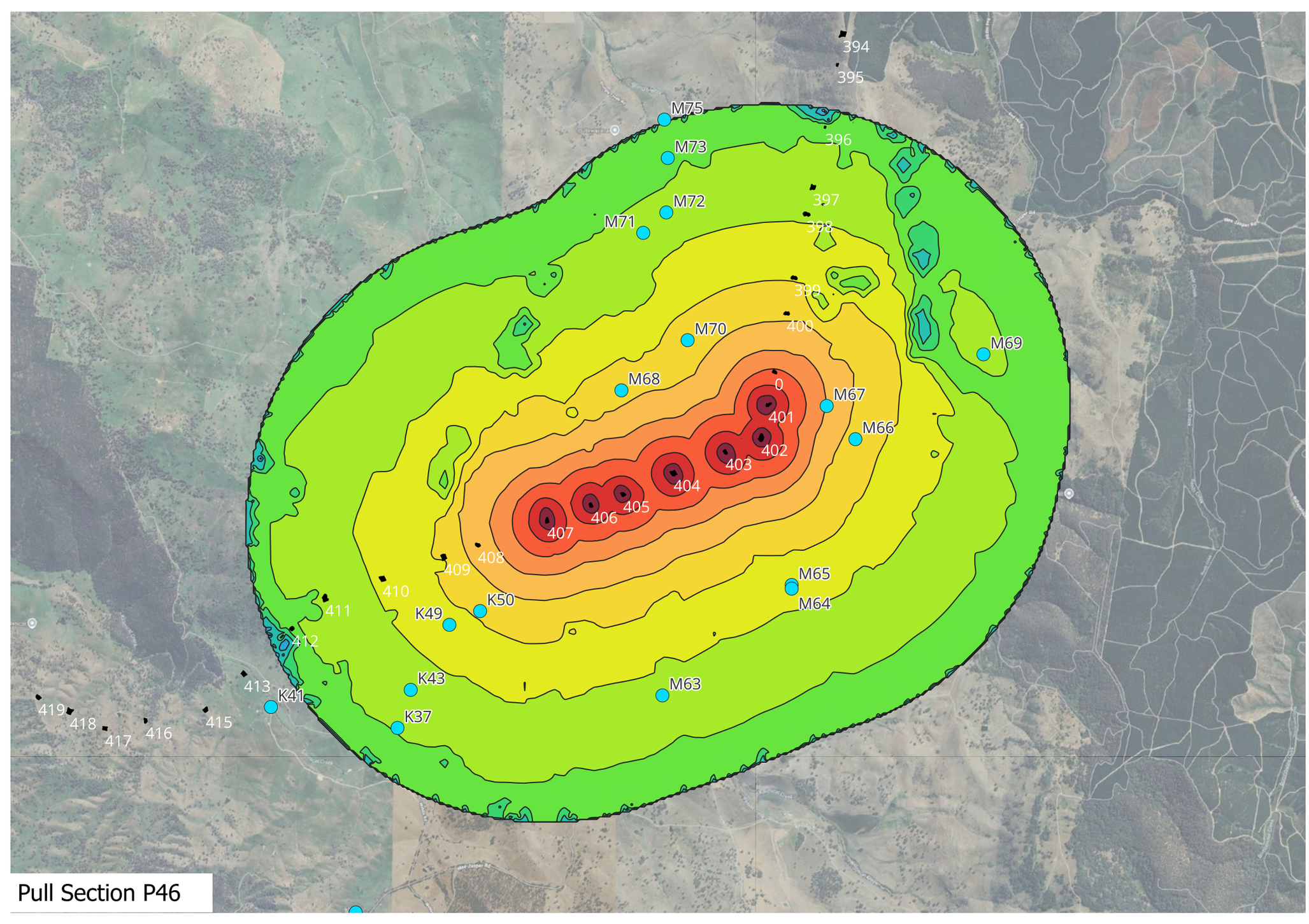
- Receivers

Predicted noise levels (dBA)

- 30
- 35
- 40
- 45
- 50
- 55
- 60
- 65
- 70
- 75
- 80
- 85 >

0 0.5 1 km





HLE - Helicopter Operations
Tower Stringing

Noise Contours

Legend

- Receivers

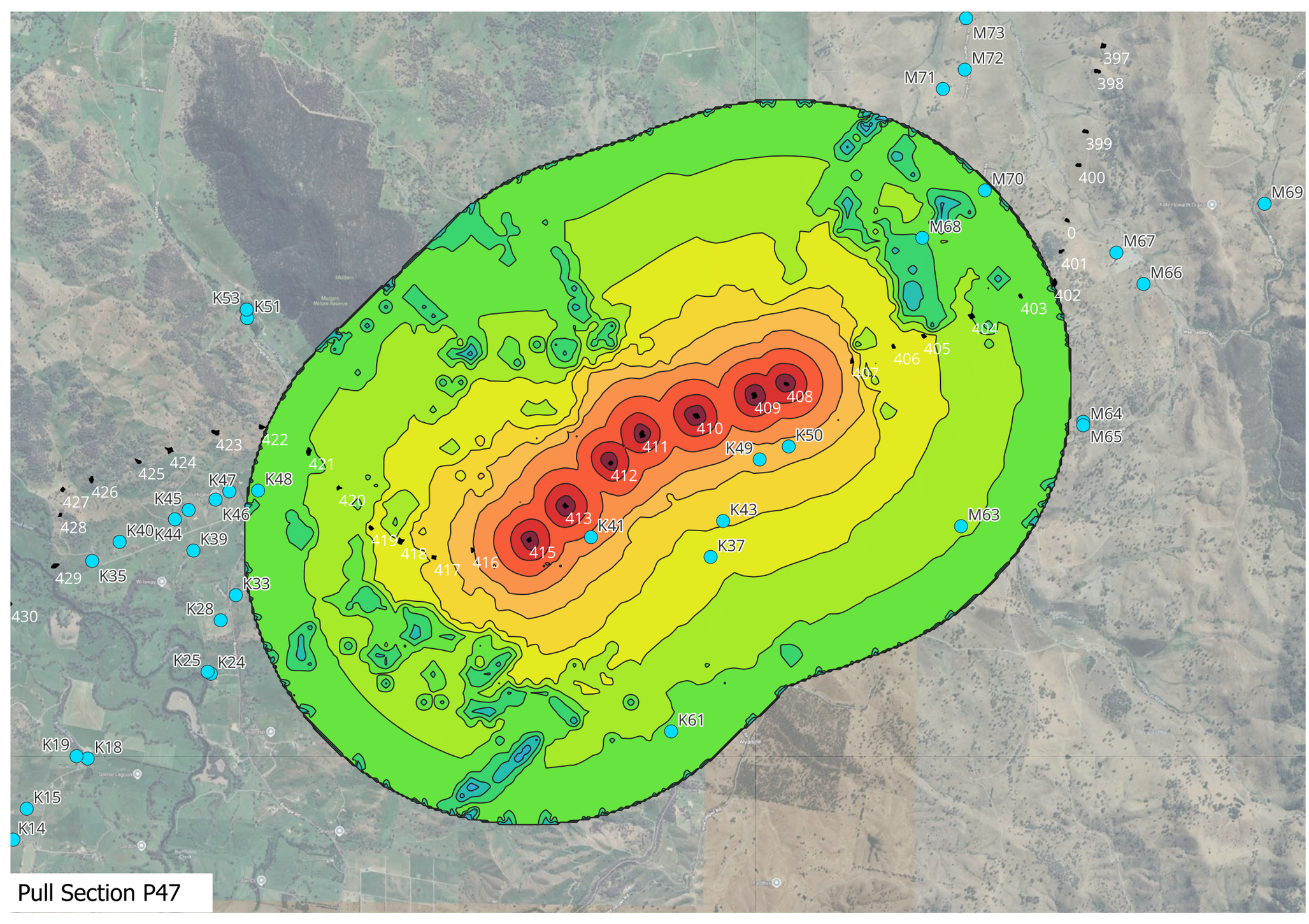
Predicted noise levels (dBA)

- 30
- 35
- 40
- 45
- 50
- 55
- 60
- 65
- 70
- 75
- 80
- 85 >

0 0.5 1 km



Pull Section P46



HLE - Helicopter Operations
Tower Stringing

Noise Contours

Legend

- Receivers

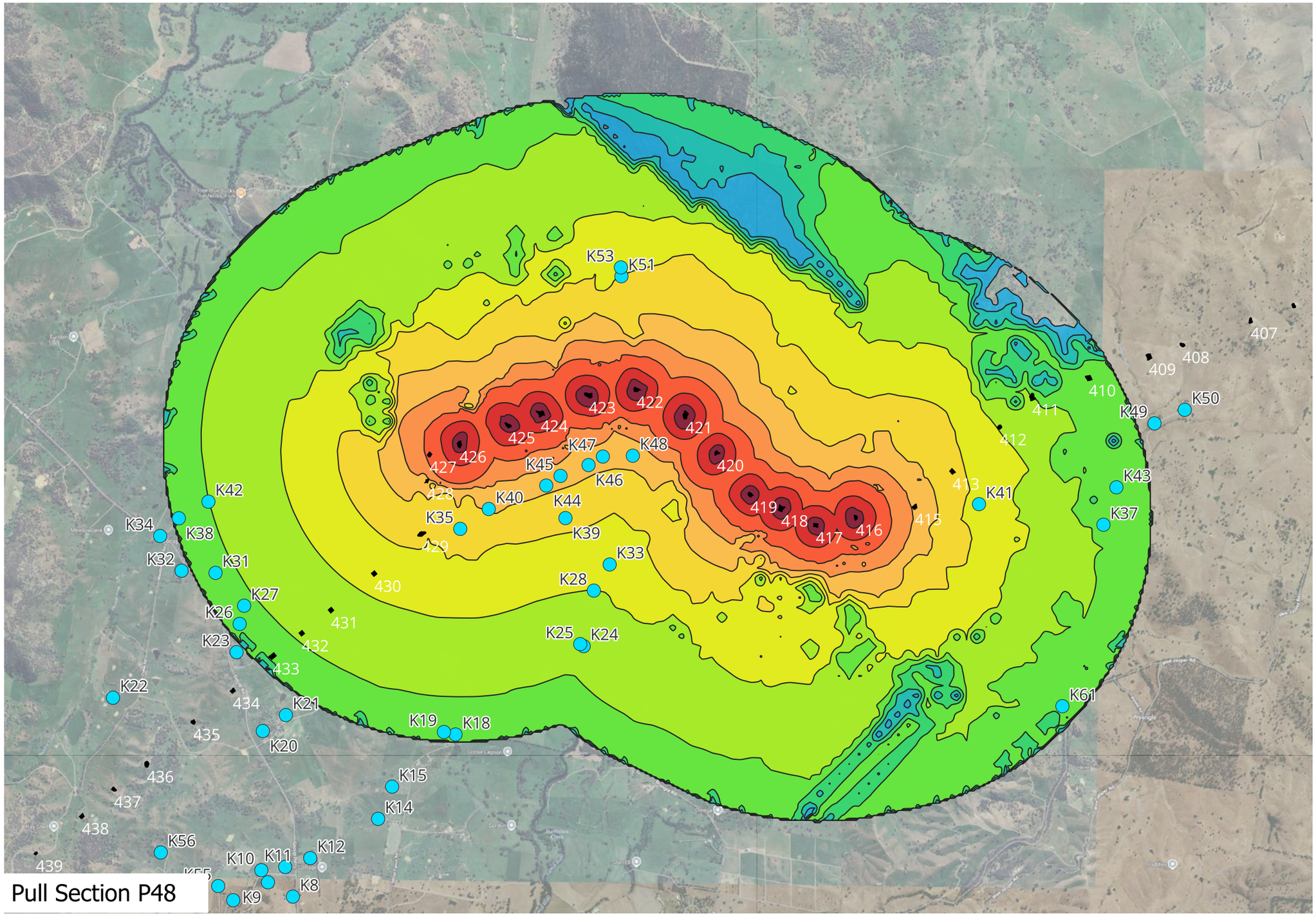
Predicted noise levels (dBA)

- 30
- 35
- 40
- 45
- 50
- 55
- 60
- 65
- 70
- 75
- 80
- 85 >

0 0.5 1 km



Pull Section P47



HLE - Helicopter Operations
Tower Stringing

Noise Contours

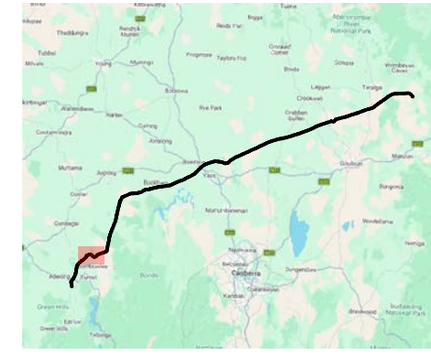
Legend

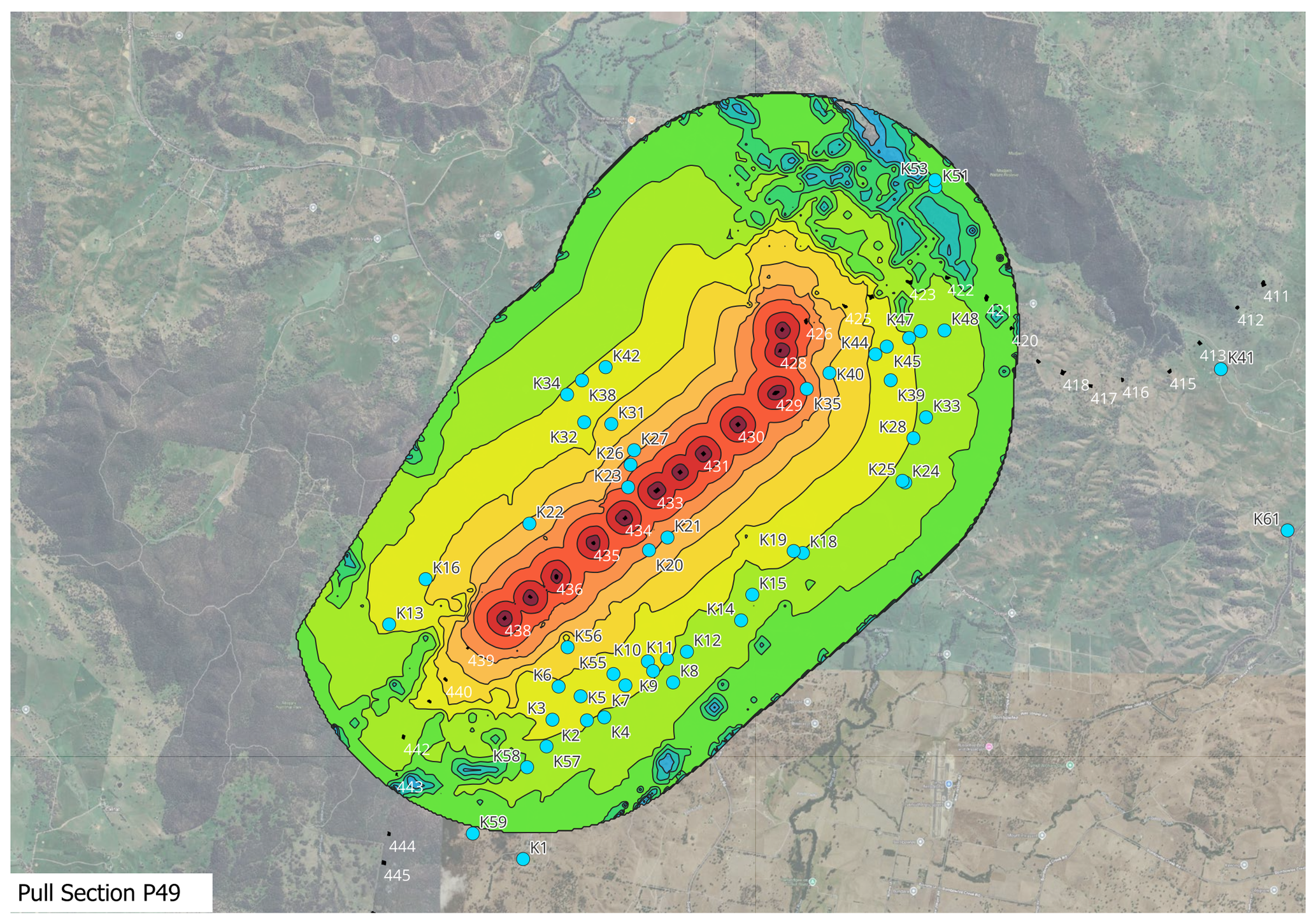
- Receivers

Predicted noise levels (dBA)

- 30
- 35
- 40
- 45
- 50
- 55
- 60
- 65
- 70
- 75
- 80
- 85 >

0 0.5 1 km





Pull Section P49

HLE - Helicopter Operations
Tower Stringing

Noise Contours

Legend

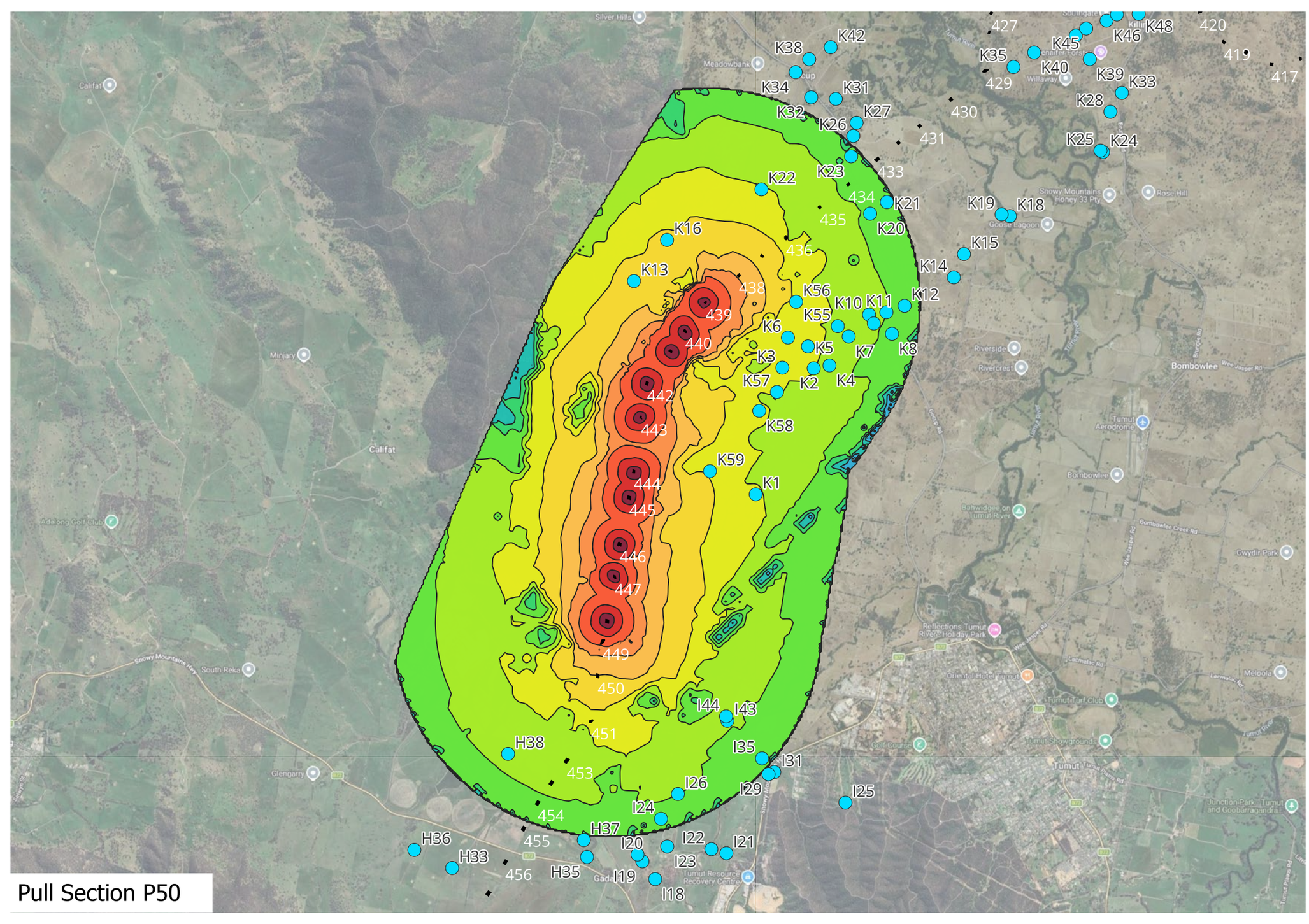
- Receivers

Predicted noise levels (dBA)

- 30
- 35
- 40
- 45
- 50
- 55
- 60
- 65
- 70
- 75
- 80
- 85 >

0 0.5 1 km





HLE - Helicopter Operations
Tower Stringing

Noise Contours

Legend

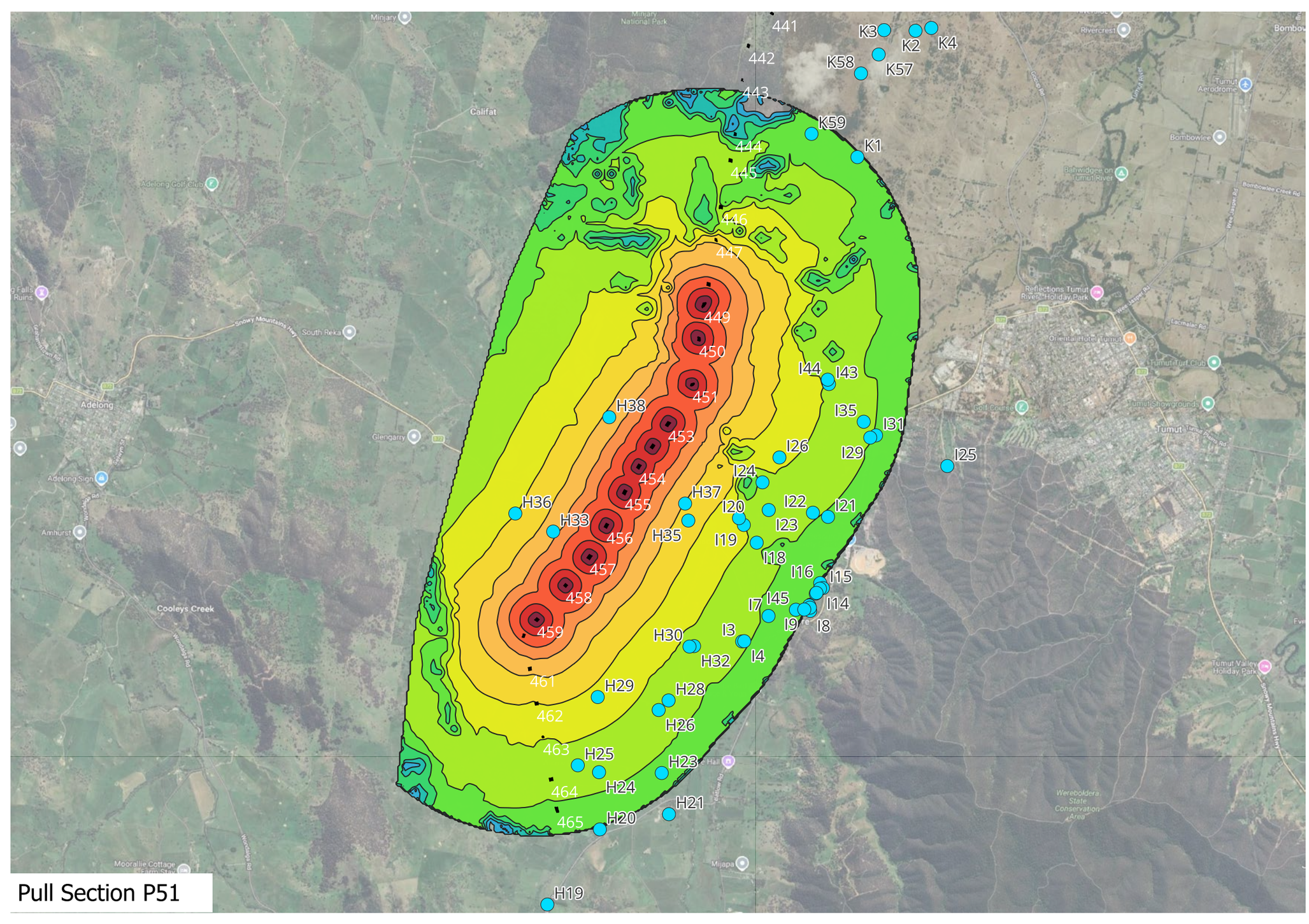
- Receivers

Predicted noise levels (dBA)

- 30
- 35
- 40
- 45
- 50
- 55
- 60
- 65
- 70
- 75
- 80
- 85 >

0 0.5 1 km





HLE - Helicopter Operations
Tower Stringing

Noise Contours

Legend

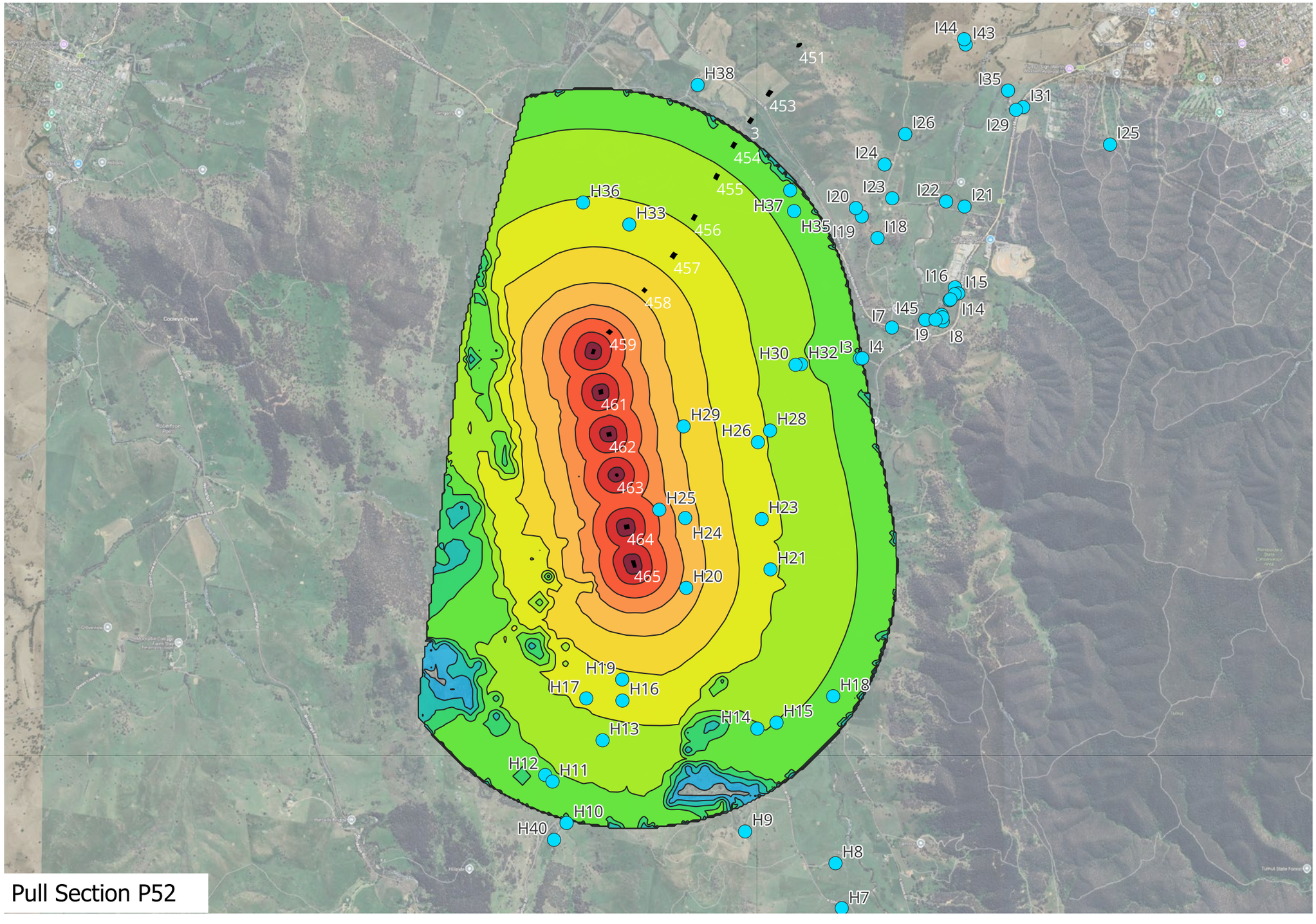
- Receivers

Predicted noise levels (dBA)

- 30
- 35
- 40
- 45
- 50
- 55
- 60
- 65
- 70
- 75
- 80
- 85 >

0 0.5 1 km





HLE - Helicopter Operations
Tower Stringing

Noise Contours

Legend

- Receivers

Predicted noise levels (dBA)

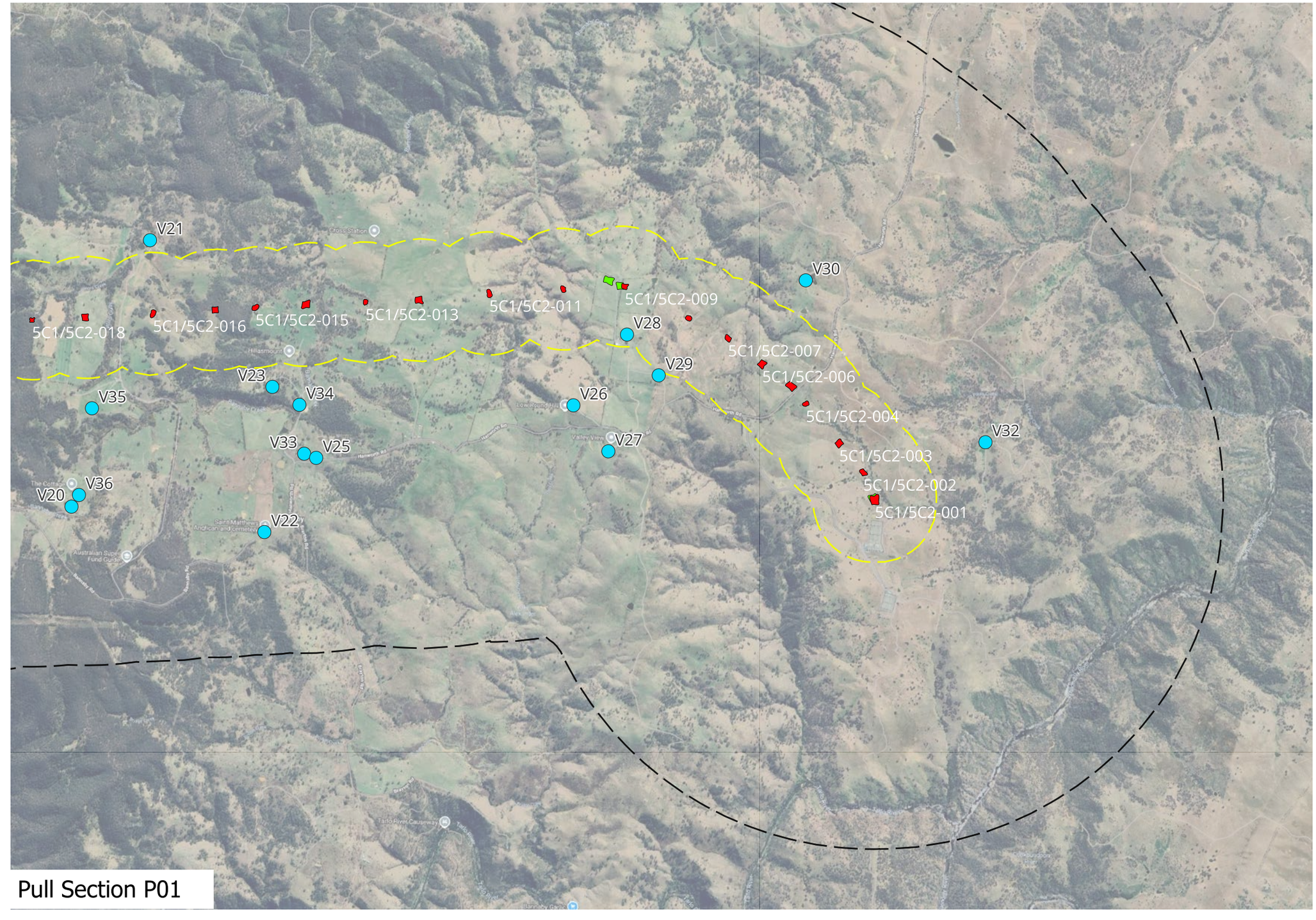
- 30
- 35
- 40
- 45
- 50
- 55
- 60
- 65
- 70
- 75
- 80
- 85 >

0 0.5 1 km



Pull Section P52

Appendix B - Noise Model Inputs



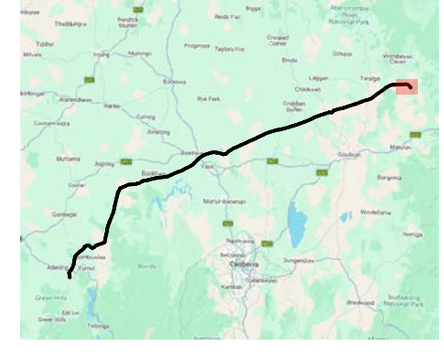
HLE - Helicopter Operations

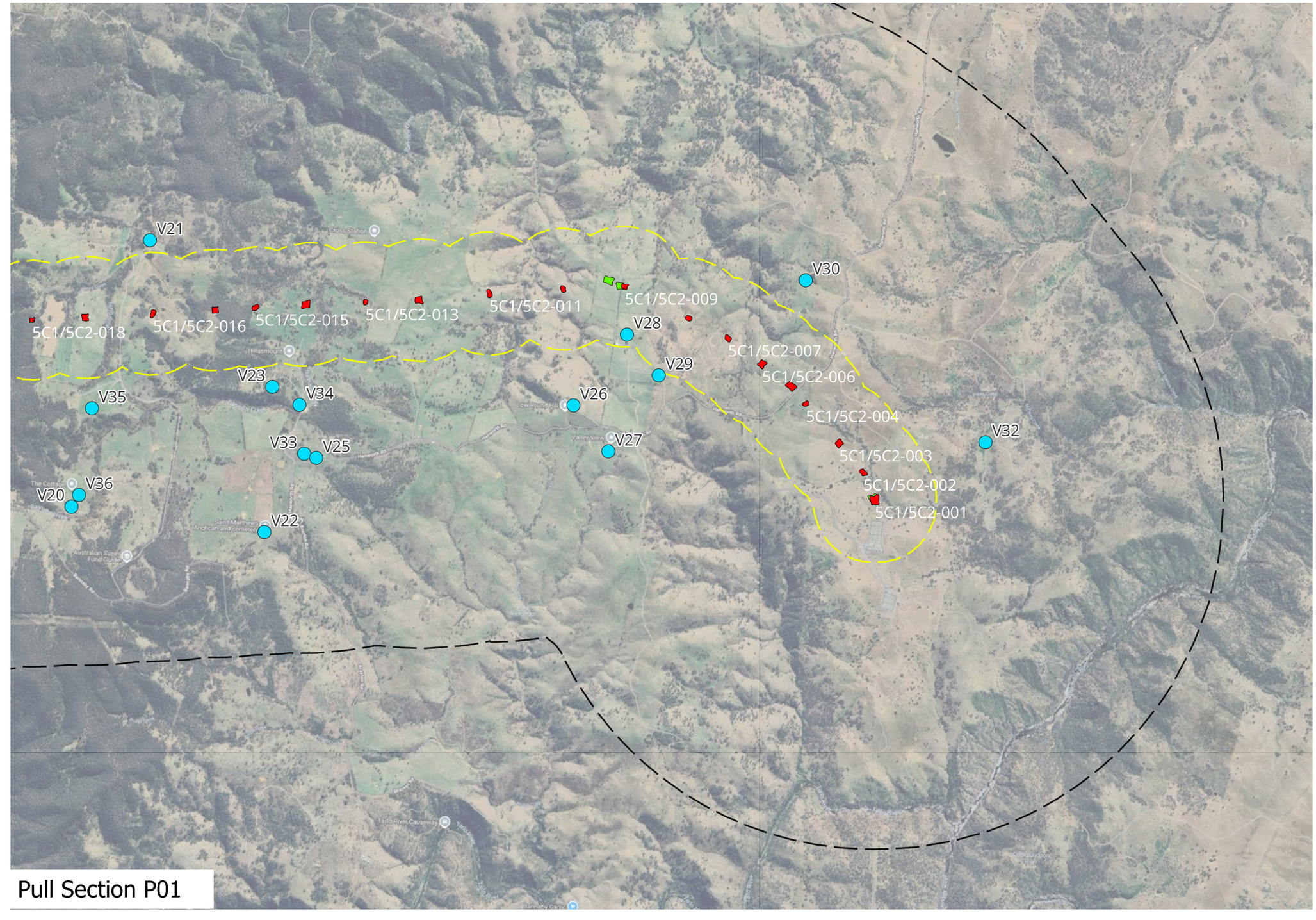
Noise Model Inputs

Legend

- Receivers
- Calculation Area (3km radius)
- Tower Stringing/Mat Transport (Tower Pad sites)
- Landing Areas (Camp Sites)
- Landing Areas (Break & Winch Sites)
- Flyover/Inspection Radius (500m)

0 0.5 1 km





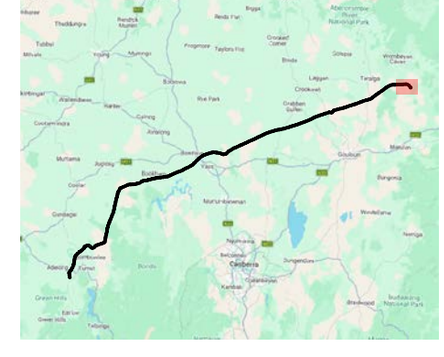
HLE - Helicopter Operations

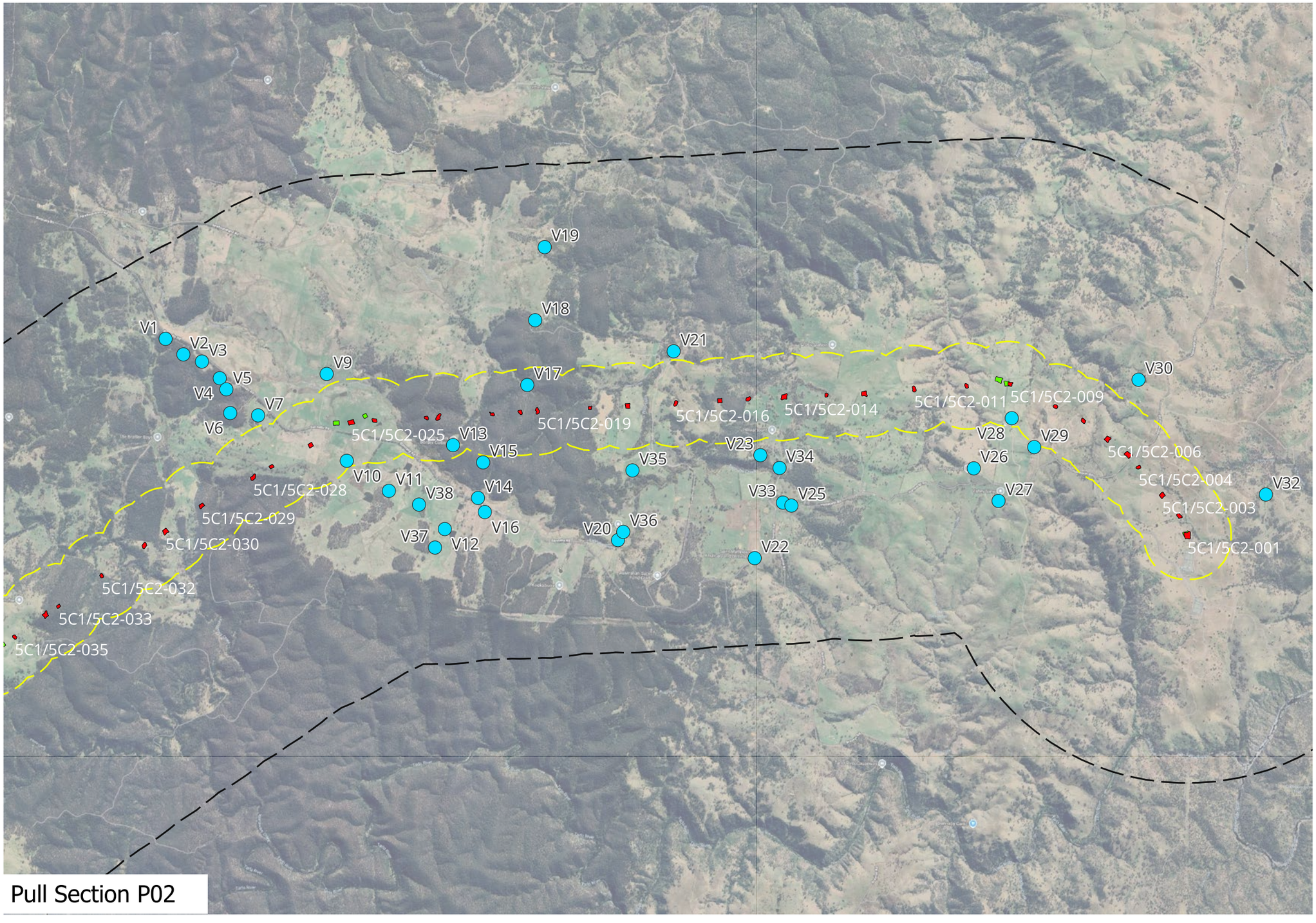
Noise Model Inputs

Legend

- Receivers
- Calculation Area (3km radius)
- Tower Stringing/Mat Transport (Tower Pad sites)
- Landing Areas (Camp Sites)
- Landing Areas (Break & Winch Sites)
- Flyover/Inspection Radius (500m)

0 0.5 1 km





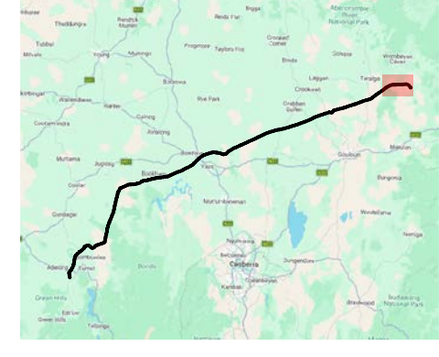
HLE - Helicopter Operations

Noise Model Inputs

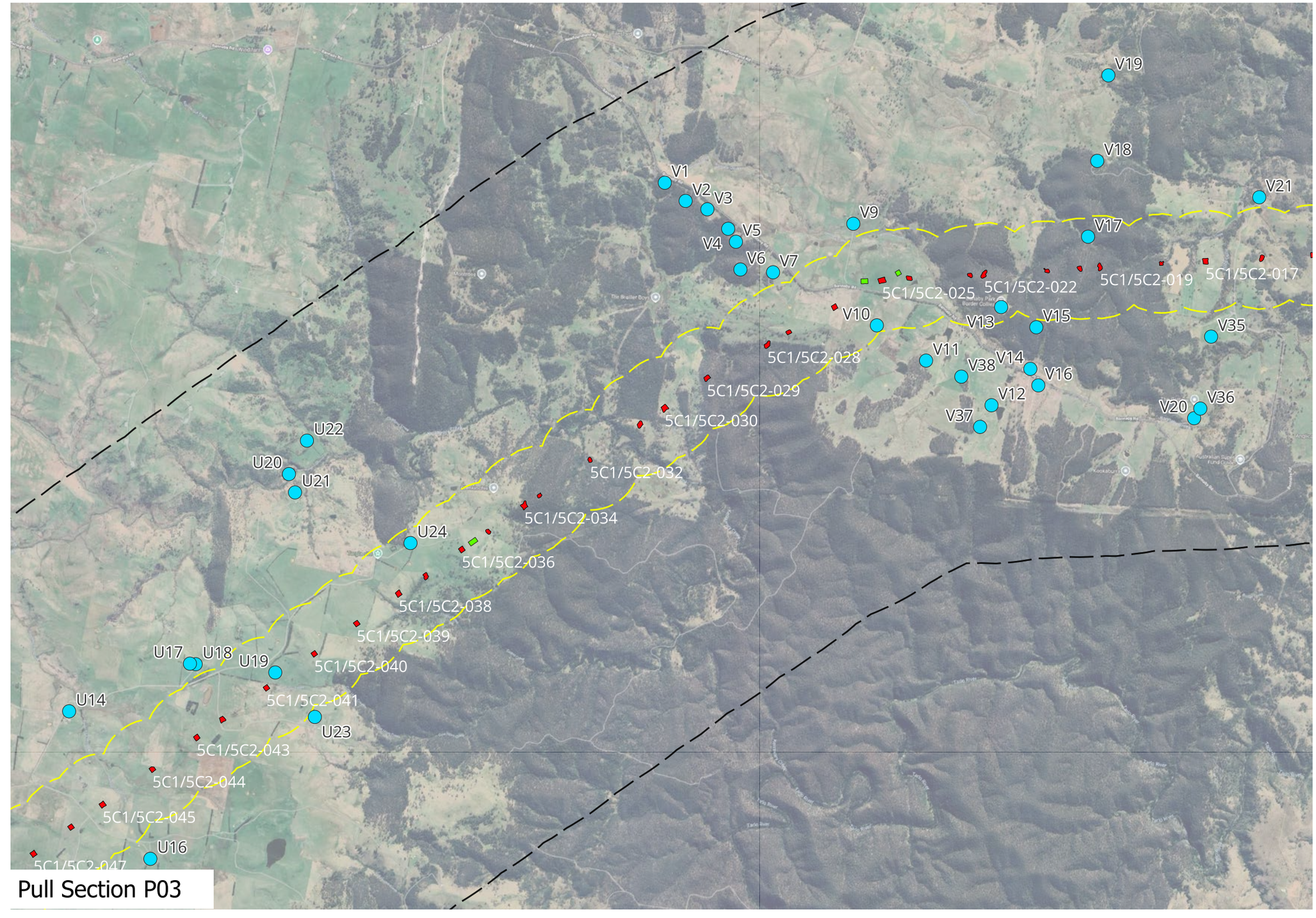
Legend

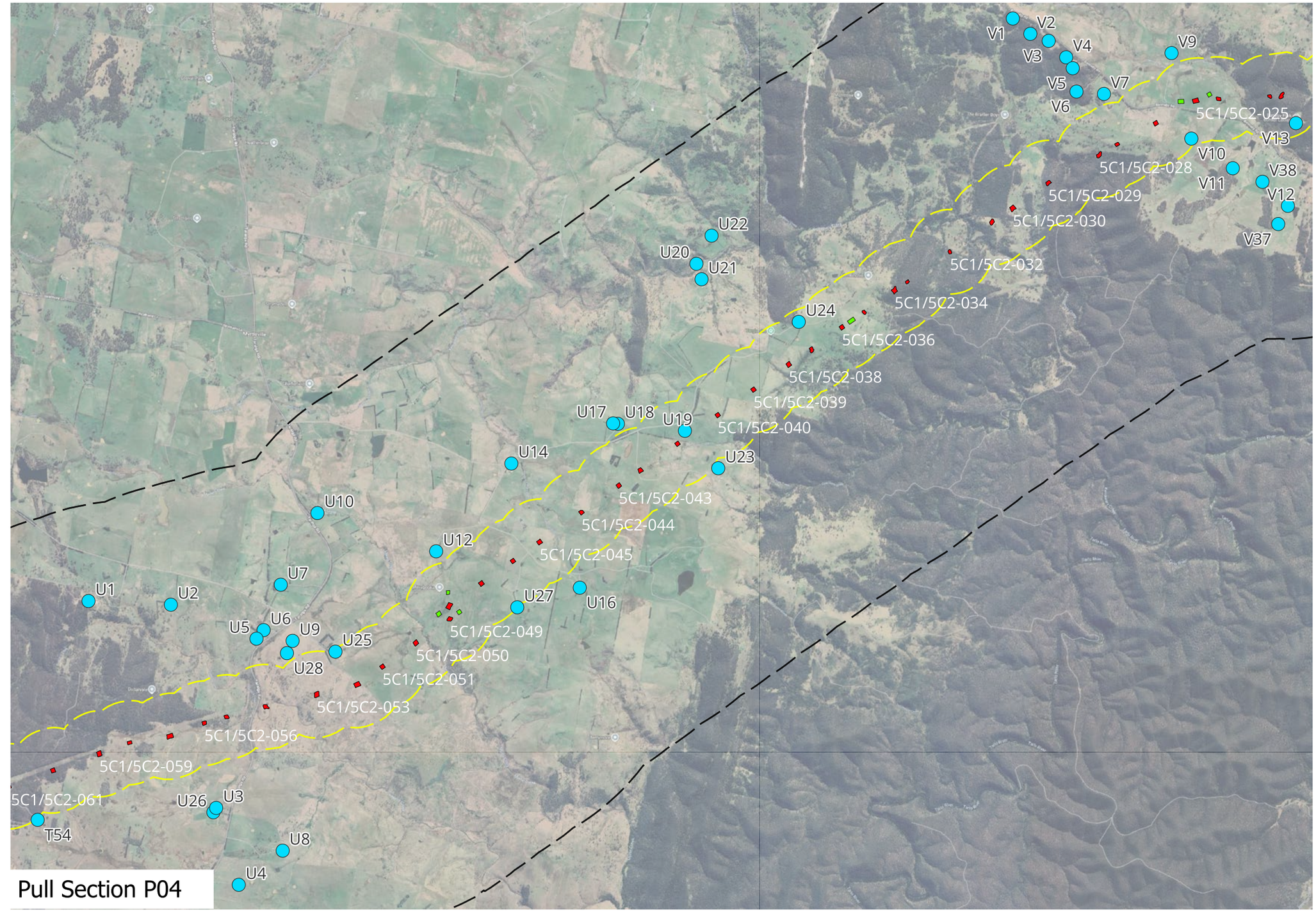
- Receivers
- Calculation Area (3km radius)
- Tower Stringing/Mat Transport (Tower Pad sites)
- Landing Areas (Camp Sites)
- Landing Areas (Break & Winch Sites)
- Flyover/Inspection Radius (500m)

0 0.5 1 km



Pull Section P02


V19
V18
V1
V2
V3
V21
V9
V5
V4
V17
V6
V7
5C1/5C2-025
5C1/5C2-022
5C1/5C2-019
5C1/5C2-017
V10
V13
V15
V35
5C1/5C2-028
V11
V38
V14
V16
5C1/5C2-029
V12
V20
V36
5C1/5C2-030
V37
U22
U20
U21
5C1/5C2-032
5C1/5C2-034
U24
5C1/5C2-036
5C1/5C2-038
5C1/5C2-039
U17
U18
U19
5C1/5C2-040
U14
5C1/5C2-041
U23
5C1/5C2-043
5C1/5C2-044
5C1/5C2-045
U16
5C1/5C2-047
Pull Section P03
HLE - Helicopter Operations
Noise Model Inputs
Legend
Receivers
Calculation Area (3km radius)
Tower Stringing/Mat Transport (Tower Pad sites)
Landing Areas (Camp Sites)
Landing Areas (Break & Winch Sites)
Flyover/Inspection Radius (500m)
0
0.5
1 km



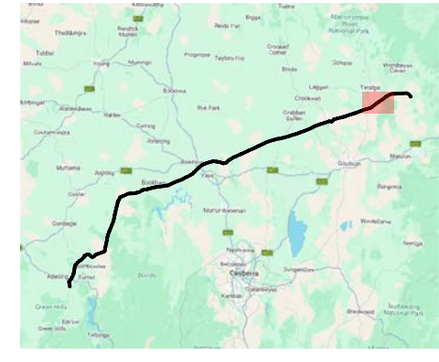
HLE - Helicopter Operations

Noise Model Inputs

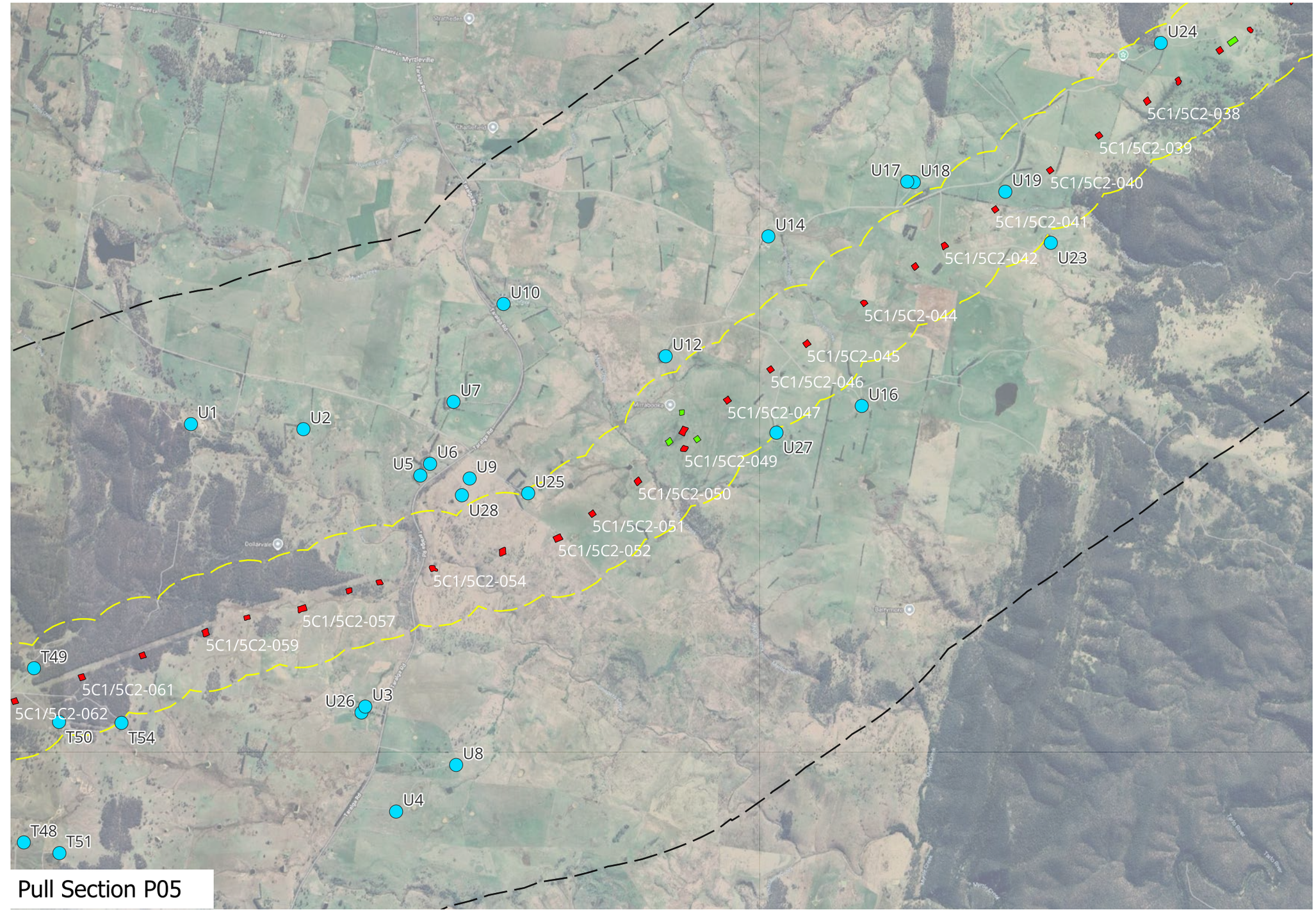
Legend

- Receivers
- Calculation Area (3km radius)
- Tower Stringing/Mat Transport (Tower Pad sites)
- Landing Areas (Camp Sites)
- Landing Areas (Break & Winch Sites)
- Flyover/Inspection Radius (500m)

0 0.5 1 km



Pull Section P04



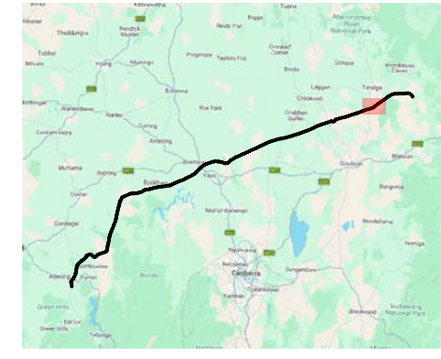
HLE - Helicopter Operations

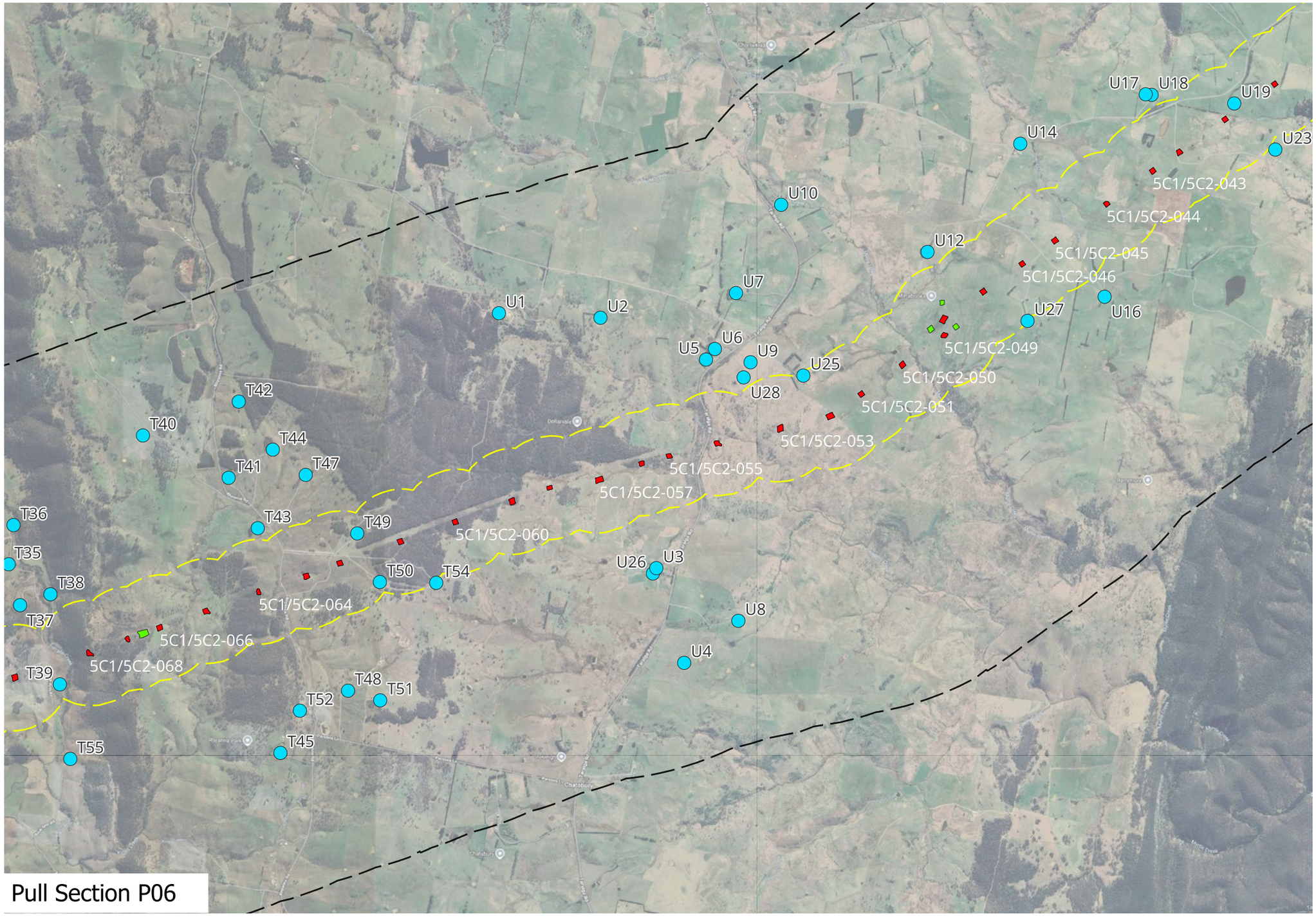
Noise Model Inputs

Legend

- Receivers
- Calculation Area (3km radius)
- Tower Stringing/Mat Transport (Tower Pad sites)
- Landing Areas (Camp Sites)
- Landing Areas (Break & Winch Sites)
- Flyover/Inspection Radius (500m)

0 0.5 1 km





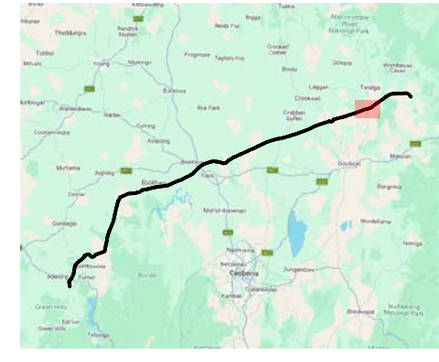
HLE - Helicopter Operations

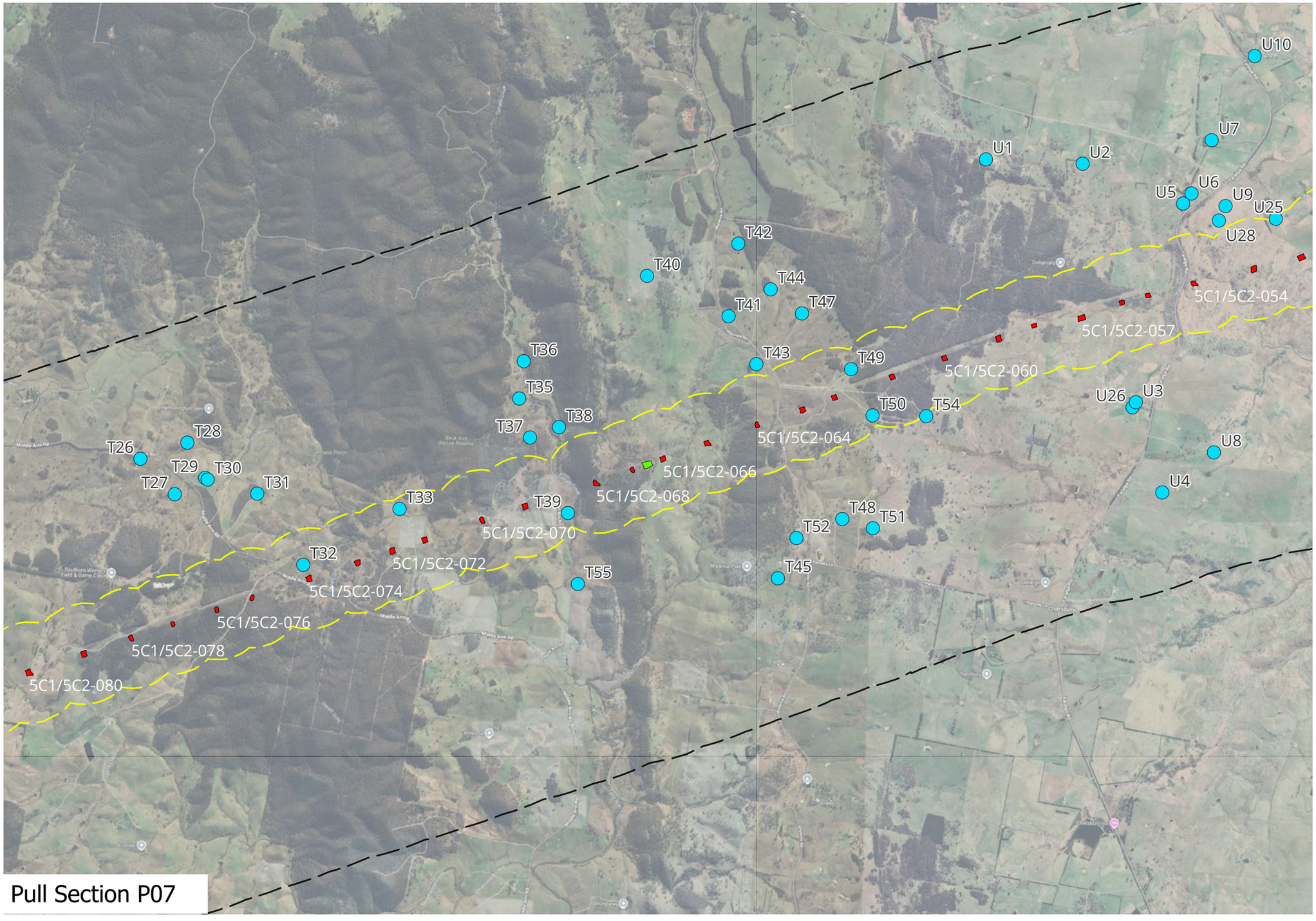
Noise Model Inputs

Legend

- Receivers
- Calculation Area (3km radius)
- Tower Stringing/Mat Transport (Tower Pad sites)
- Landing Areas (Camp Sites)
- Landing Areas (Break & Winch Sites)
- Flyover/Inspection Radius (500m)

0 0.5 1 km





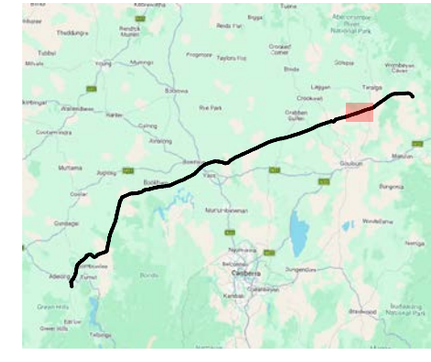
HLE - Helicopter Operations

Noise Model Inputs

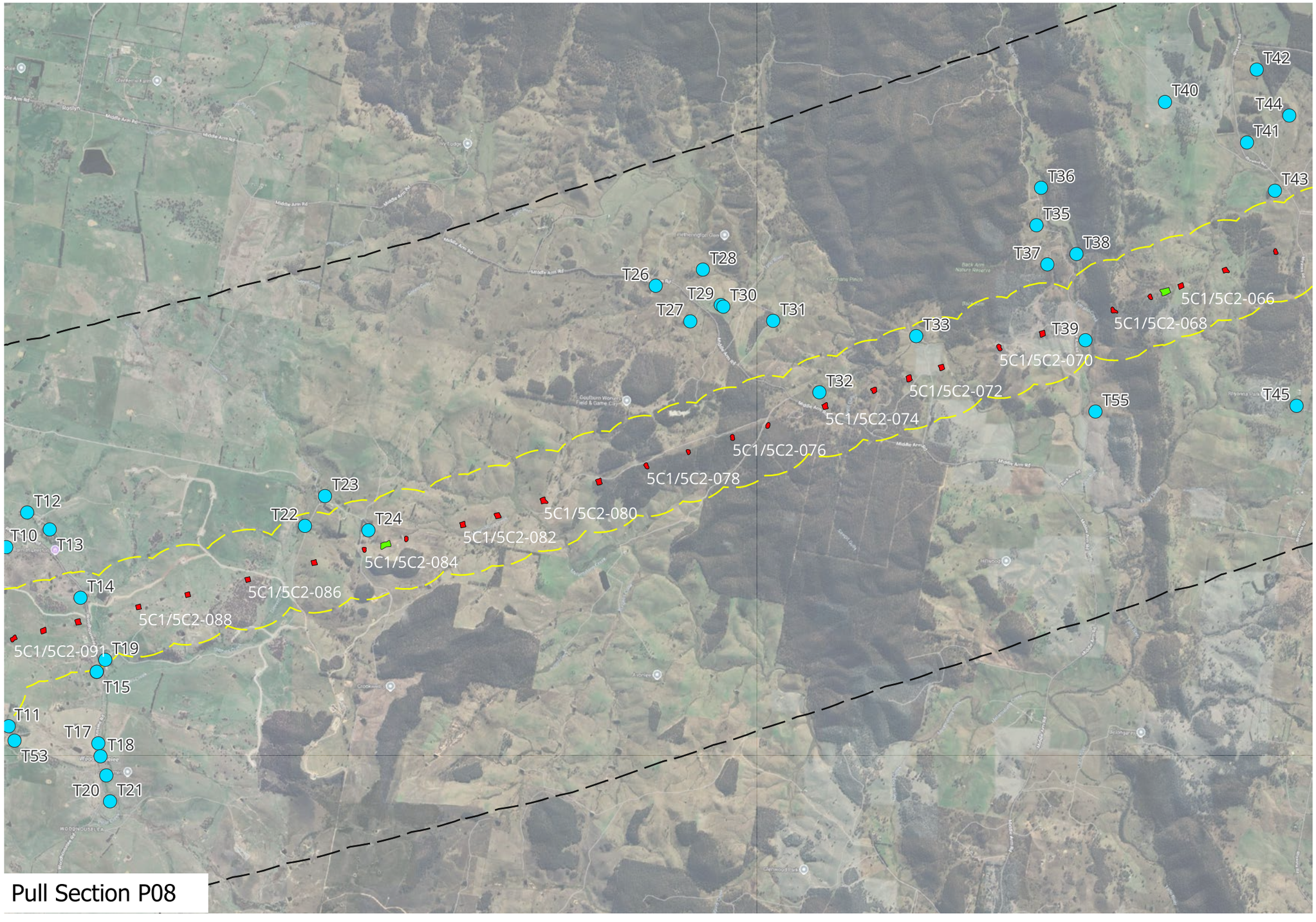
Legend

- Receivers
- Calculation Area (3km radius)
- Tower Stringing/Mat Transport (Tower Pad sites)
- Landing Areas (Camp Sites)
- Landing Areas (Break & Winch Sites)
- Flyover/Inspection Radius (500m)

0 0.5 1 km



Pull Section P07



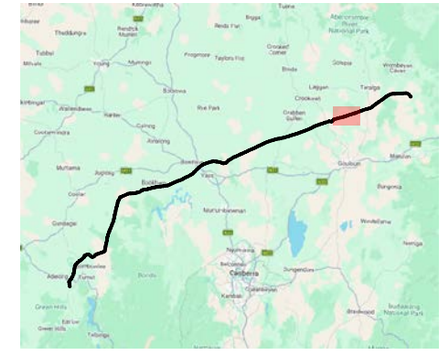
HLE - Helicopter Operations

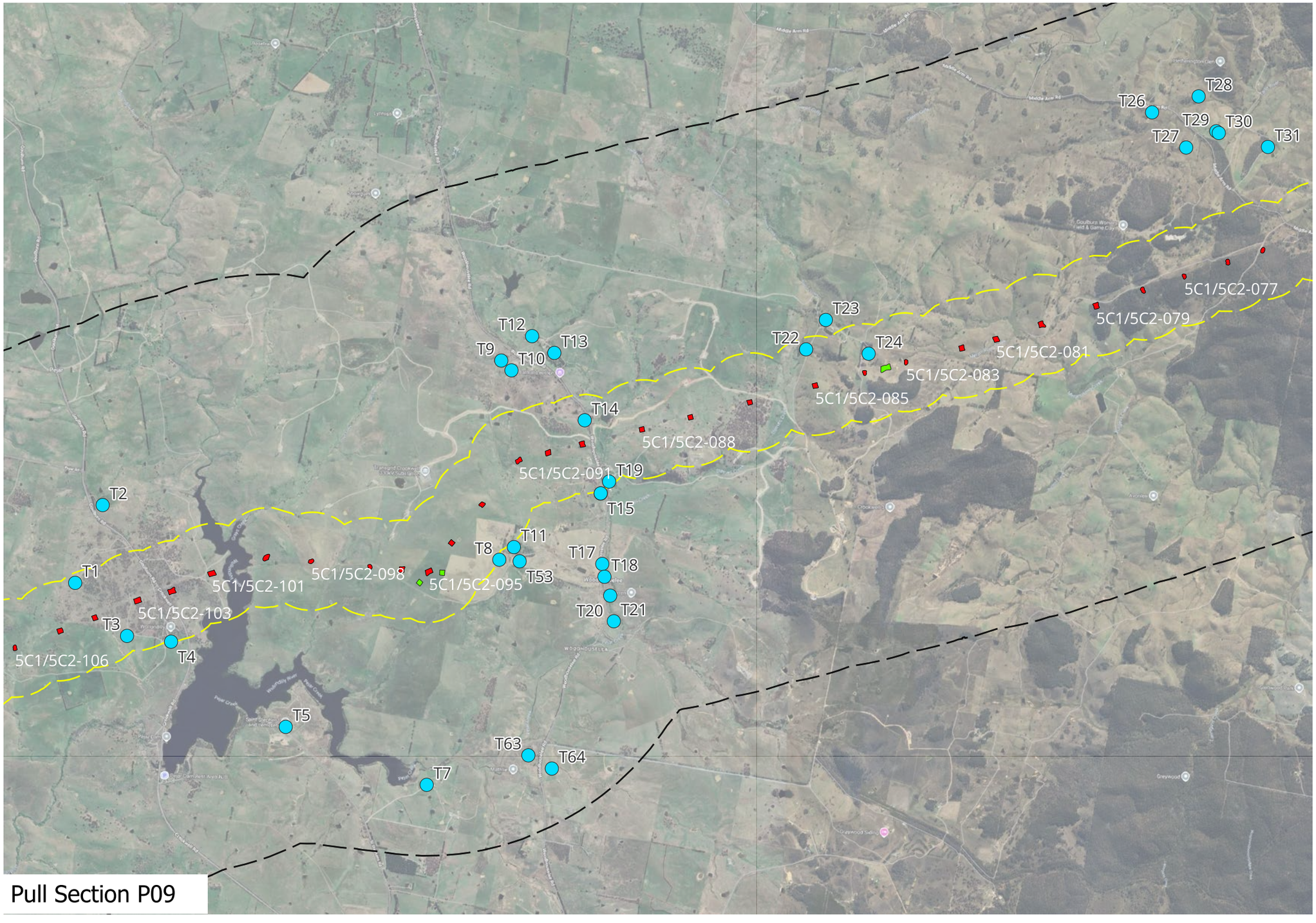
Noise Model Inputs

Legend

- Receivers
- Calculation Area (3km radius)
- Tower Stringing/Mat Transport (Tower Pad sites)
- Landing Areas (Camp Sites)
- Landing Areas (Break & Winch Sites)
- Flyover/Inspection Radius (500m)

0 0.5 1 km





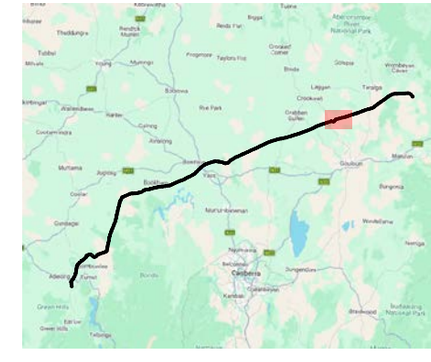
HLE - Helicopter Operations

Noise Model Inputs

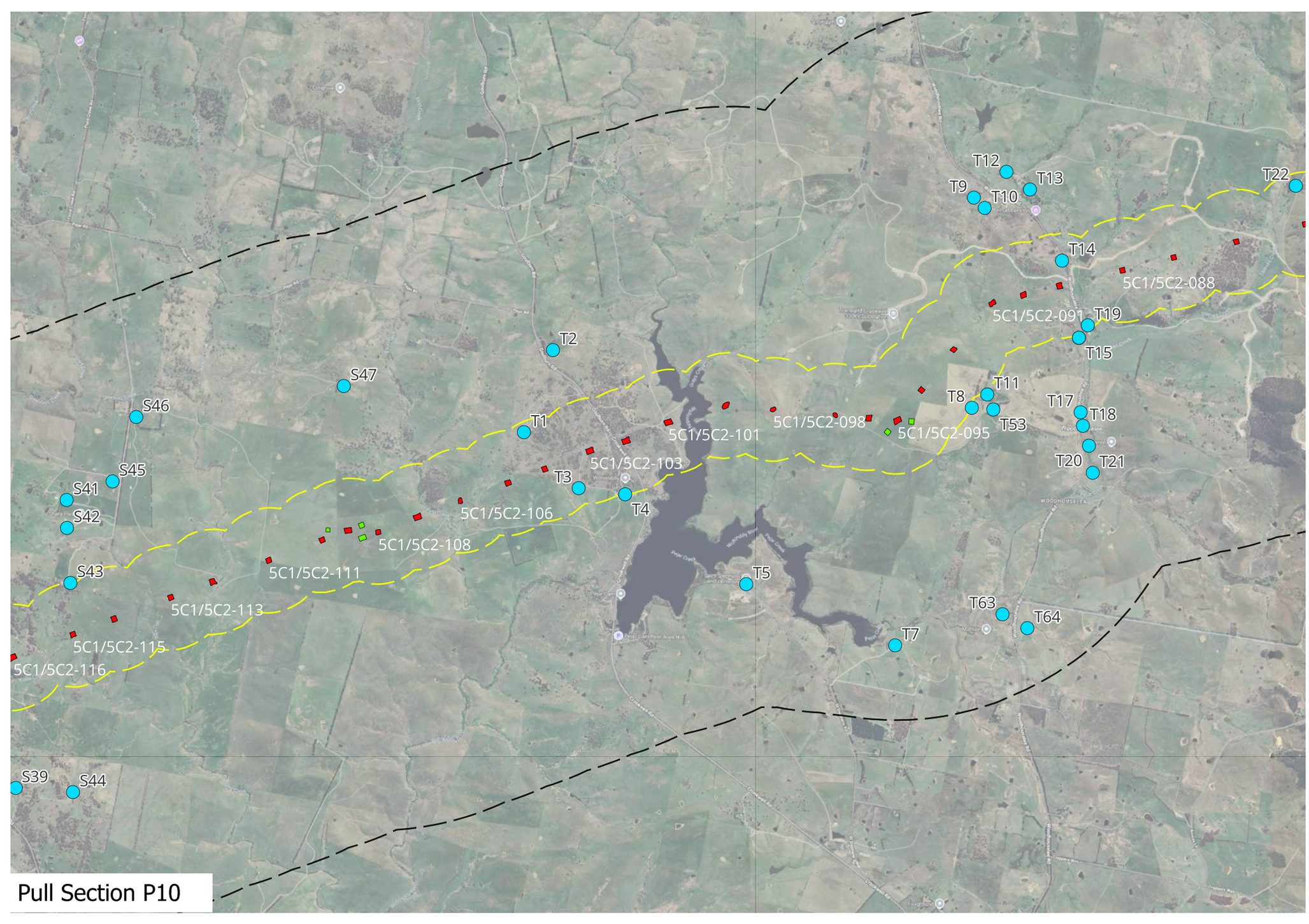
Legend

- Receivers
- Calculation Area (3km radius)
- Tower Stringing/Mat Transport (Tower Pad sites)
- Landing Areas (Camp Sites)
- Landing Areas (Break & Winch Sites)
- Flyover/Inspection Radius (500m)

0 0.5 1 km



Pull Section P09



HLE - Helicopter Operations

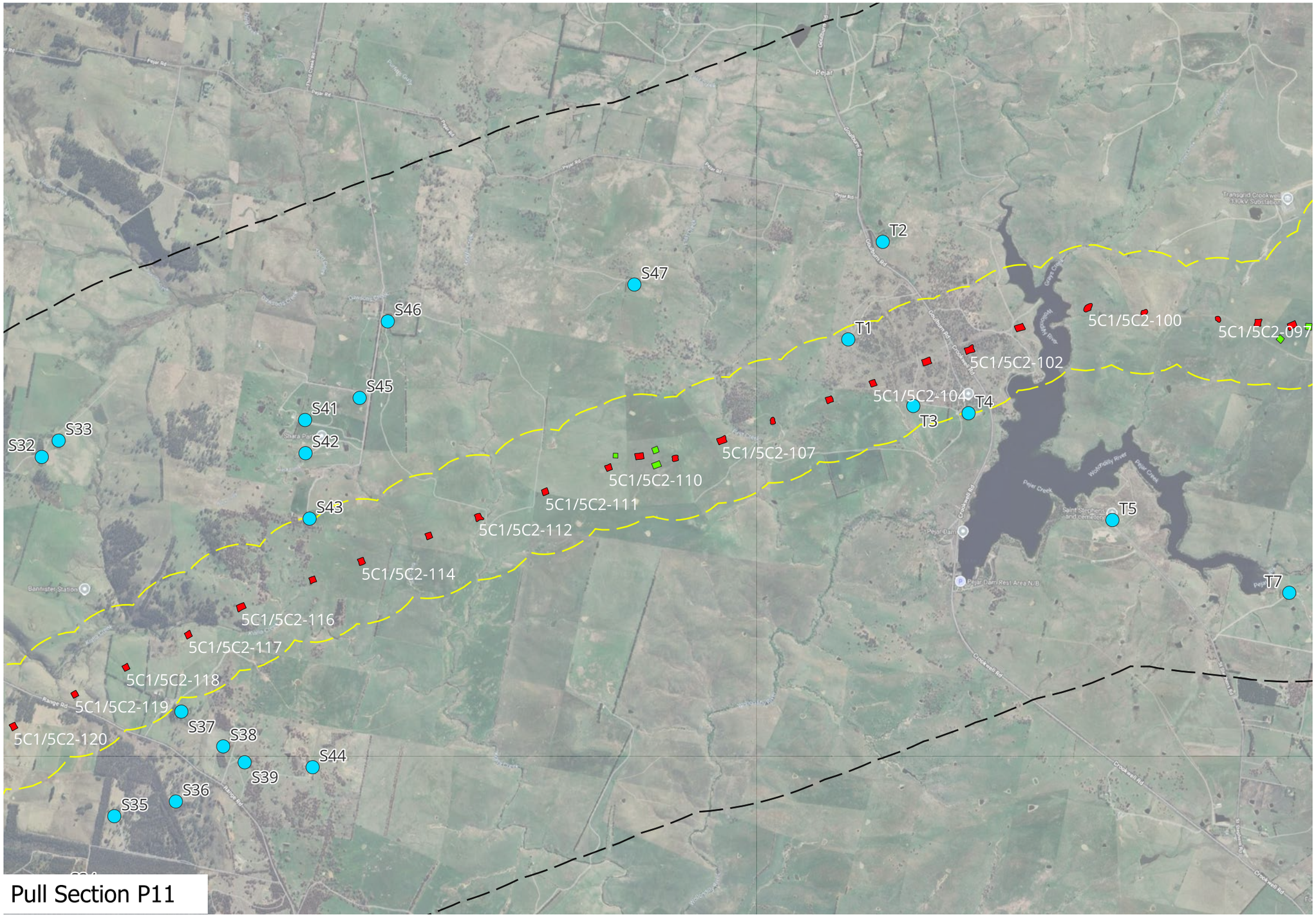
Noise Model Inputs

Legend

- Receivers
- Calculation Area (3km radius)
- Tower Stringing/Mat Transport (Tower Pad sites)
- Landing Areas (Camp Sites)
- Landing Areas (Break & Winch Sites)
- Flyover/Inspection Radius (500m)

0 0.5 1 km





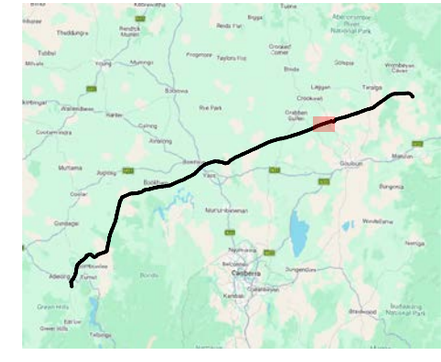
HLE - Helicopter Operations

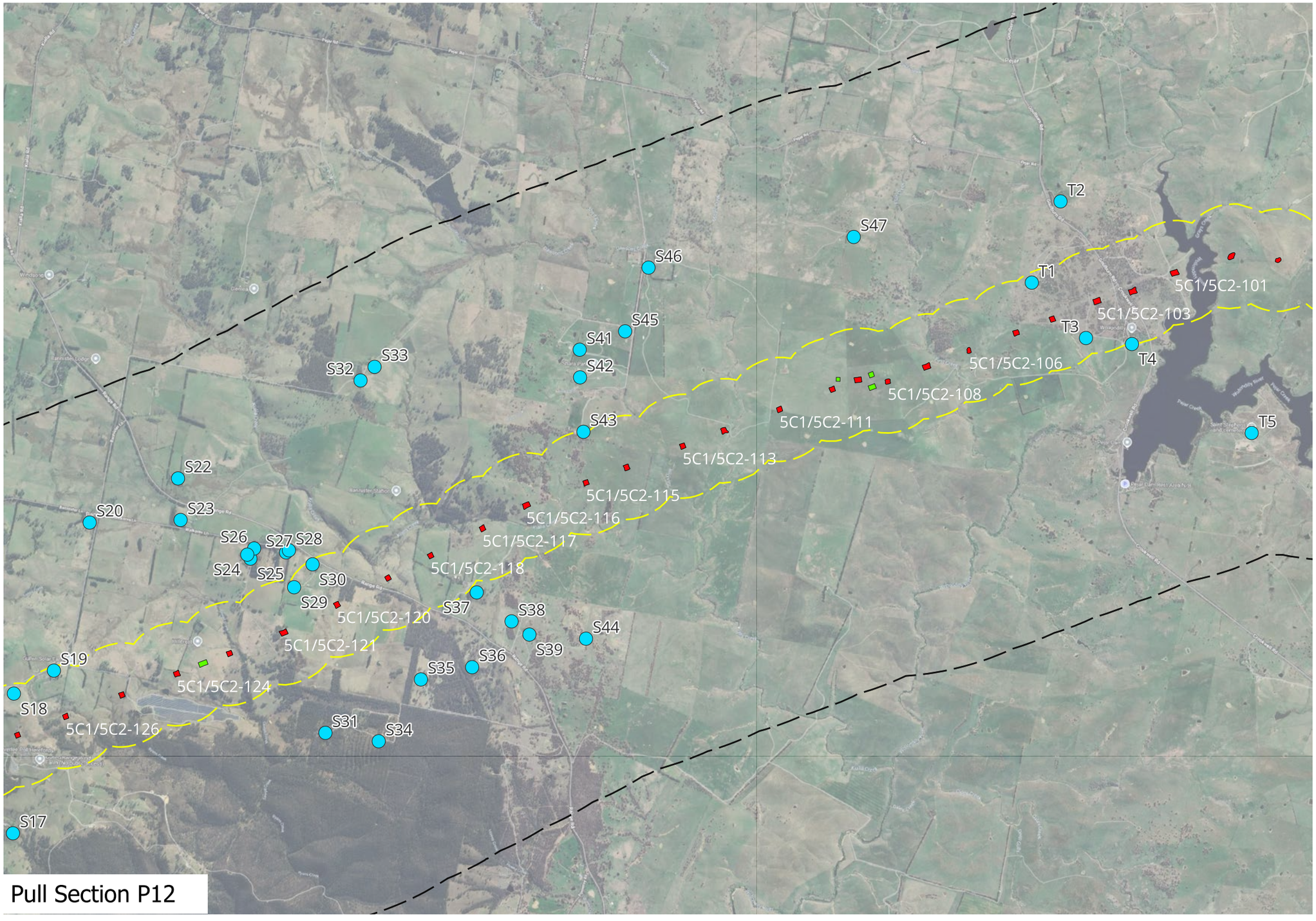
Noise Model Inputs

Legend

- Receivers
- Calculation Area (3km radius)
- Tower Stringing/Mat Transport (Tower Pad sites)
- Landing Areas (Camp Sites)
- Landing Areas (Break & Winch Sites)
- Flyover/Inspection Radius (500m)

0 0.5 1 km





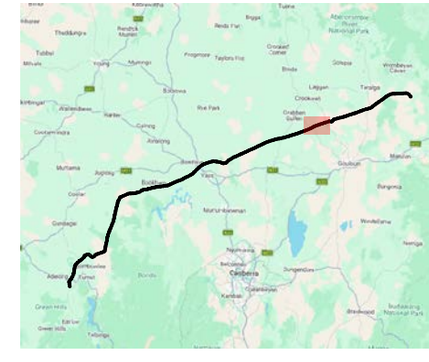
HLE - Helicopter Operations

Noise Model Inputs

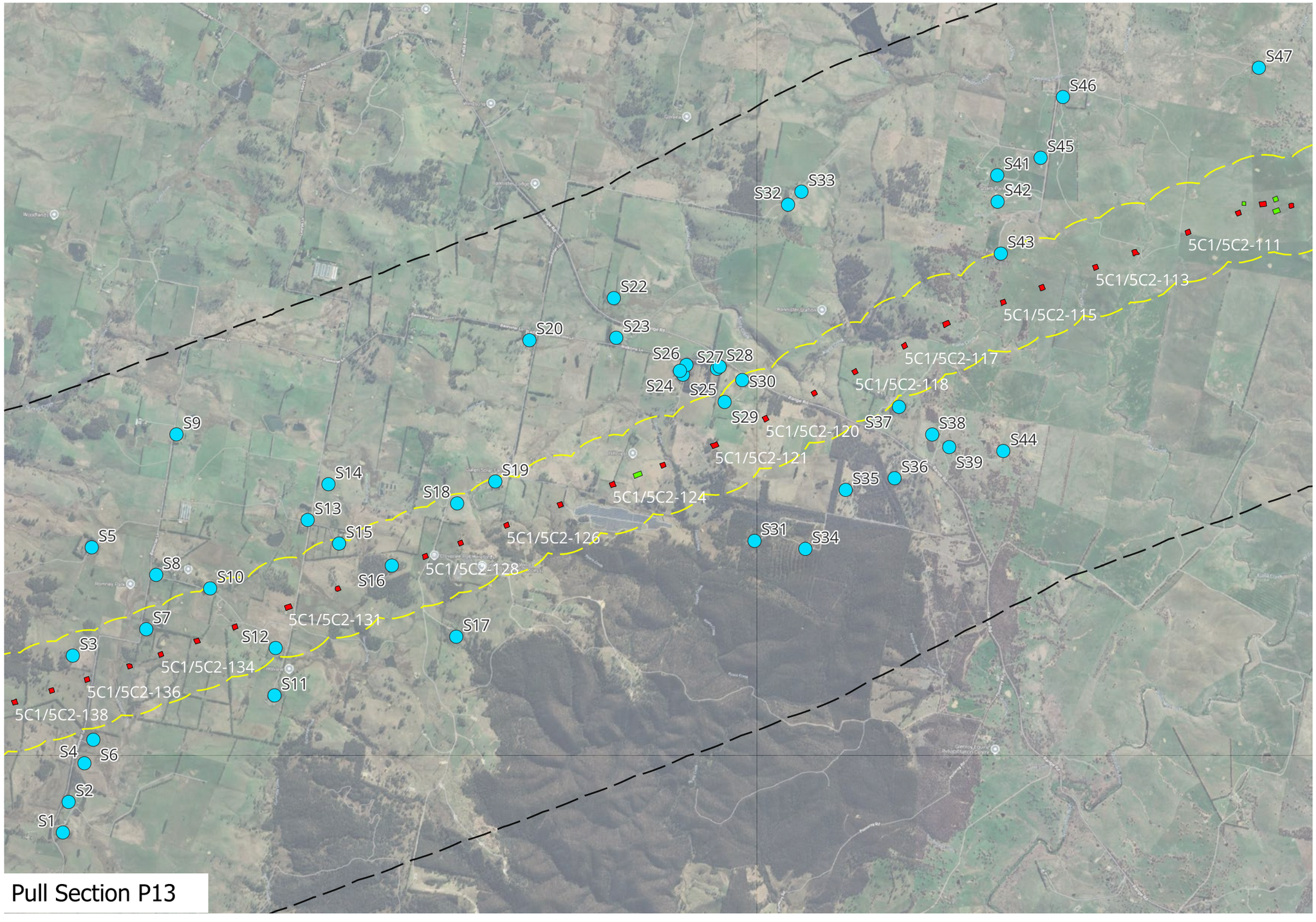
Legend

- Receivers
- Calculation Area (3km radius)
- Tower Stringing/Mat Transport (Tower Pad sites)
- Landing Areas (Camp Sites)
- Landing Areas (Break & Winch Sites)
- Flyover/Inspection Radius (500m)

0 0.5 1 km



Pull Section P12



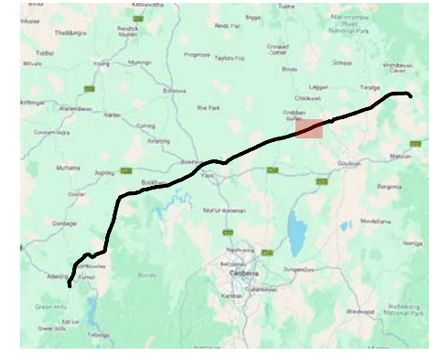
HLE - Helicopter Operations

Noise Model Inputs

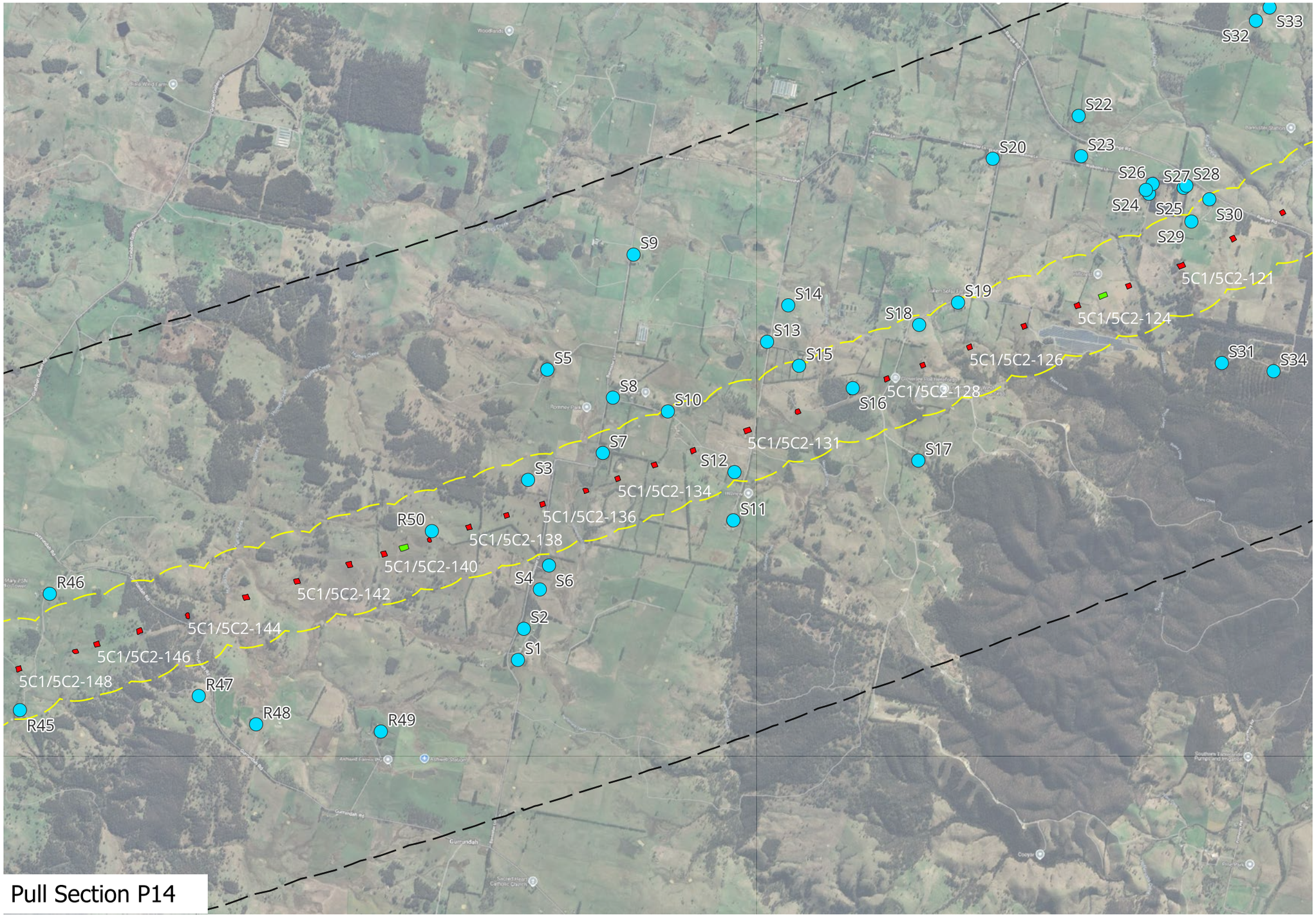
Legend

- Receivers
- Calculation Area (3km radius)
- Tower Stringing/Mat Transport (Tower Pad sites)
- Landing Areas (Camp Sites)
- Landing Areas (Break & Winch Sites)
- Flyover/Inspection Radius (500m)

0 0.5 1 km



Pull Section P13



HLE - Helicopter Operations

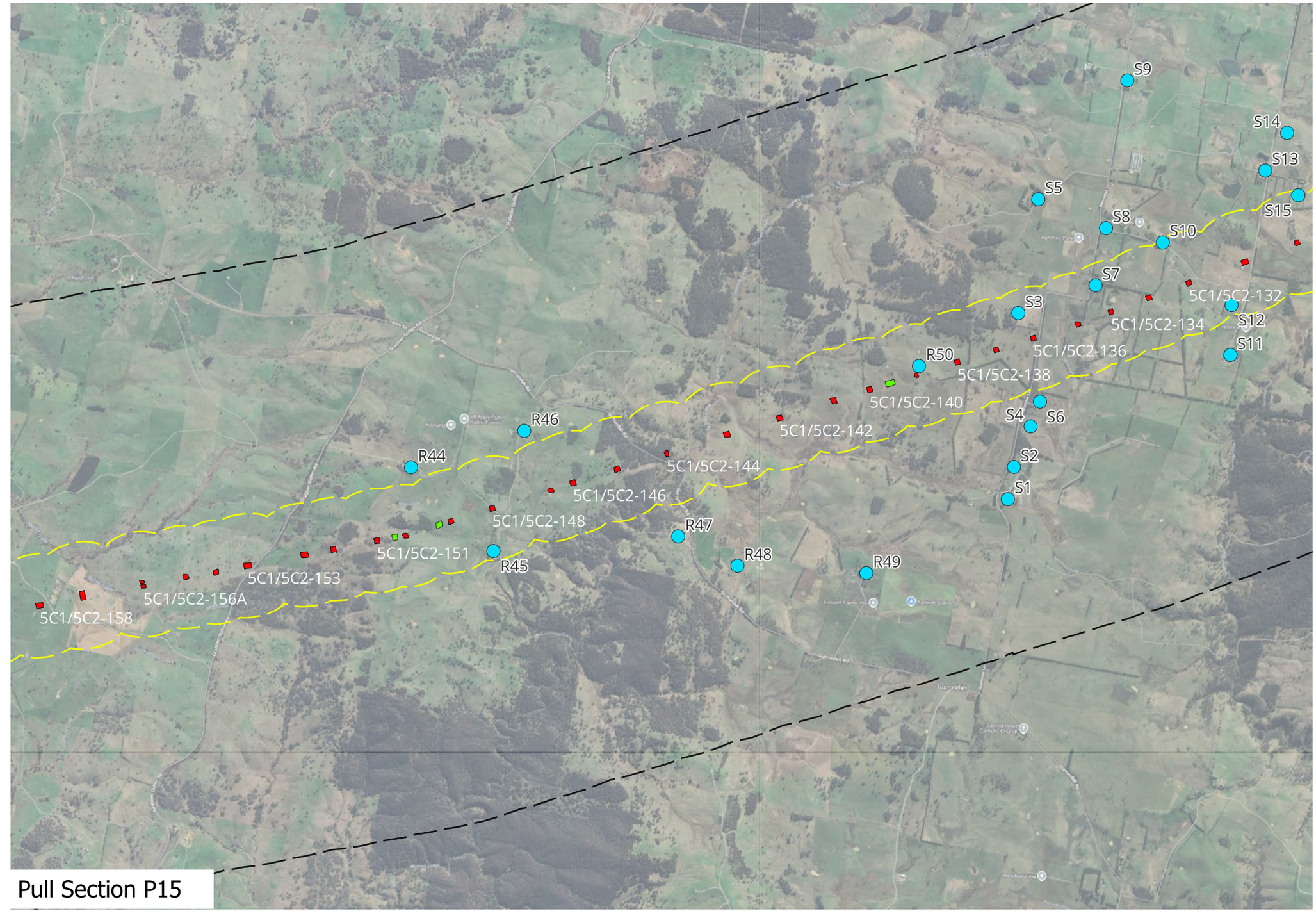
Noise Model Inputs

Legend

- Receivers
- Calculation Area (3km radius)
- Tower Stringing/Mat Transport (Tower Pad sites)
- Landing Areas (Camp Sites)
- Landing Areas (Break & Winch Sites)
- Flyover/Inspection Radius (500m)

0 0.5 1 km





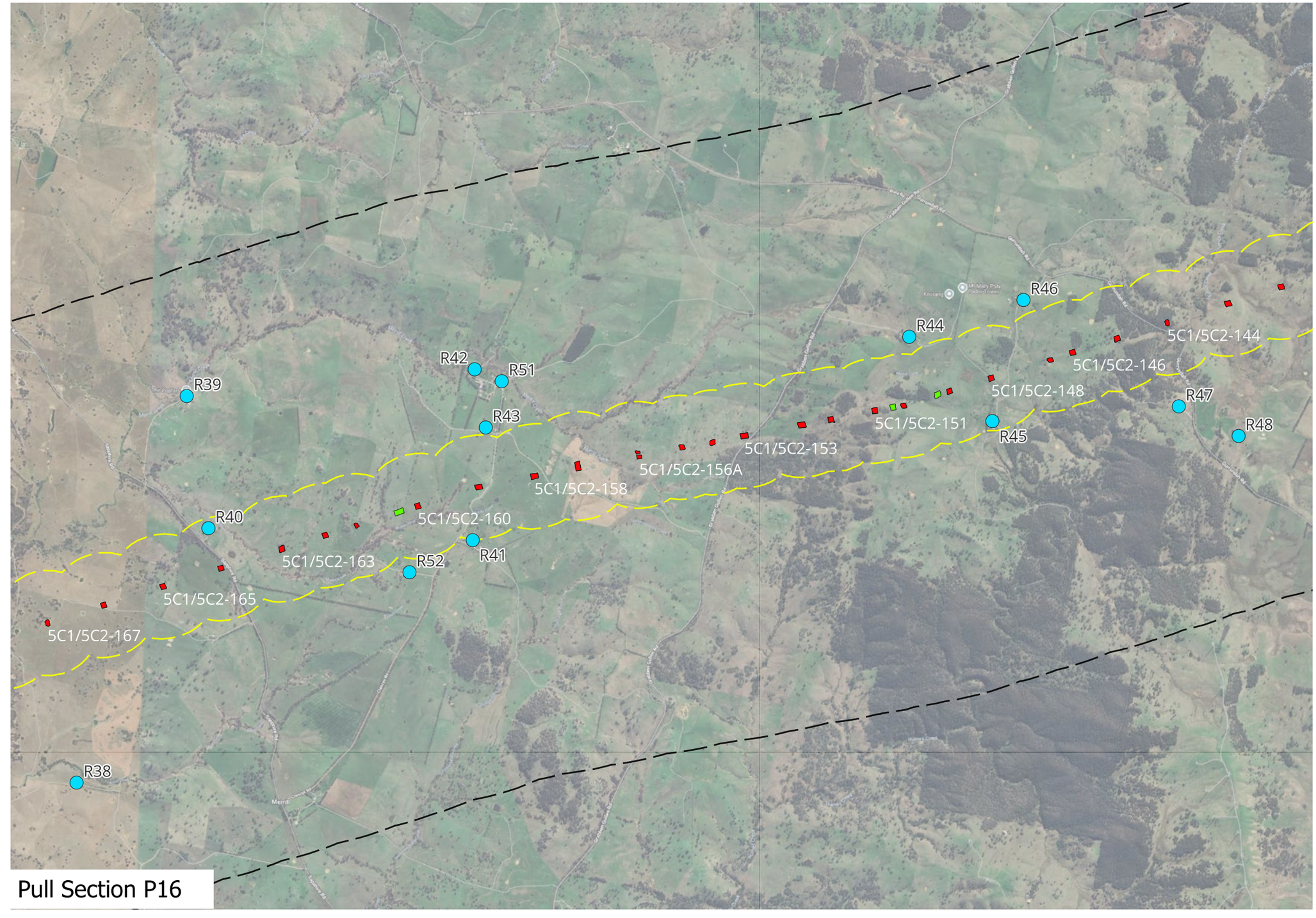
HLE - Helicopter Operations

Noise Model Inputs

Legend

- Receivers
- Calculation Area (3km radius)
- Tower Stringing/Mat Transport (Tower Pad sites)
- Landing Areas (Camp Sites)
- Landing Areas (Break & Winch Sites)
- Flyover/Inspection Radius (500m)

Pull Section P15



HLE - Helicopter Operations

Noise Model Inputs

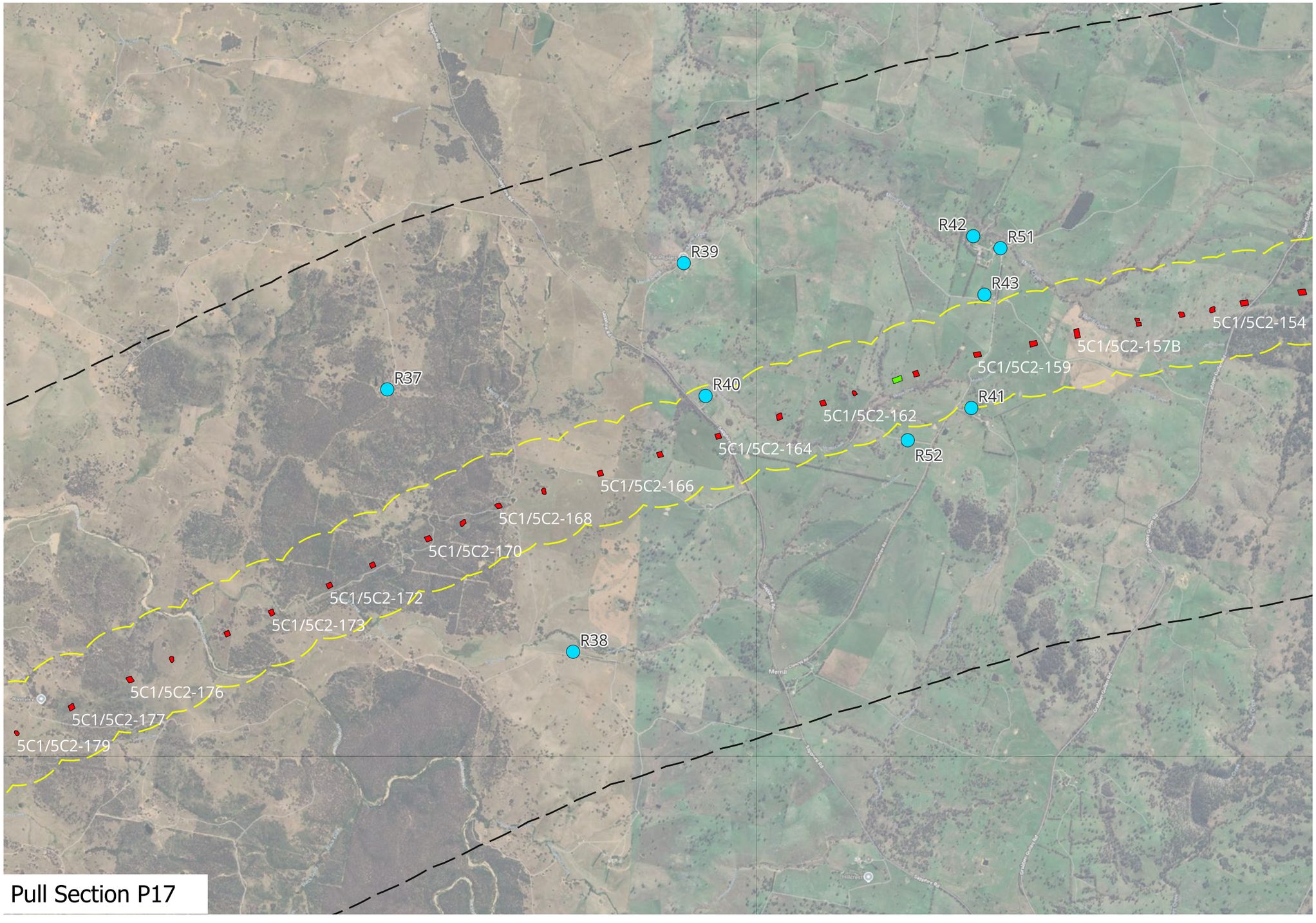
Legend

- Receivers
- Calculation Area (3km radius)
- Tower Stringing/Mat Transport (Tower Pad sites)
- Landing Areas (Camp Sites)
- Landing Areas (Break & Winch Sites)
- Flyover/Inspection Radius (500m)

0 0.5 1 km



Pull Section P16



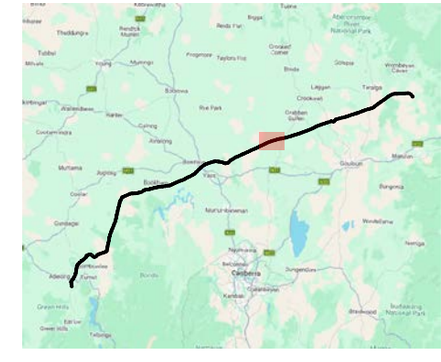
HLE - Helicopter Operations

Noise Model Inputs

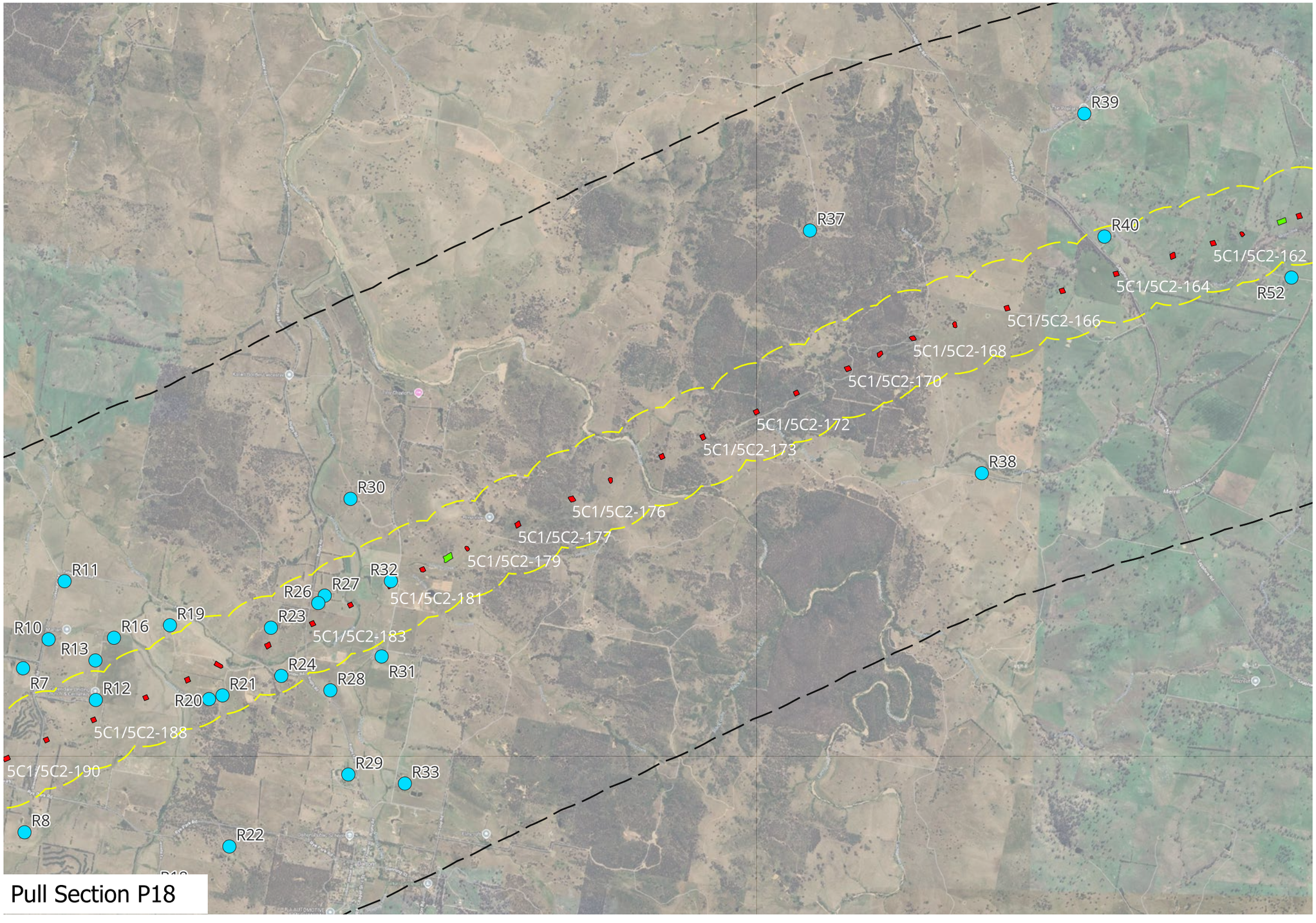
Legend

- Receivers
- Calculation Area (3km radius)
- Tower Stringing/Mat Transport (Tower Pad sites)
- Landing Areas (Camp Sites)
- Landing Areas (Break & Winch Sites)
- Flyover/Inspection Radius (500m)

0 0.5 1 km



Pull Section P17



HLE - Helicopter Operations

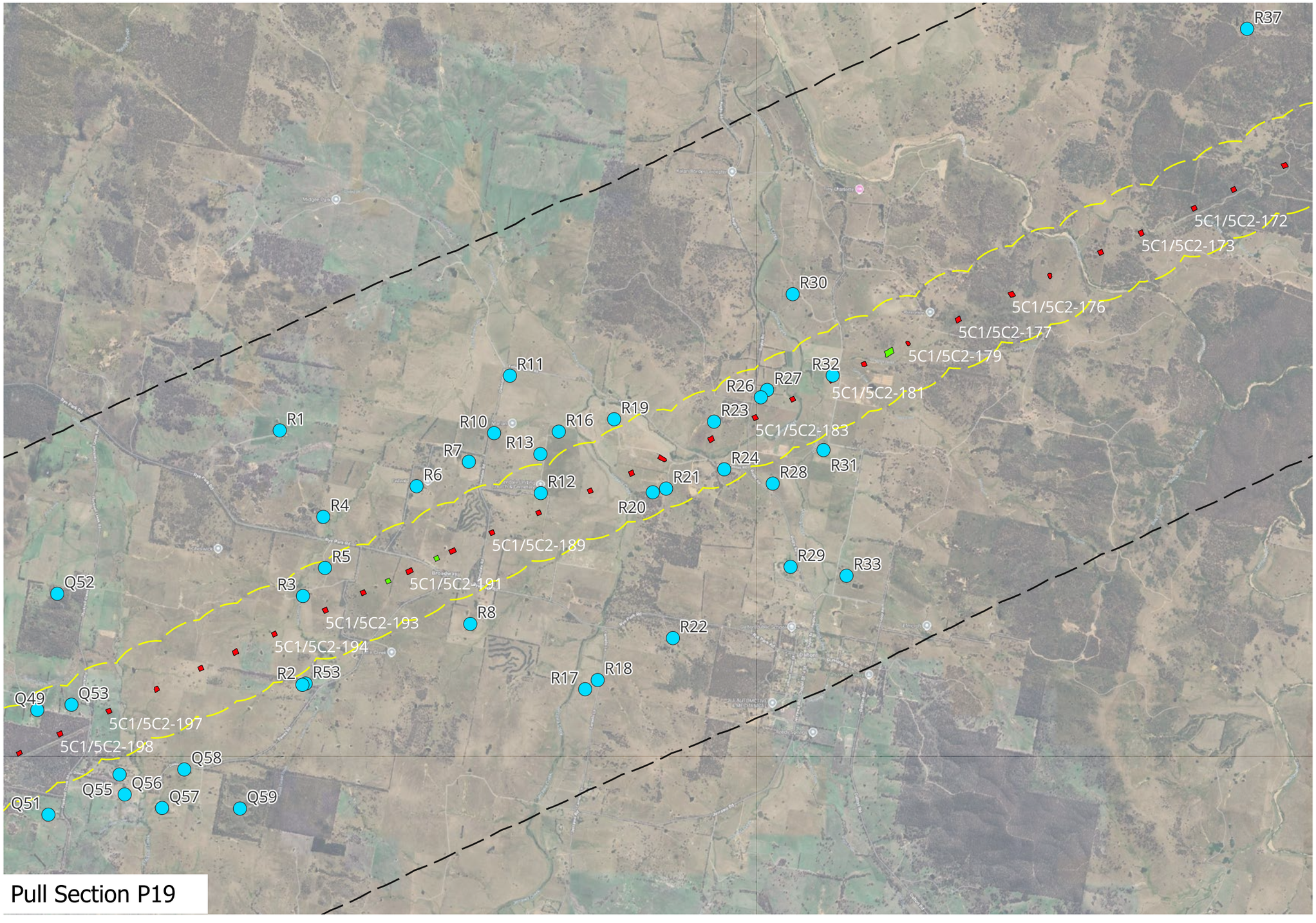
Noise Model Inputs

Legend

- Receivers
- Calculation Area (3km radius)
- Tower Stringing/Mat Transport (Tower Pad sites)
- Landing Areas (Camp Sites)
- Landing Areas (Break & Winch Sites)
- Flyover/Inspection Radius (500m)

0 0.5 1 km





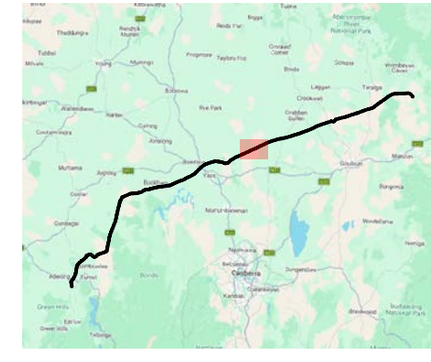
HLE - Helicopter Operations

Noise Model Inputs

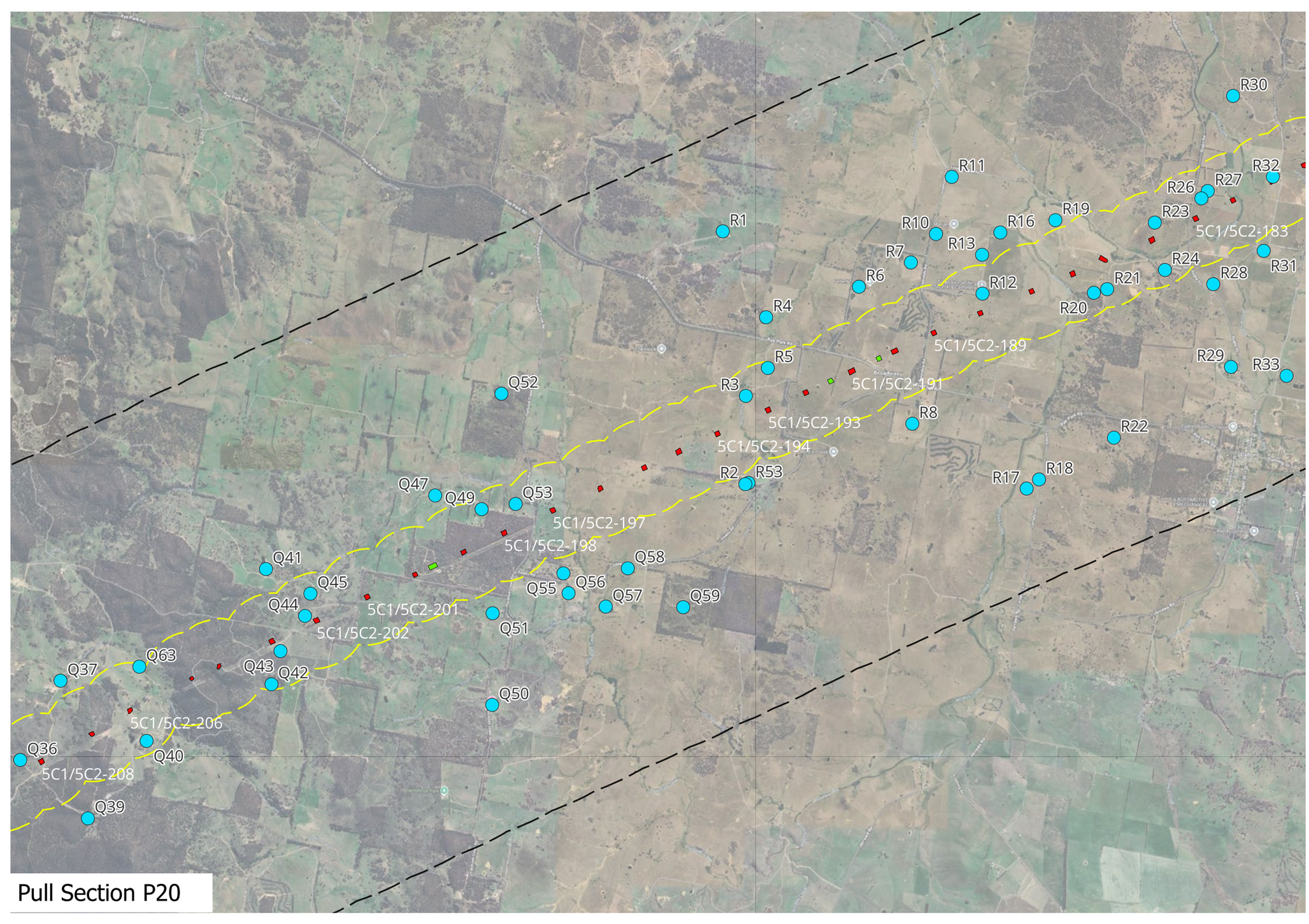
Legend

- Receivers
- Calculation Area (3km radius)
- Tower Stringing/Mat Transport (Tower Pad sites)
- Landing Areas (Camp Sites)
- Landing Areas (Break & Winch Sites)
- Flyover/Inspection Radius (500m)

0 0.5 1 km



Pull Section P19



HLE - Helicopter Operations

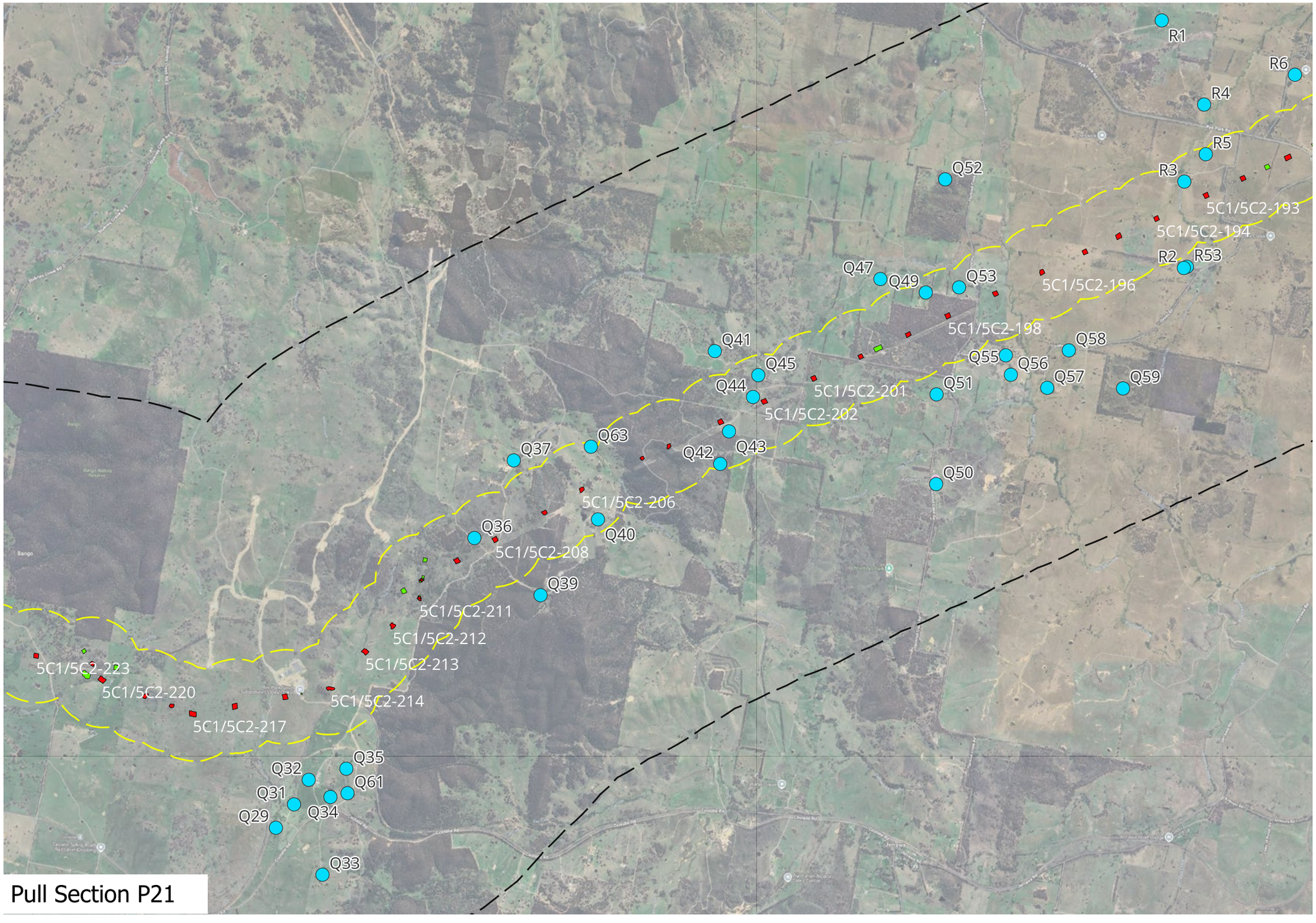
Noise Model Inputs

Legend

- Receivers
- Calculation Area (3km radius)
- Tower Stringing/Mat Transport (Tower Pad sites)
- Landing Areas (Camp Sites)
- Landing Areas (Break & Winch Sites)
- Flyover/Inspection Radius (500m)

0 0.5 1 km





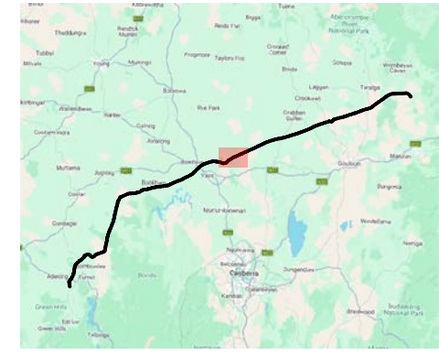
HLE - Helicopter Operations

Noise Model Inputs

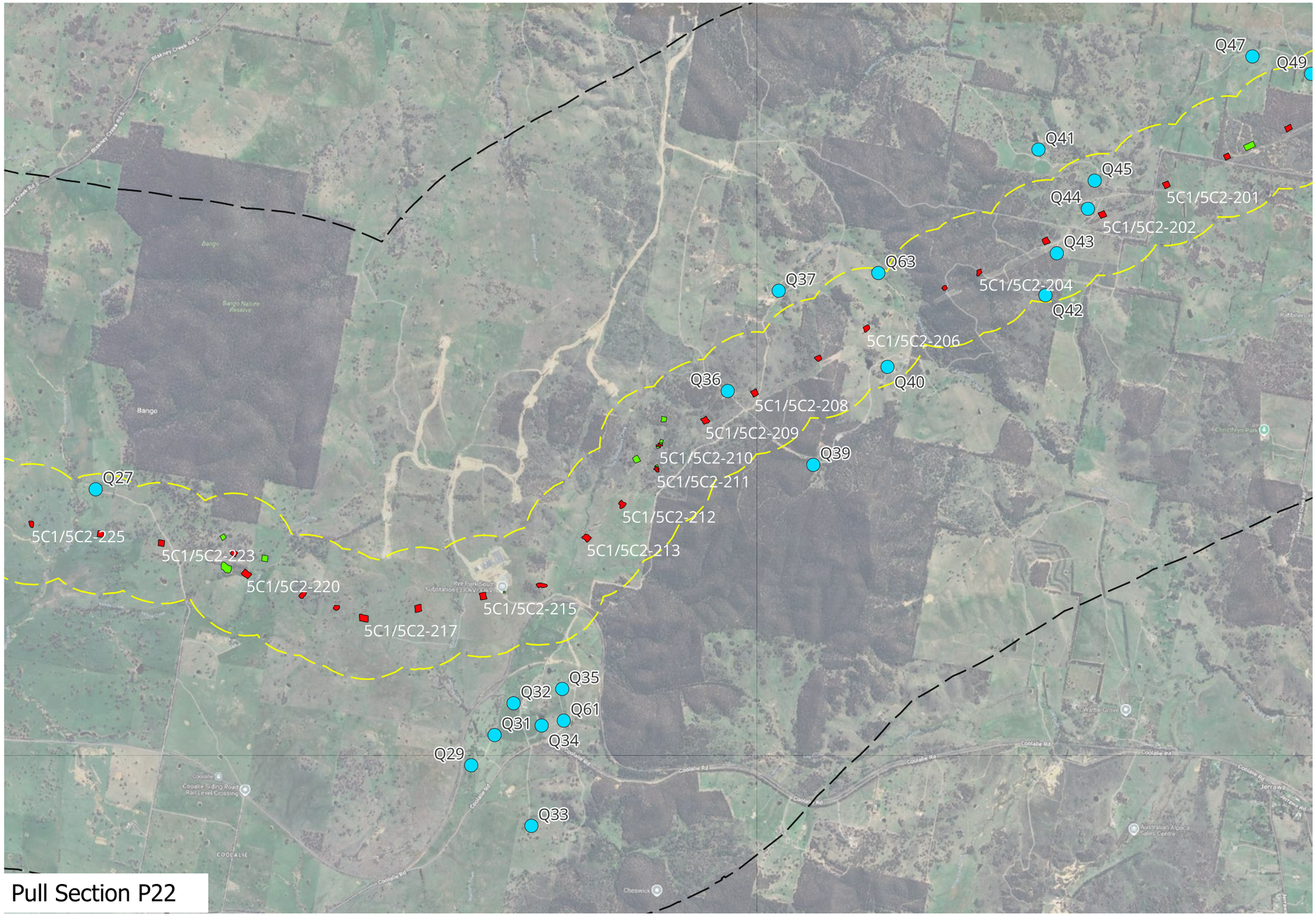
Legend

- Receivers
- Calculation Area (3km radius)
- Tower Stringing/Mat Transport (Tower Pad sites)
- Landing Areas (Camp Sites)
- Landing Areas (Break & Winch Sites)
- Flyover/Inspection Radius (500m)

0 0.5 1 km



Pull Section P21



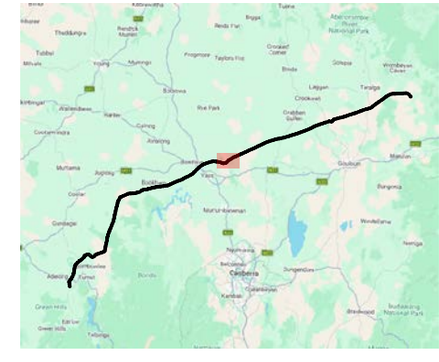
HLE - Helicopter Operations

Noise Model Inputs

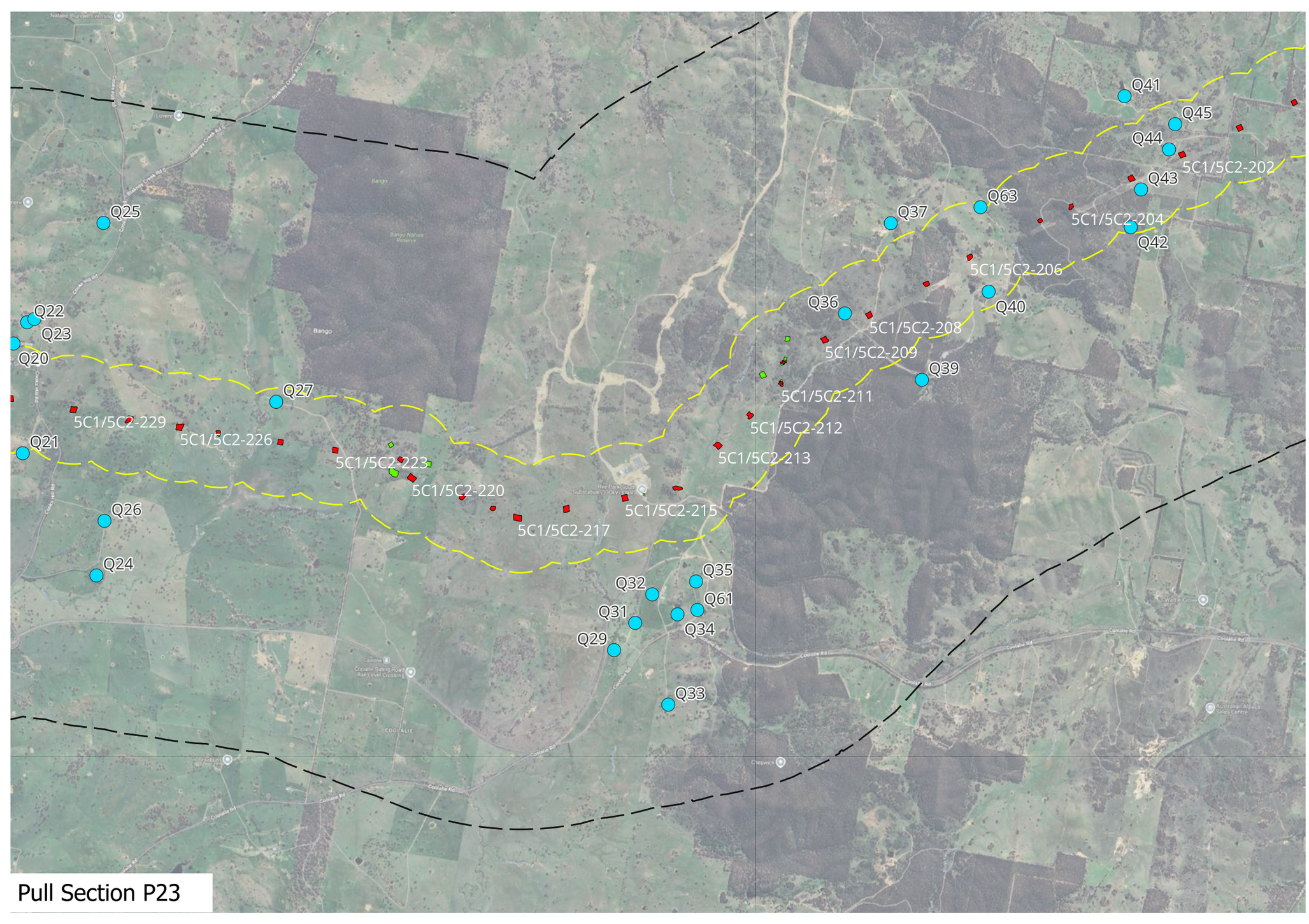
Legend

- Receivers
- Calculation Area (3km radius)
- Tower Stringing/Mat Transport (Tower Pad sites)
- Landing Areas (Camp Sites)
- Landing Areas (Break & Winch Sites)
- Flyover/Inspection Radius (500m)

0 0.5 1 km



Pull Section P22



HLE - Helicopter Operations

Noise Model Inputs

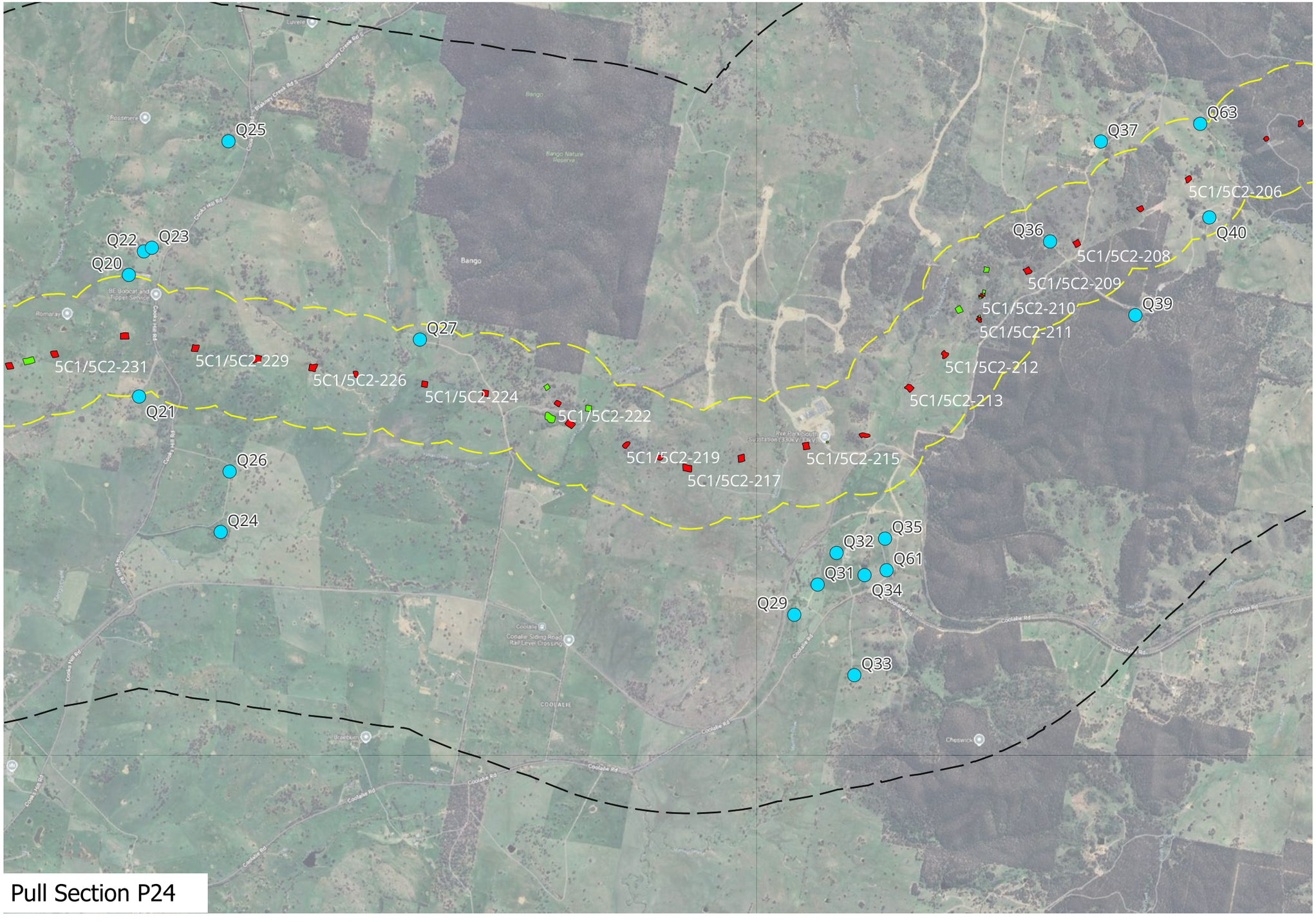
Legend

- Receivers
- Calculation Area (3km radius)
- Tower Stringing/Mat Transport (Tower Pad sites)
- Landing Areas (Camp Sites)
- Landing Areas (Break & Winch Sites)
- Flyover/Inspection Radius (500m)

0 0.5 1 km



Pull Section P23



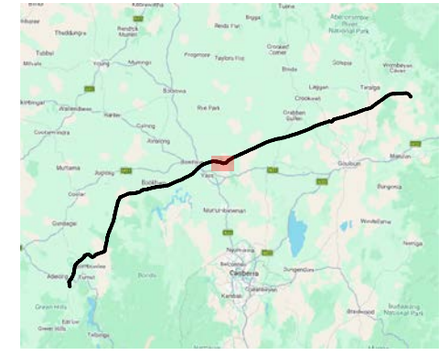
HLE - Helicopter Operations

Noise Model Inputs

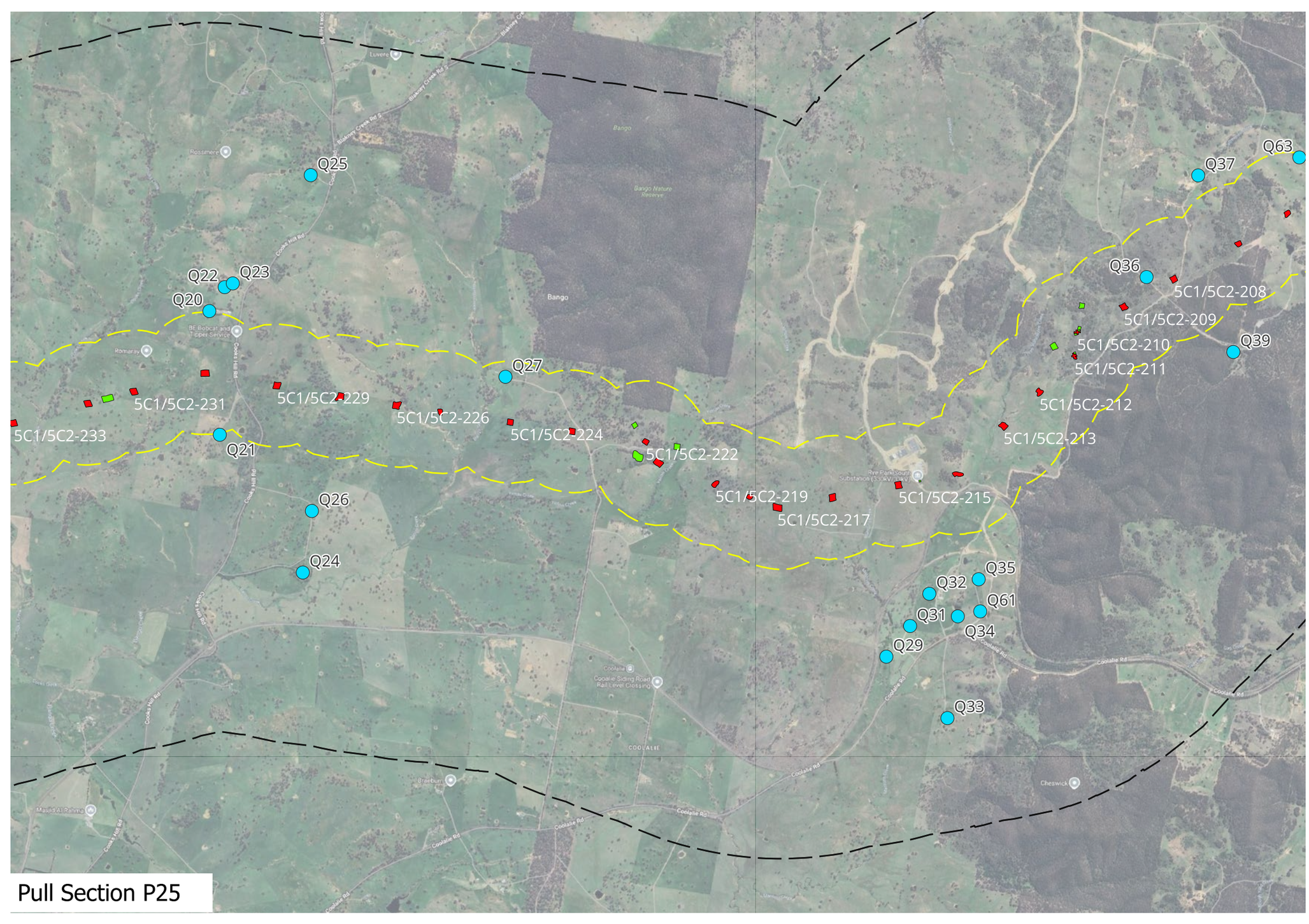
Legend

- Receivers
- Calculation Area (3km radius)
- Tower Stringing/Mat Transport (Tower Pad sites)
- Landing Areas (Camp Sites)
- Landing Areas (Break & Winch Sites)
- Flyover/Inspection Radius (500m)

0 0.5 1 km



Pull Section P24



HLE - Helicopter Operations

Noise Model Inputs

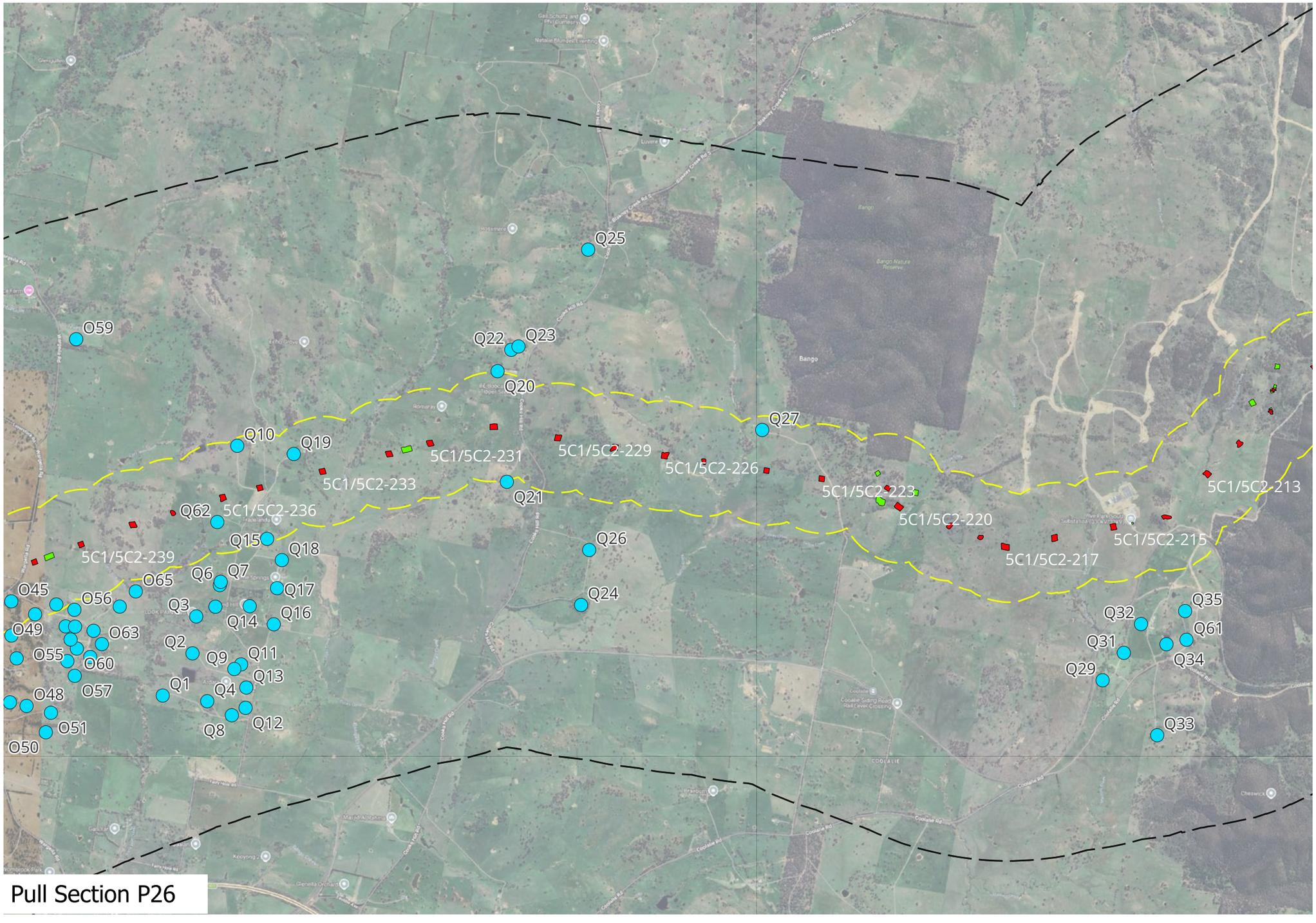
Legend

- Receivers
- Calculation Area (3km radius)
- Tower Stringing/Mat Transport (Tower Pad sites)
- Landing Areas (Camp Sites)
- Landing Areas (Break & Winch Sites)
- Flyover/Inspection Radius (500m)

0 0.5 1 km



Pull Section P25



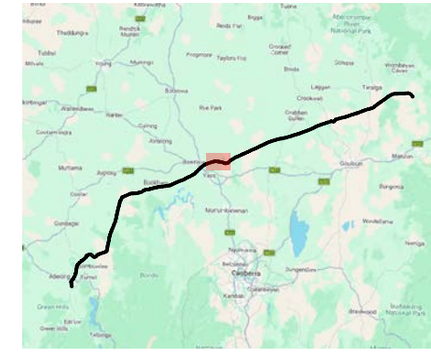
HLE - Helicopter Operations

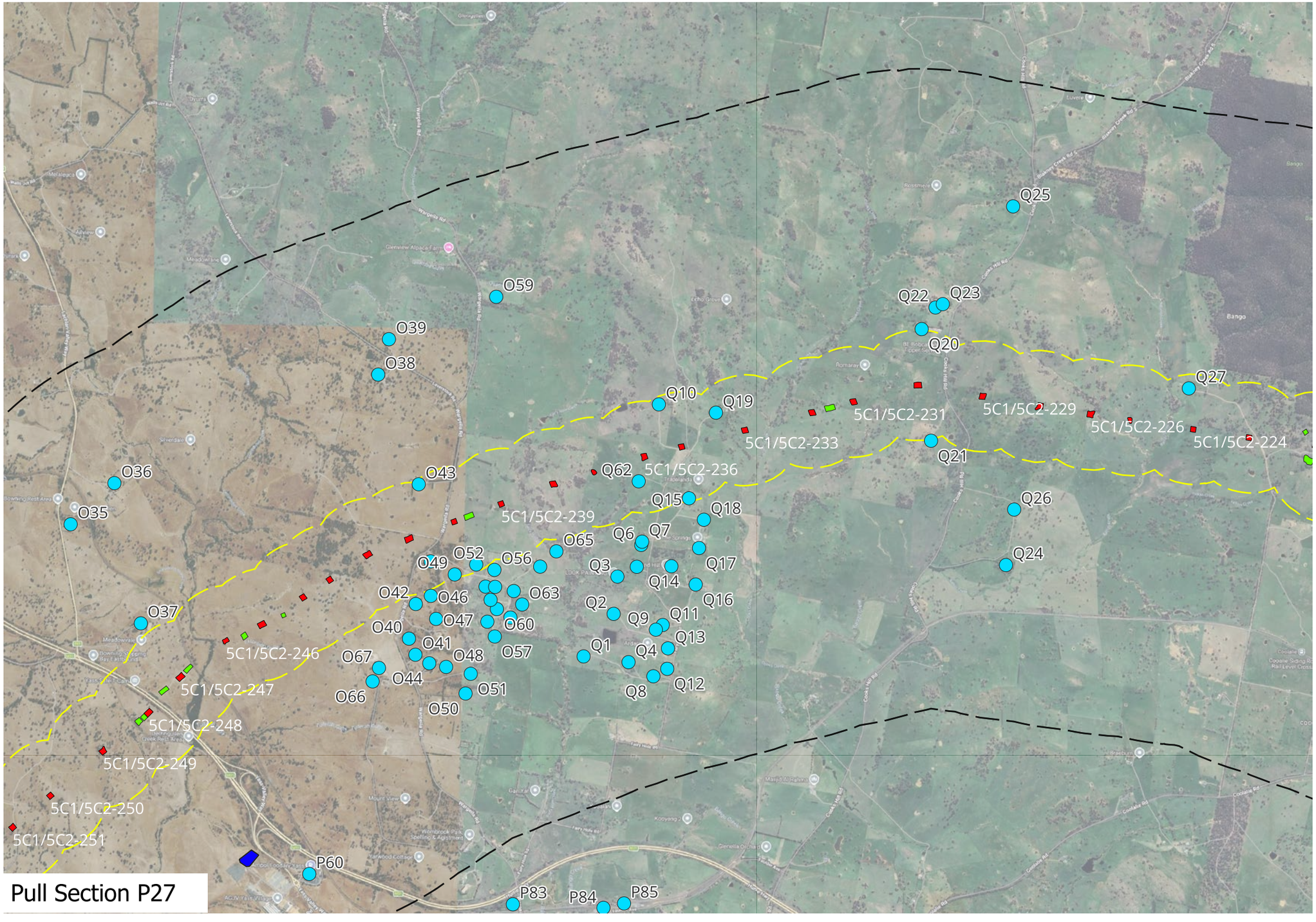
Noise Model Inputs

Legend

- Receivers
- Calculation Area (3km radius)
- Tower Stringing/Mat Transport (Tower Pad sites)
- Landing Areas (Camp Sites)
- Landing Areas (Break & Winch Sites)
- Flyover/Inspection Radius (500m)

0 0.5 1 km





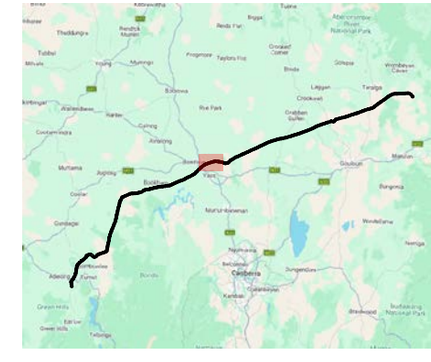
HLE - Helicopter Operations

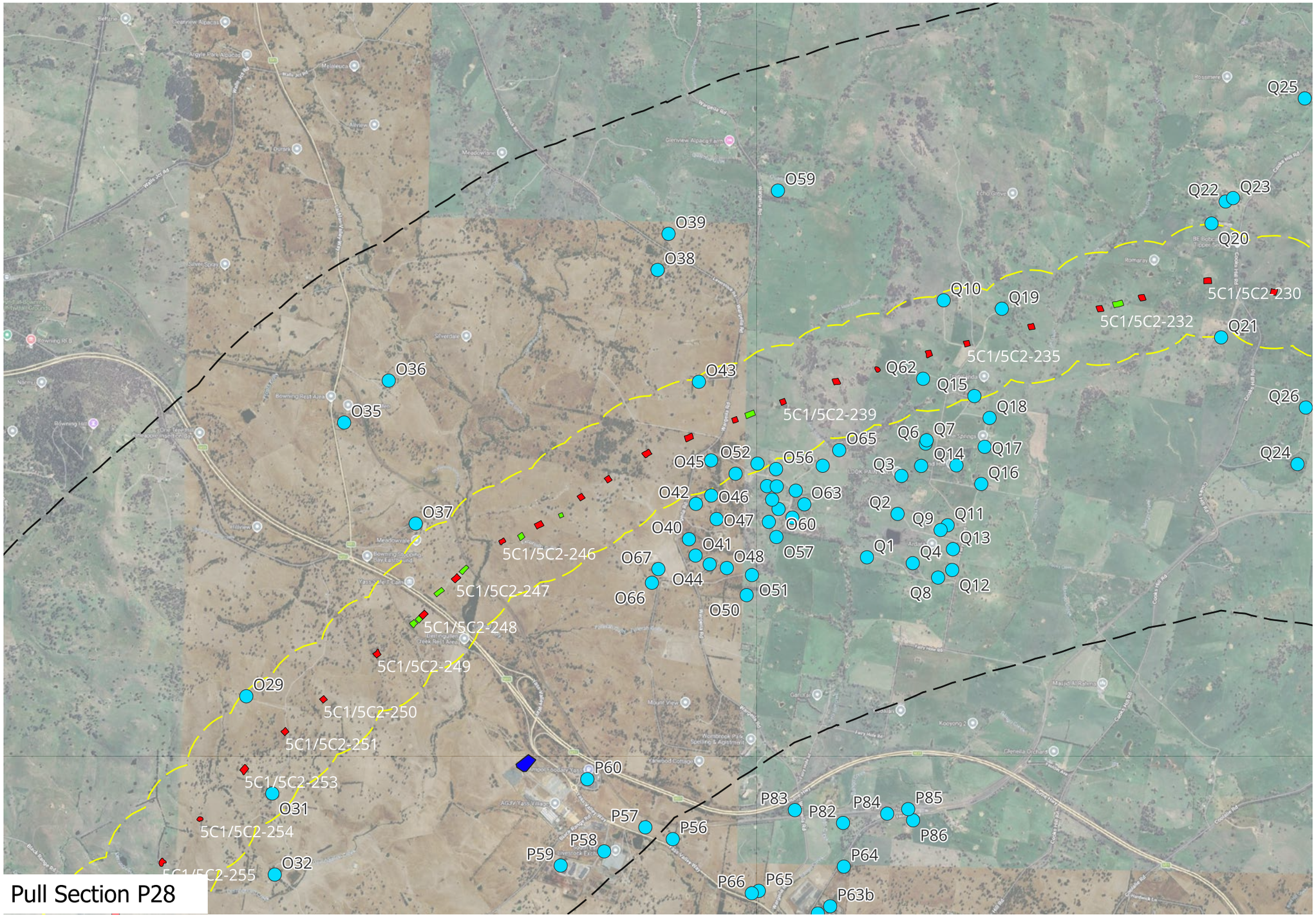
Noise Model Inputs

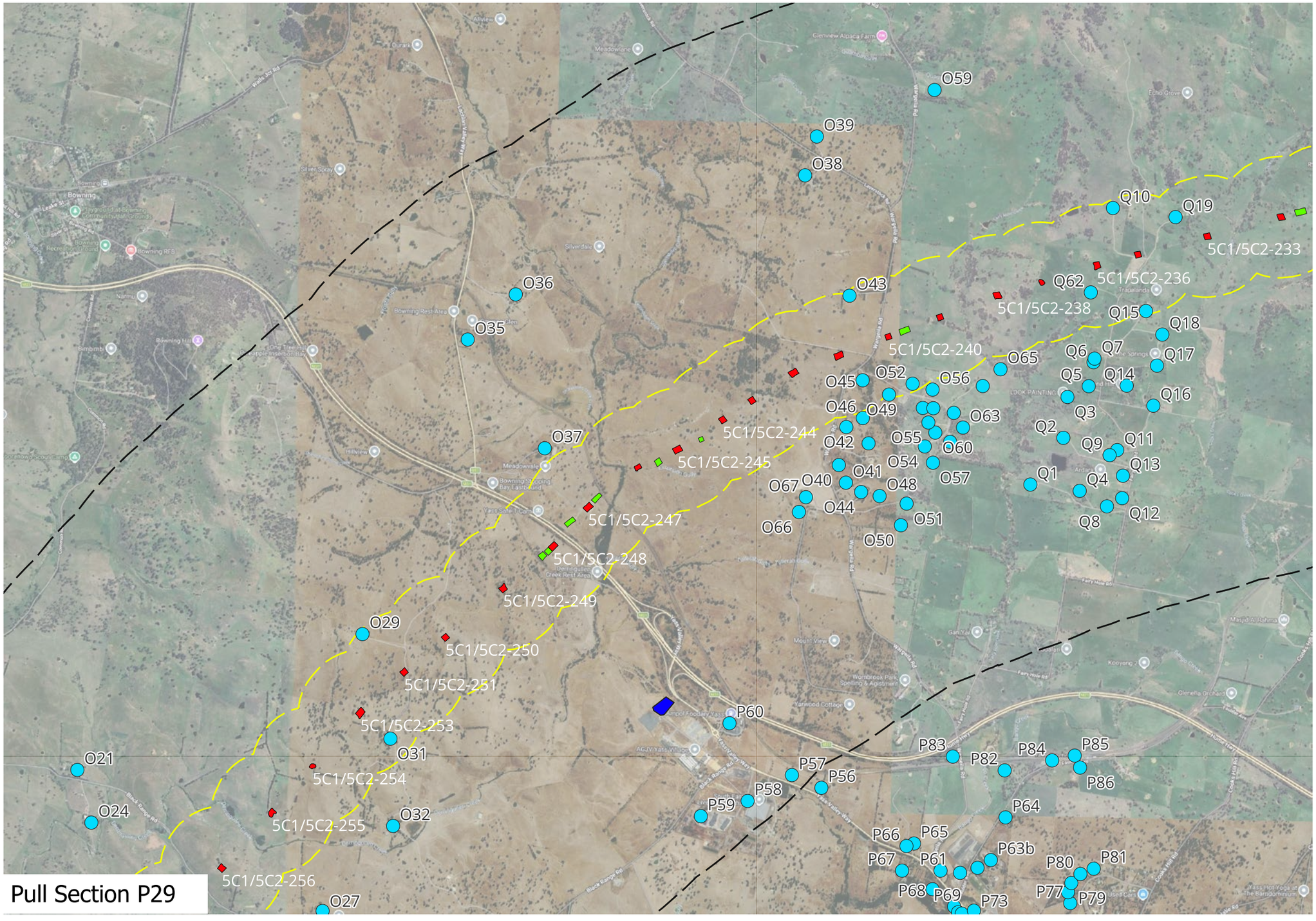
Legend

- Receivers
- Calculation Area (3km radius)
- Tower Stringing/Mat Transport (Tower Pad sites)
- Landing Areas (Camp Sites)
- Landing Areas (Break & Winch Sites)
- Flyover/Inspection Radius (500m)

0 0.5 1 km




HLE - Helicopter Operations
Noise Model Inputs
Legend
Receivers
Calculation Area (3km radius)
Tower Stringing/Mat Transport (Tower Pad sites)
Landing Areas (Camp Sites)
Landing Areas (Break & Winch Sites)
Flyover/Inspection Radius (500m)
0
0.5
1 km
Pull Section P28
Q25
Q22
Q23
Q20
5C1/5C2-230
5C1/5C2-232
Q21
Q26
Q24
O59
O39
O38
Q10
Q19
5C1/5C2-235
Q62
Q15
Q18
5C1/5C2-239
Q6
Q7
Q17
Q14
Q3
Q16
Q2
Q9
Q11
Q13
Q1
Q4
Q12
Q8
O43
O36
O35
O65
O52
O45
O56
O42
O46
O63
O37
O40
O47
O60
O41
O57
O48
O67
O44
O66
O51
O50
5C1/5C2-246
5C1/5C2-247
5C1/5C2-248
5C1/5C2-249
5C1/5C2-250
5C1/5C2-251
5C1/5C2-253
5C1/5C2-254
5C1/5C2-255
O29
O31
O32
P60
P57
P56
P58
P59
P83
P82
P84
P85
P86
P64
P66
P65
P63b



Pull Section P29

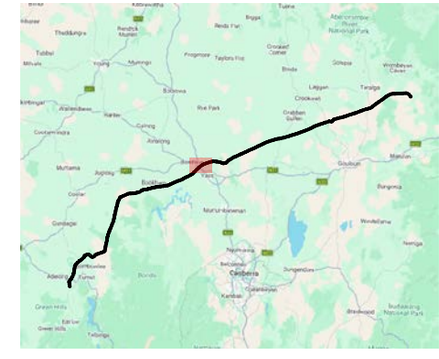
HLE - Helicopter Operations

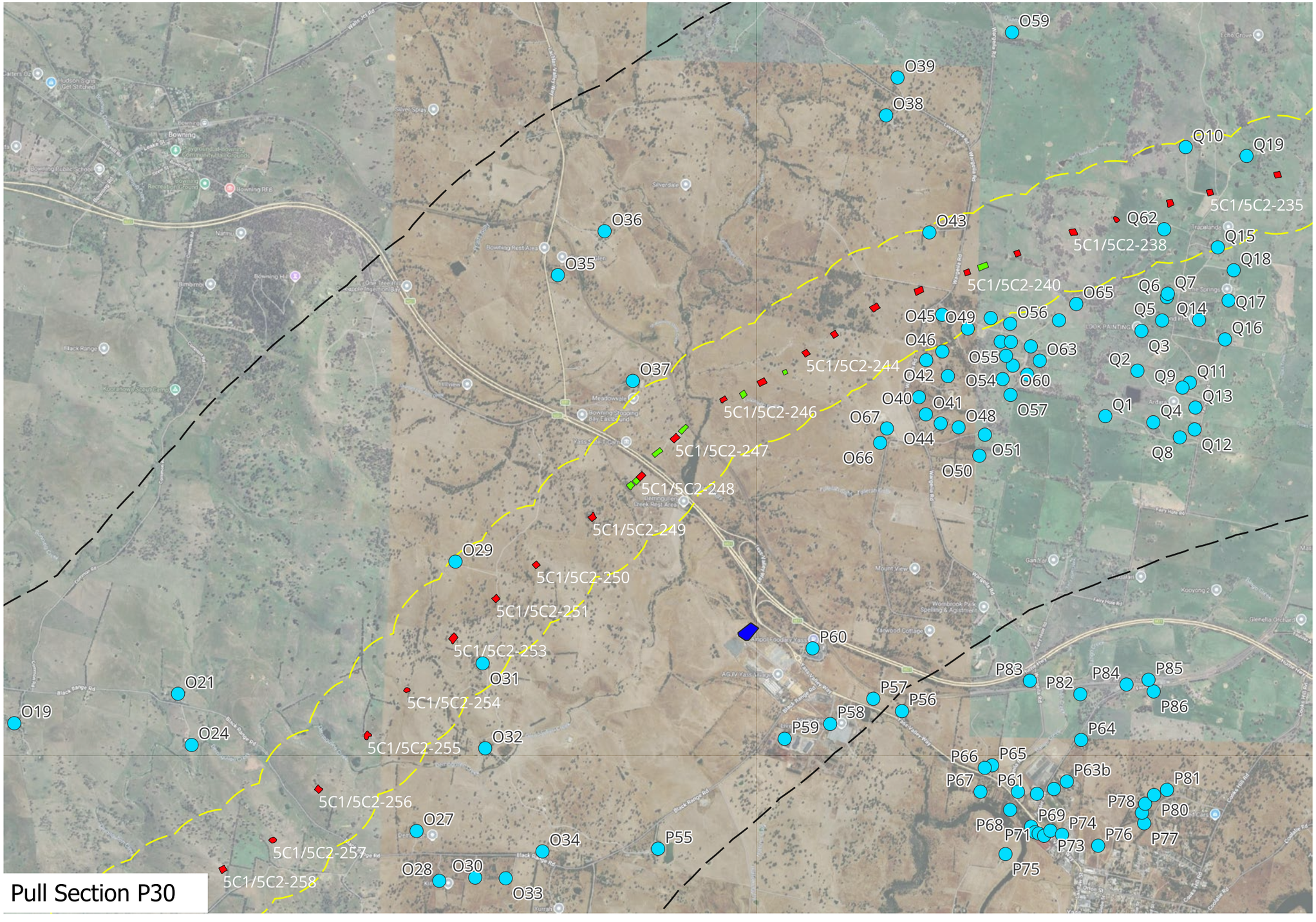
Noise Model Inputs

Legend

- Receivers
- Calculation Area (3km radius)
- Tower Stringing/Mat Transport (Tower Pad sites)
- Landing Areas (Camp Sites)
- Landing Areas (Break & Winch Sites)
- Flyover/Inspection Radius (500m)

0 0.5 1 km





Pull Section P30

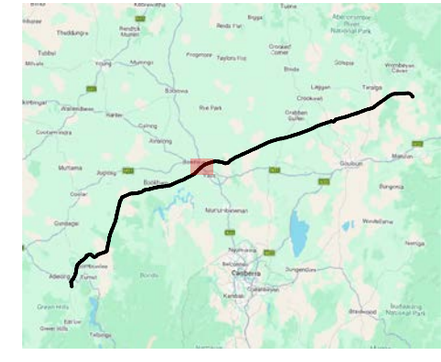
HLE - Helicopter Operations

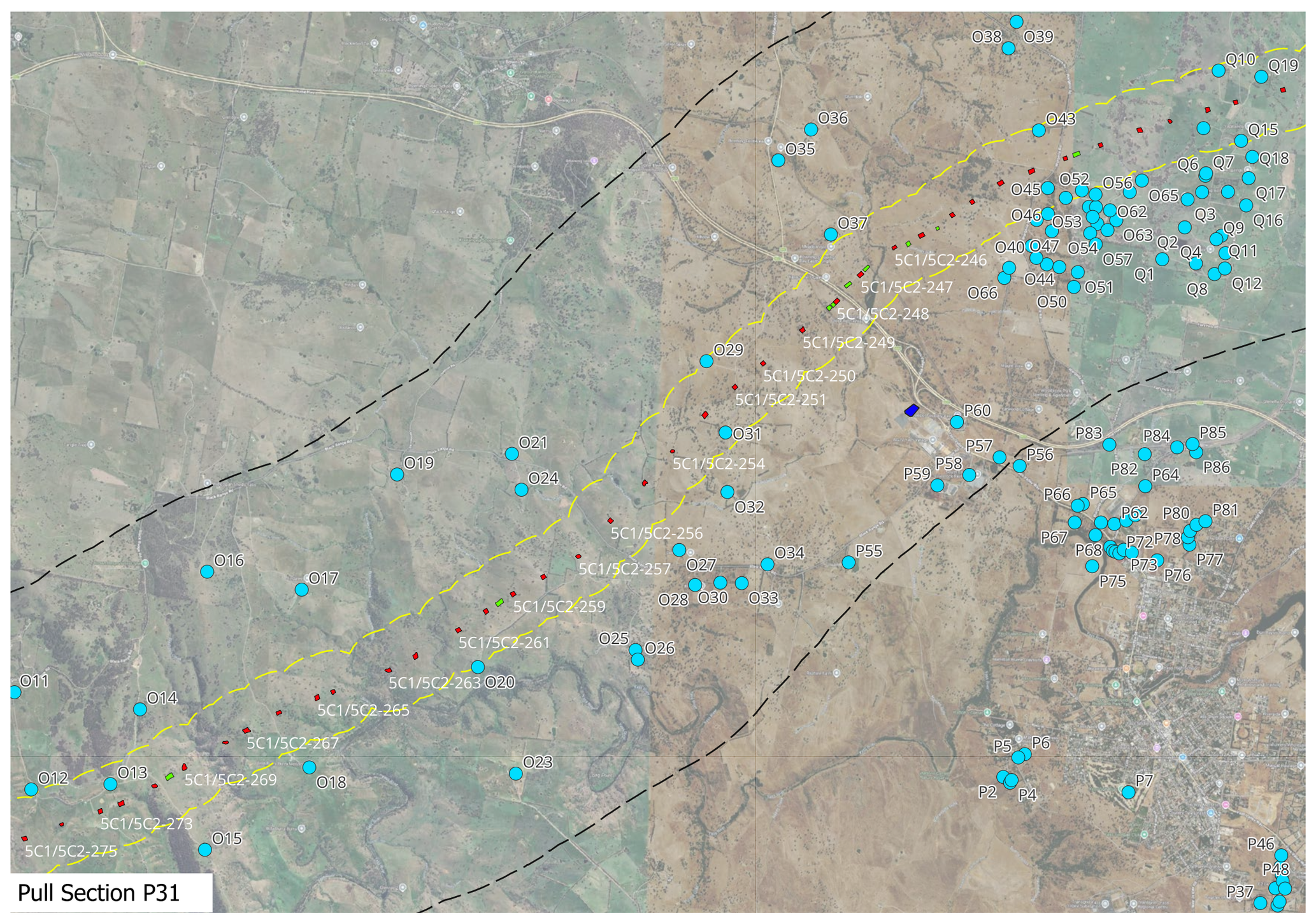
Noise Model Inputs

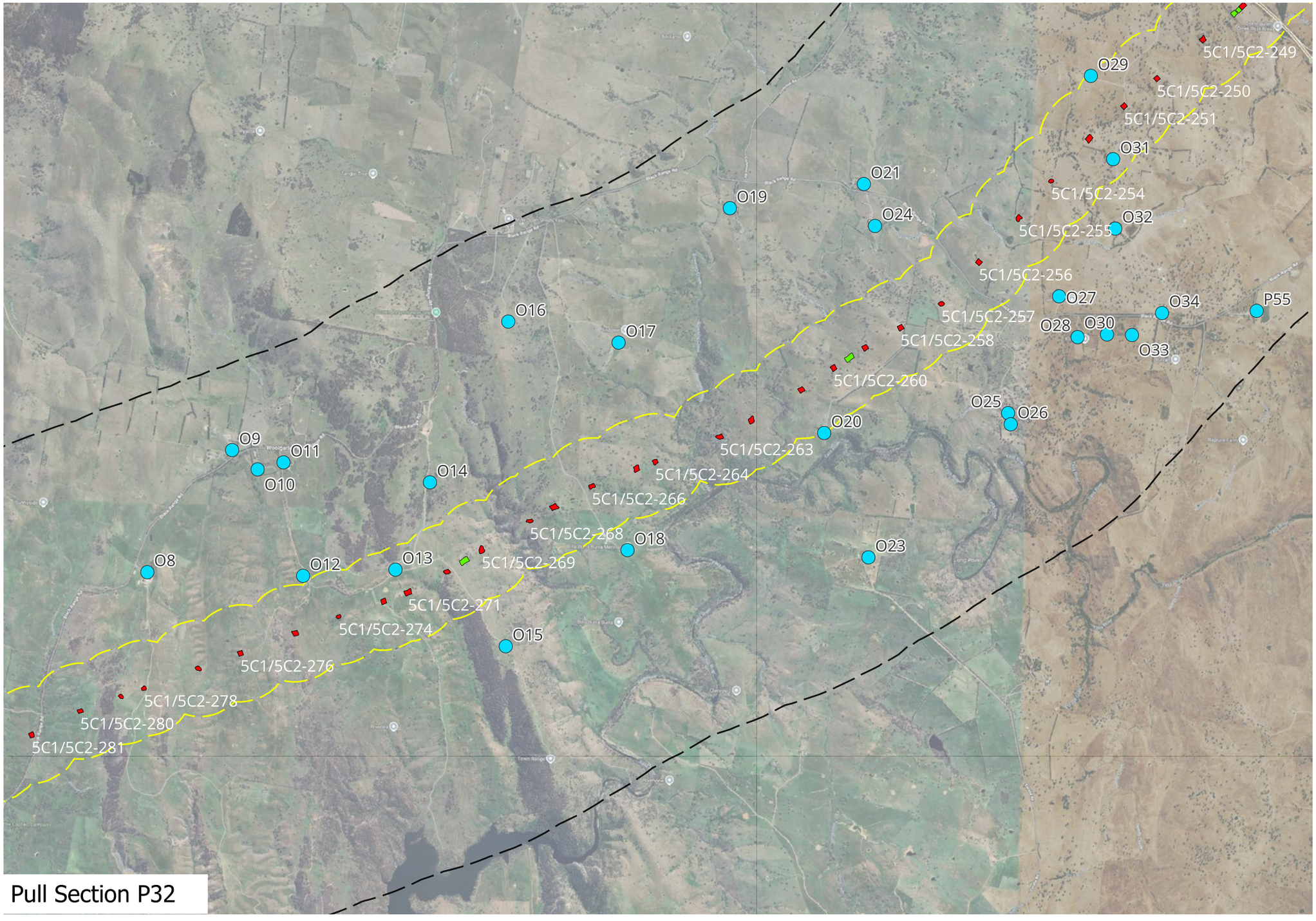
Legend

- Receivers
- Calculation Area (3km radius)
- Tower Stringing/Mat Transport (Tower Pad sites)
- Landing Areas (Camp Sites)
- Landing Areas (Break & Winch Sites)
- Flyover/Inspection Radius (500m)

0 0.5 1 km




HLE - Helicopter Operations
Noise Model Inputs
Legend
Receivers
Calculation Area (3km radius)
Tower Stringing/Mat Transport (Tower Pad sites)
Landing Areas (Camp Sites)
Landing Areas (Break & Winch Sites)
Flyover/Inspection Radius (500m)
0
0.5
1 km
Pull Section P31



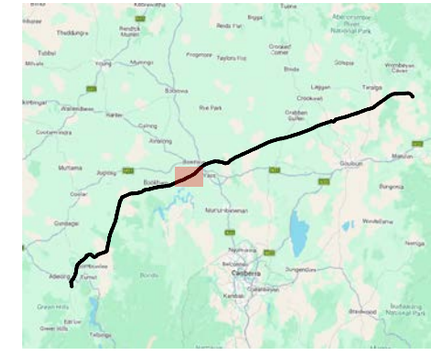
HLE - Helicopter Operations

Noise Model Inputs

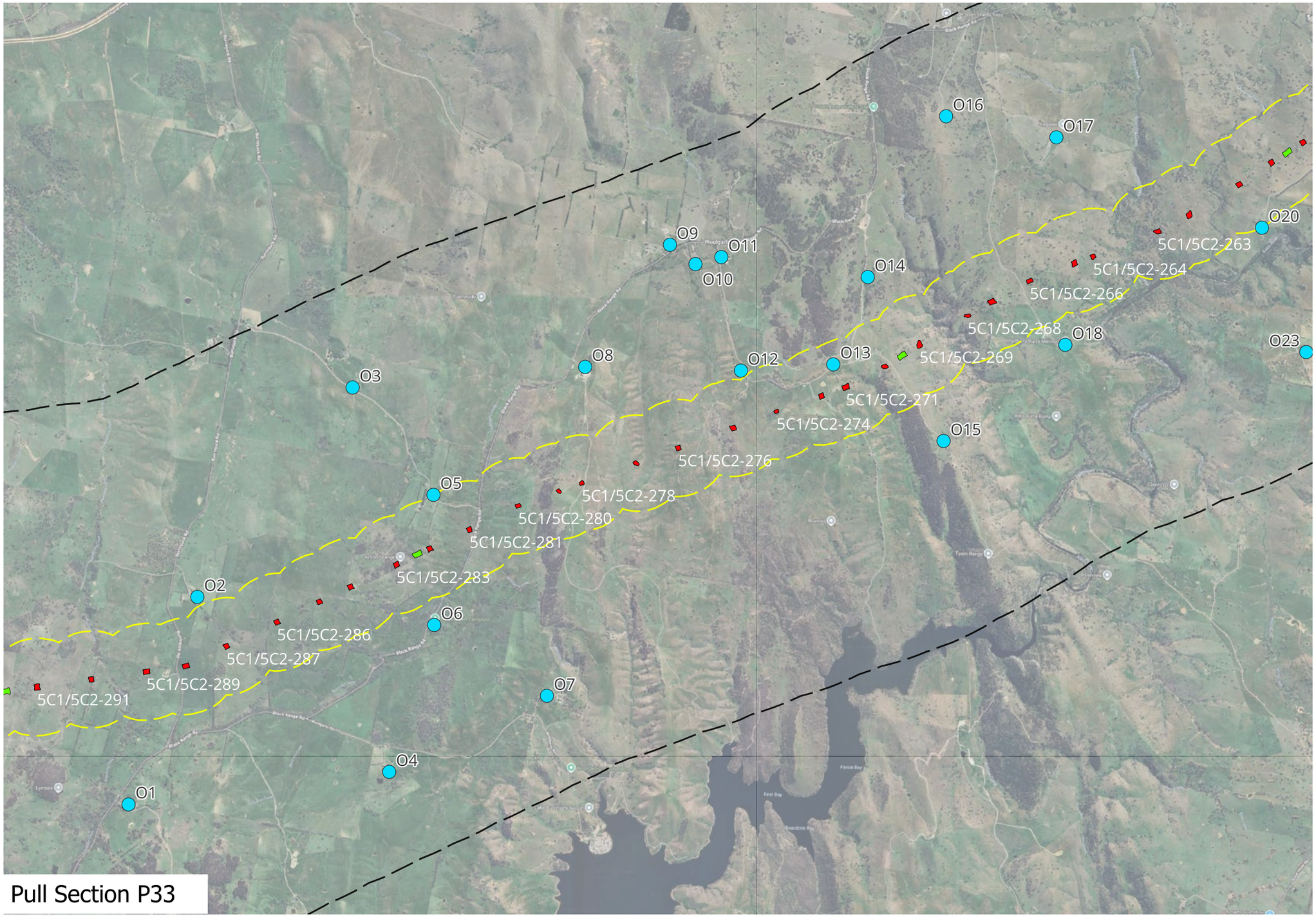
Legend

- Receivers
- Calculation Area (3km radius)
- Tower Stringing/Mat Transport (Tower Pad sites)
- Landing Areas (Camp Sites)
- Landing Areas (Break & Winch Sites)
- Flyover/Inspection Radius (500m)

0 0.5 1 km



Pull Section P32



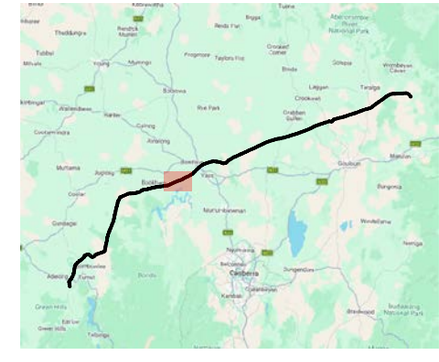
HLE - Helicopter Operations

Noise Model Inputs

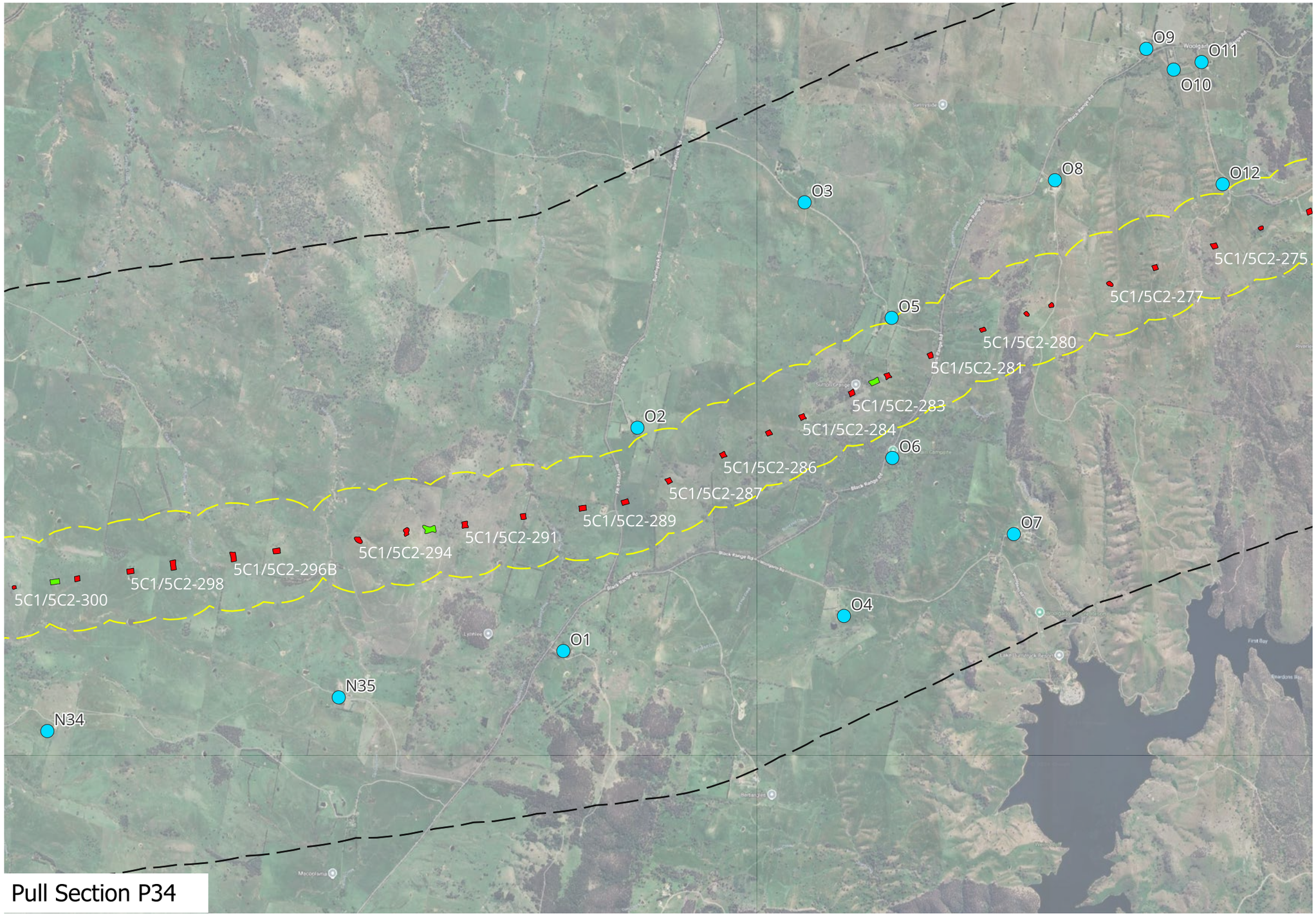
Legend

- Receivers
- Calculation Area (3km radius)
- Tower Stringing/Mat Transport (Tower Pad sites)
- Landing Areas (Camp Sites)
- Landing Areas (Break & Winch Sites)
- Flyover/Inspection Radius (500m)

0 0.5 1 km



Pull Section P33



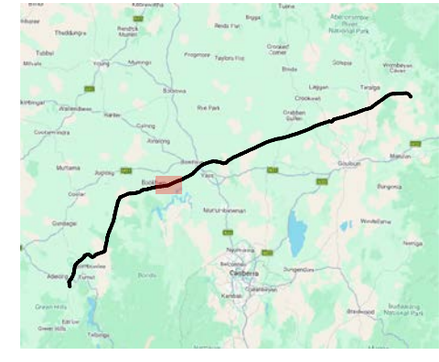
HLE - Helicopter Operations

Noise Model Inputs

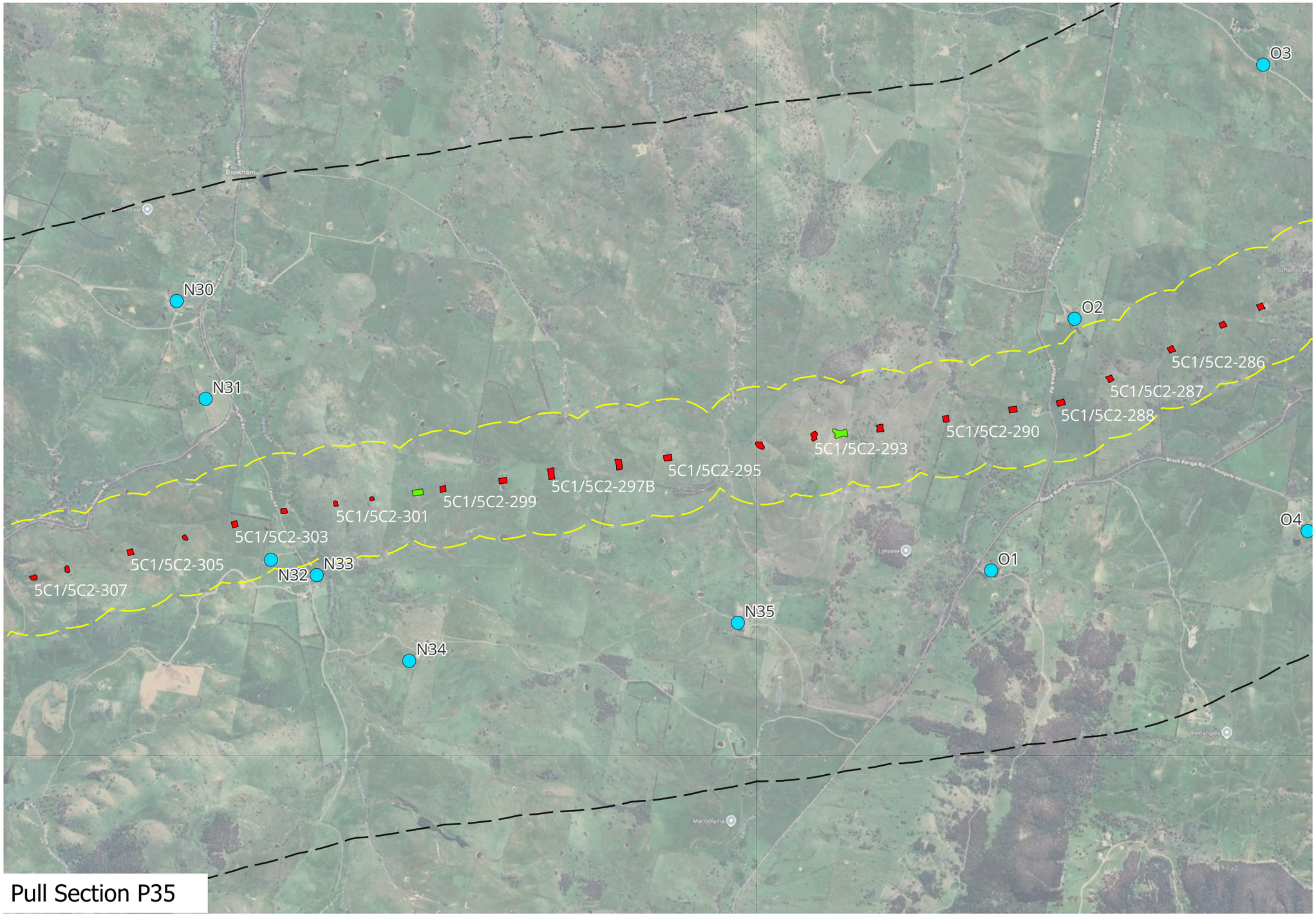
Legend

- Receivers
- Calculation Area (3km radius)
- Tower Stringing/Mat Transport (Tower Pad sites)
- Landing Areas (Camp Sites)
- Landing Areas (Break & Winch Sites)
- Flyover/Inspection Radius (500m)

0 0.5 1 km



Pull Section P34



HLE - Helicopter Operations

Noise Model Inputs

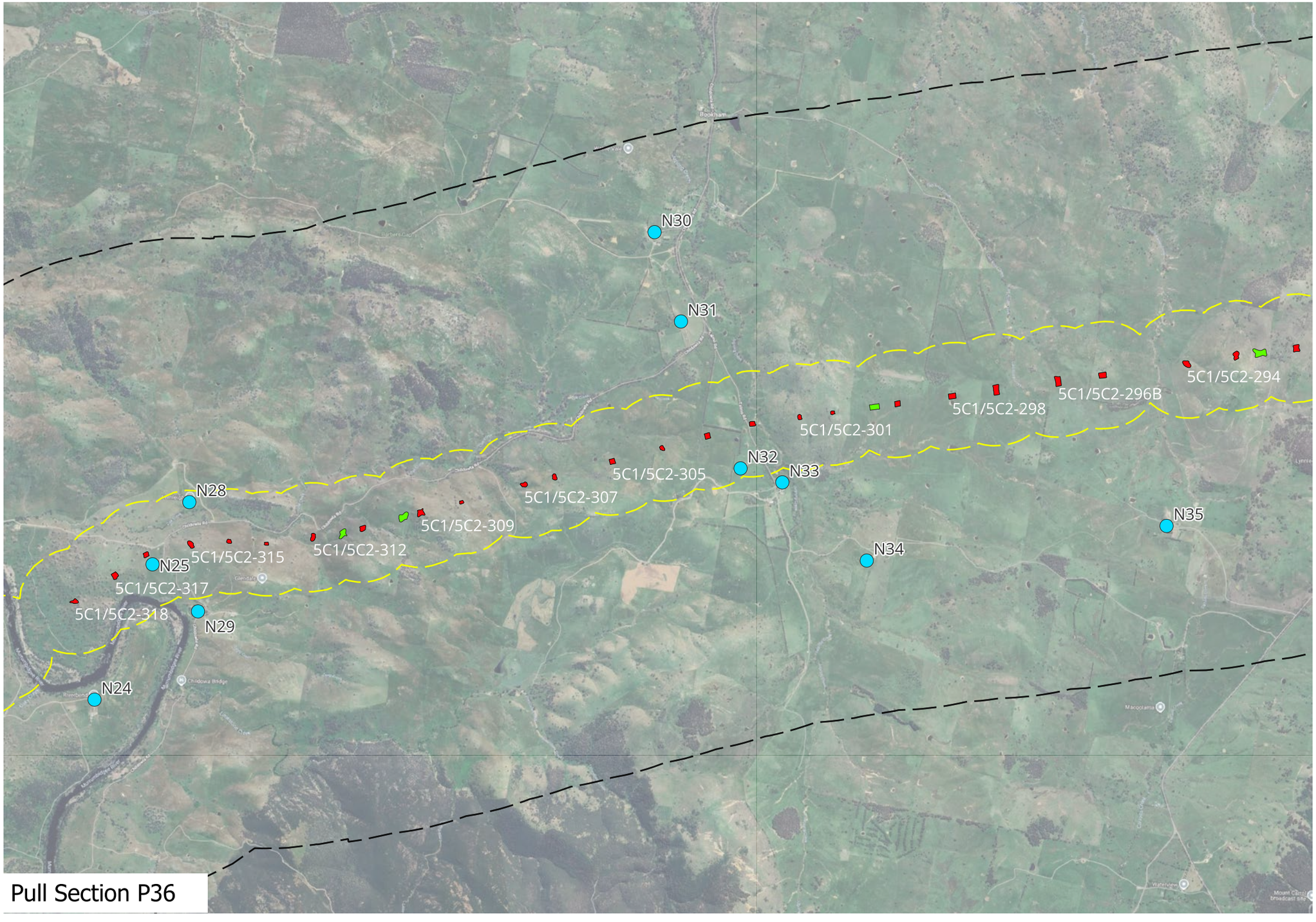
Legend

- Receivers
- Calculation Area (3km radius)
- Tower Stringing/Mat Transport (Tower Pad sites)
- Landing Areas (Camp Sites)
- Landing Areas (Break & Winch Sites)
- Flyover/Inspection Radius (500m)

0 0.5 1 km



Pull Section P35



HLE - Helicopter Operations

Noise Model Inputs

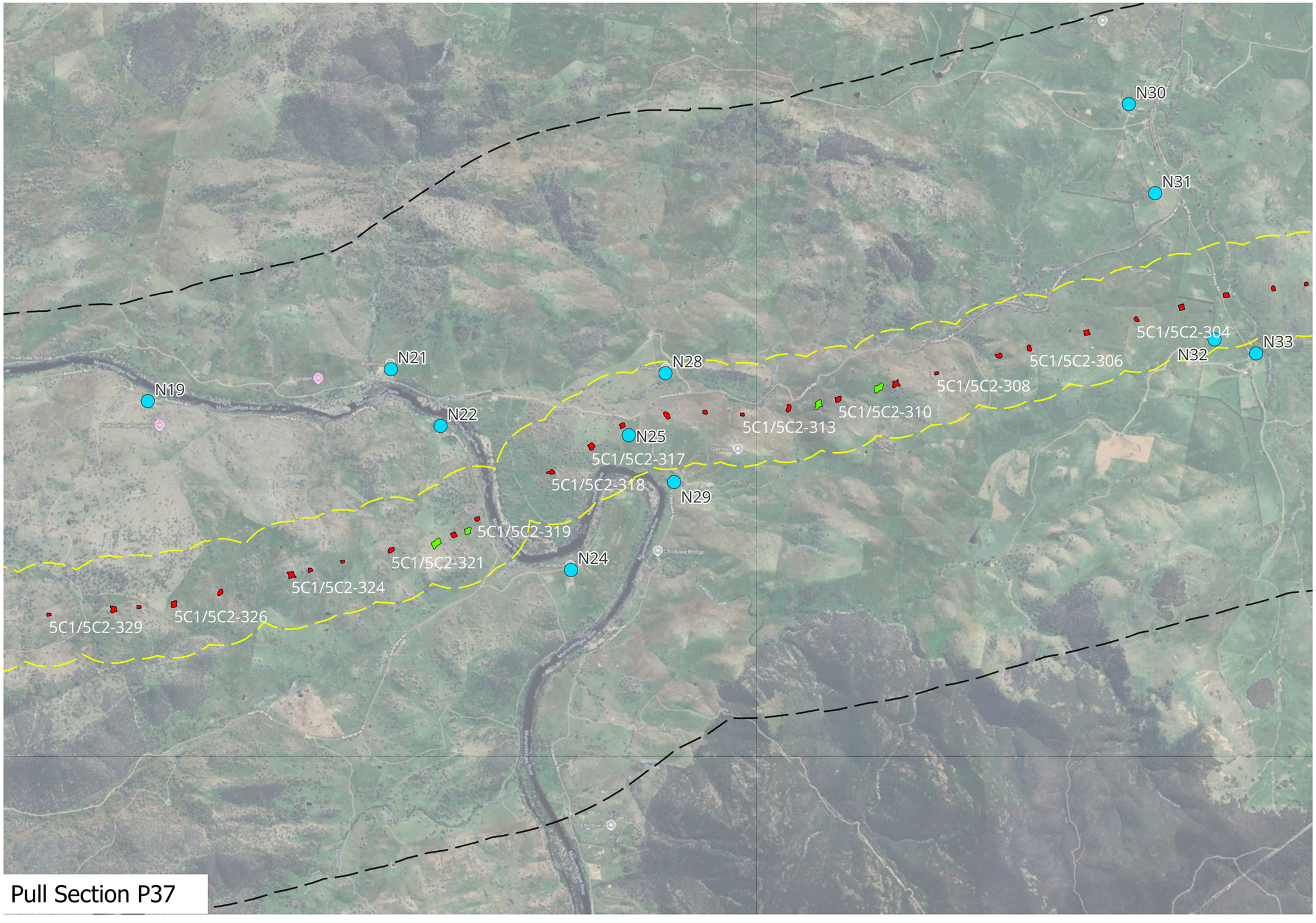
Legend

- Receivers
- Calculation Area (3km radius)
- Tower Stringing/Mat Transport (Tower Pad sites)
- Landing Areas (Camp Sites)
- Landing Areas (Break & Winch Sites)
- Flyover/Inspection Radius (500m)

0 0.5 1 km



Pull Section P36



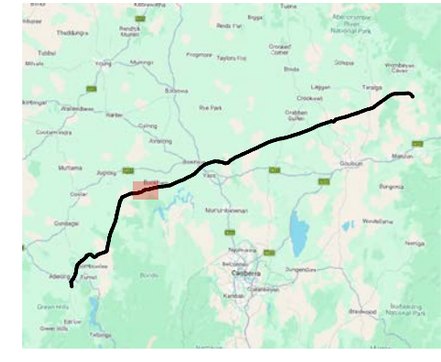
HLE - Helicopter Operations

Noise Model Inputs

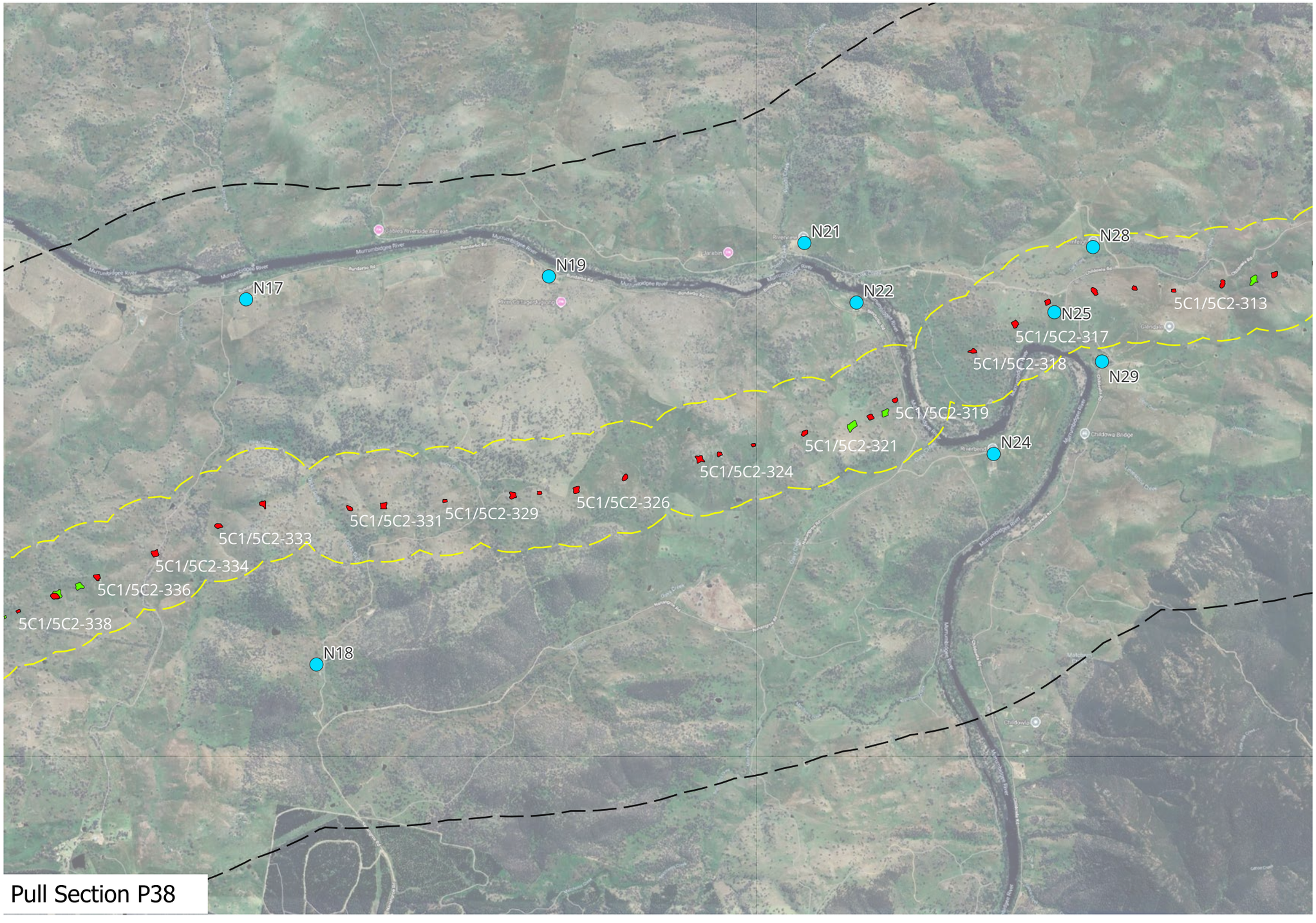
Legend

- Receivers
- Calculation Area (3km radius)
- Tower Stringing/Mat Transport (Tower Pad sites)
- Landing Areas (Camp Sites)
- Landing Areas (Break & Winch Sites)
- Flyover/Inspection Radius (500m)

0 0.5 1 km



Pull Section P37



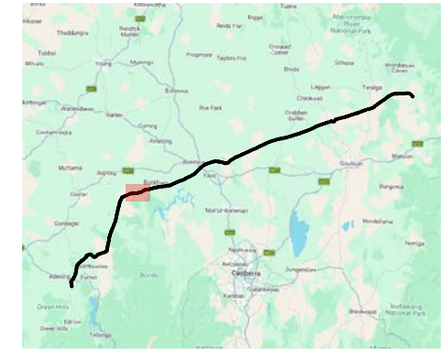
HLE - Helicopter Operations

Noise Model Inputs

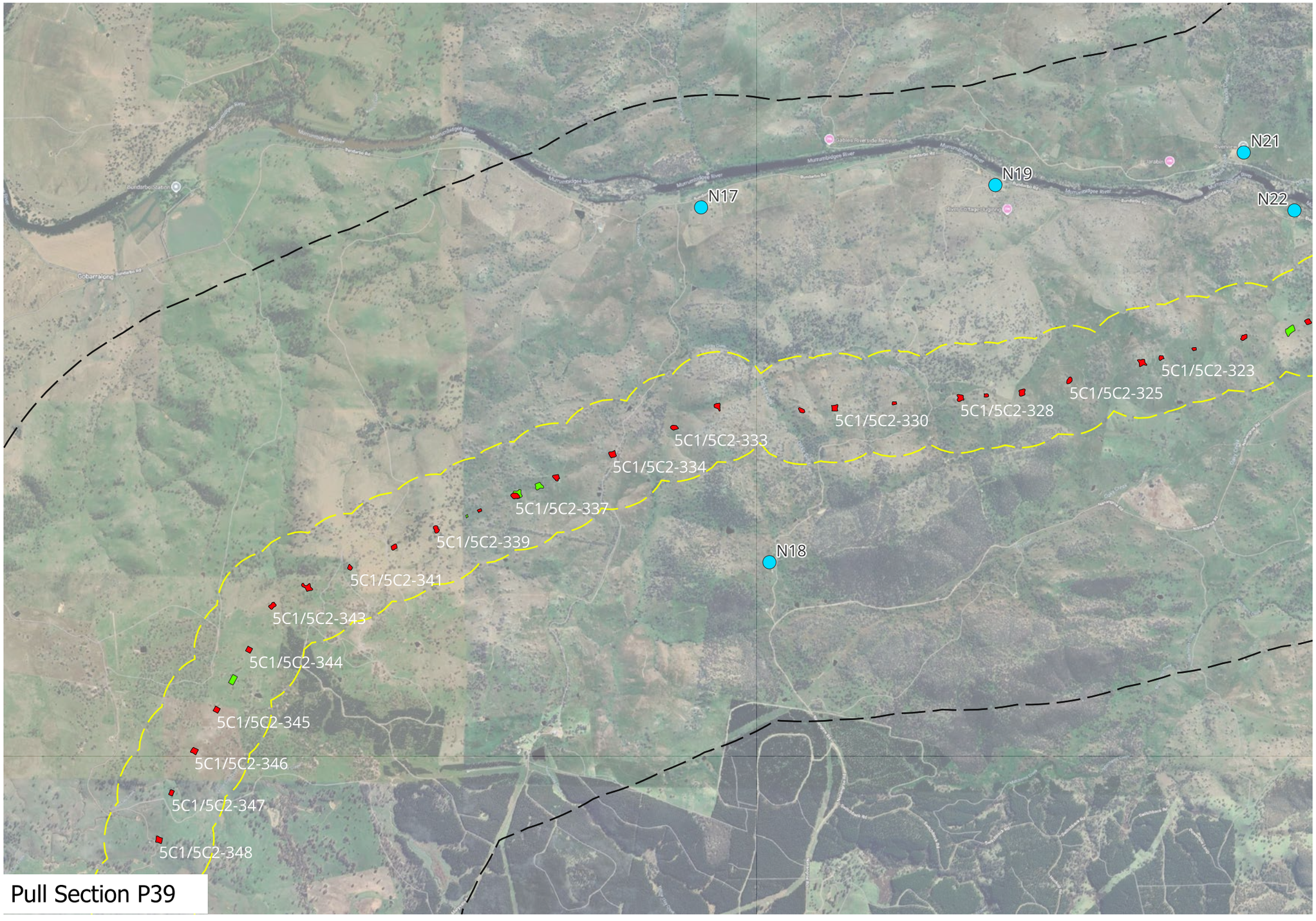
Legend

- Receivers
- Calculation Area (3km radius)
- Tower Stringing/Mat Transport (Tower Pad sites)
- Landing Areas (Camp Sites)
- Landing Areas (Break & Winch Sites)
- Flyover/Inspection Radius (500m)

0 0.5 1 km



Pull Section P38



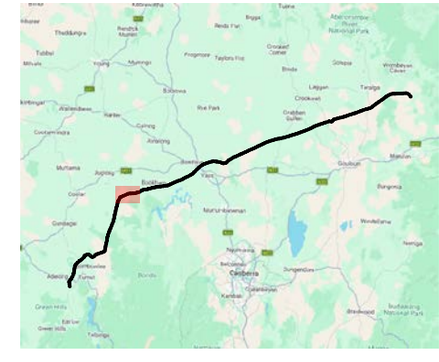
HLE - Helicopter Operations

Noise Model Inputs

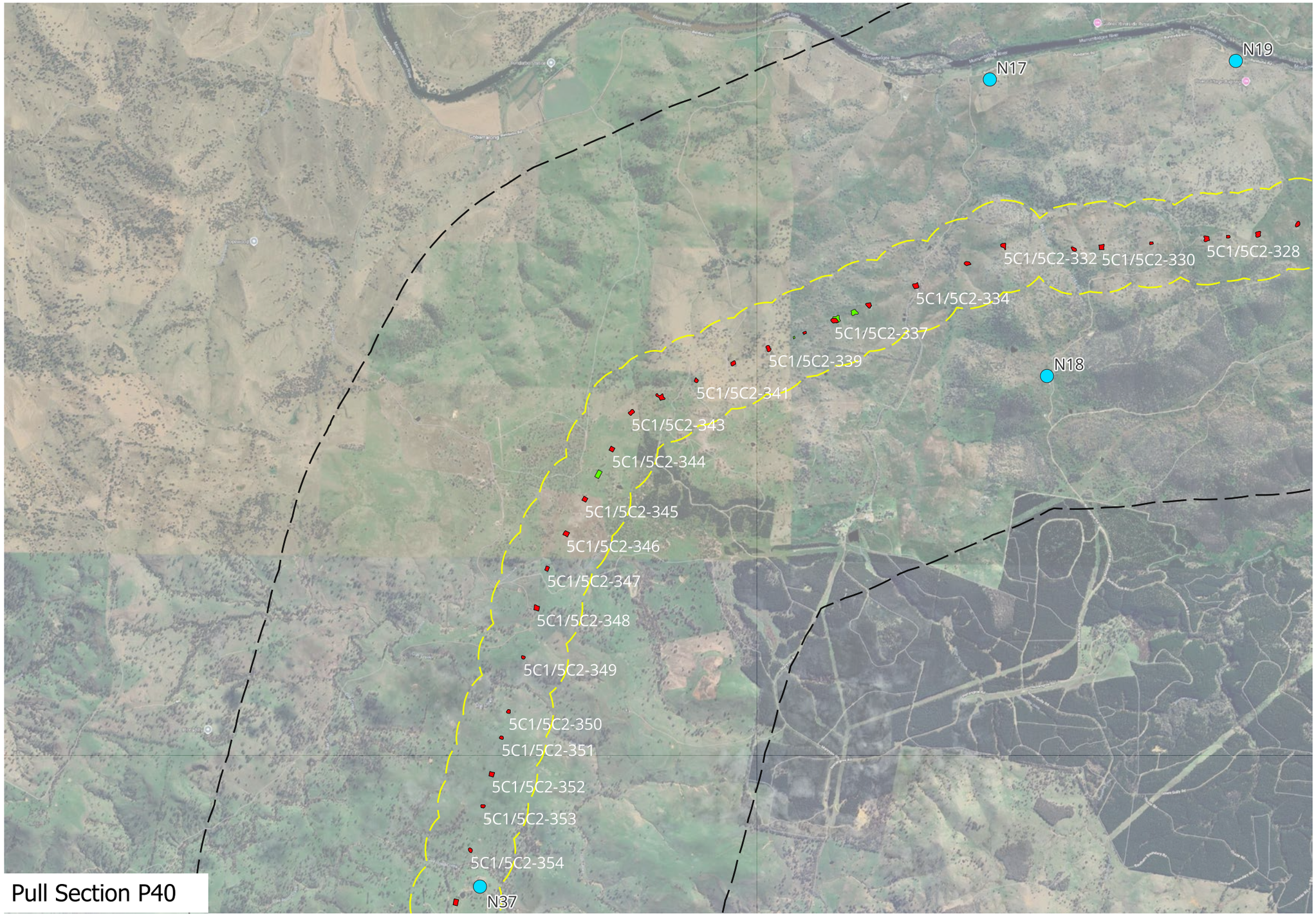
Legend

- Receivers
- Calculation Area (3km radius)
- Tower Stringing/Mat Transport (Tower Pad sites)
- Landing Areas (Camp Sites)
- Landing Areas (Break & Winch Sites)
- Flyover/Inspection Radius (500m)

0 0.5 1 km



Pull Section P39



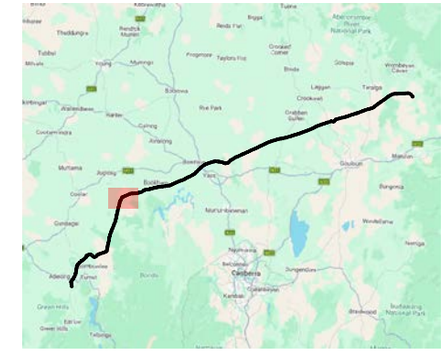
HLE - Helicopter Operations

Noise Model Inputs

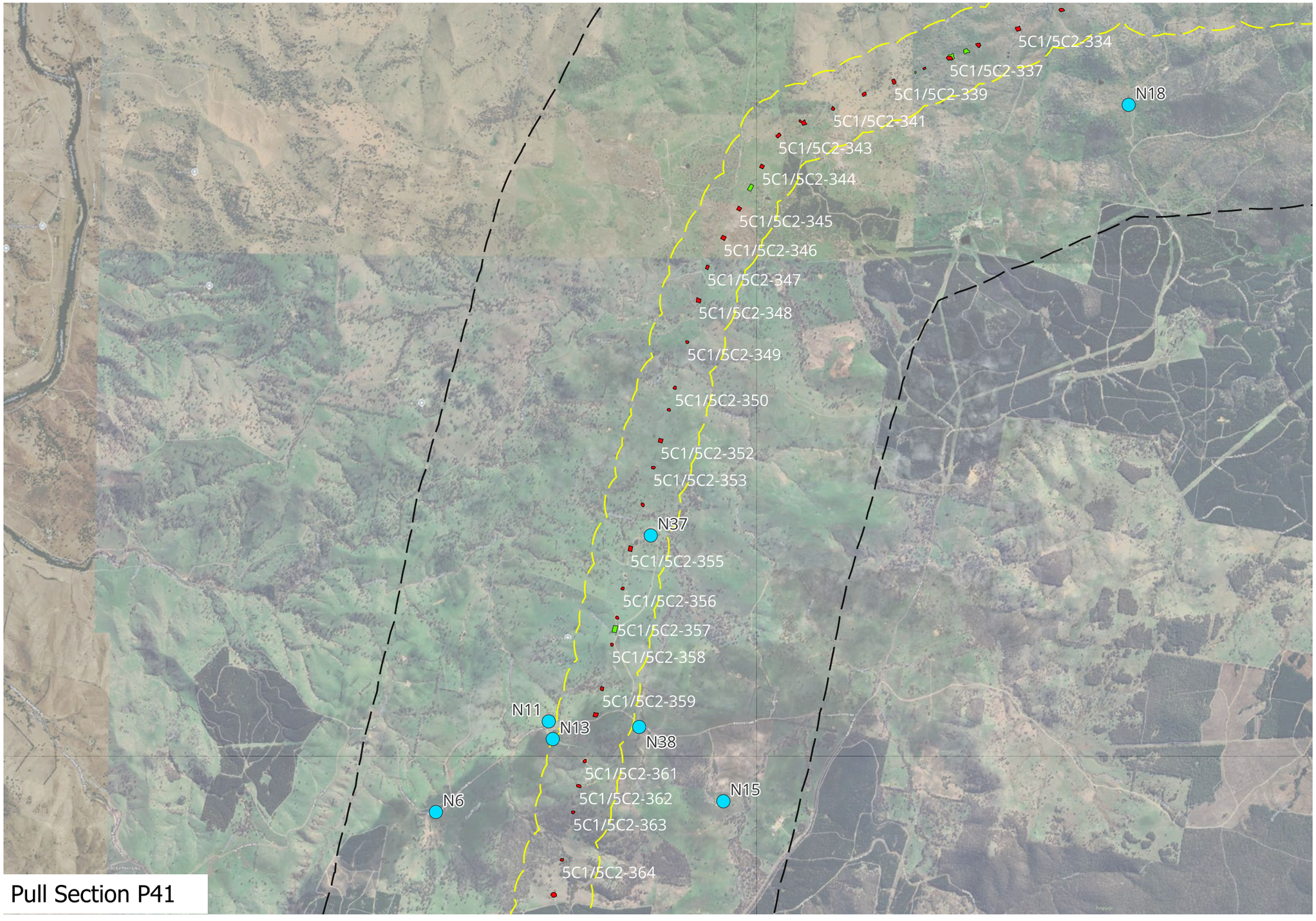
Legend

- Receivers
- Calculation Area (3km radius)
- Tower Stringing/Mat Transport (Tower Pad sites)
- Landing Areas (Camp Sites)
- Landing Areas (Break & Winch Sites)
- Flyover/Inspection Radius (500m)

0 0.5 1 km



Pull Section P40



HLE - Helicopter Operations

Noise Model Inputs

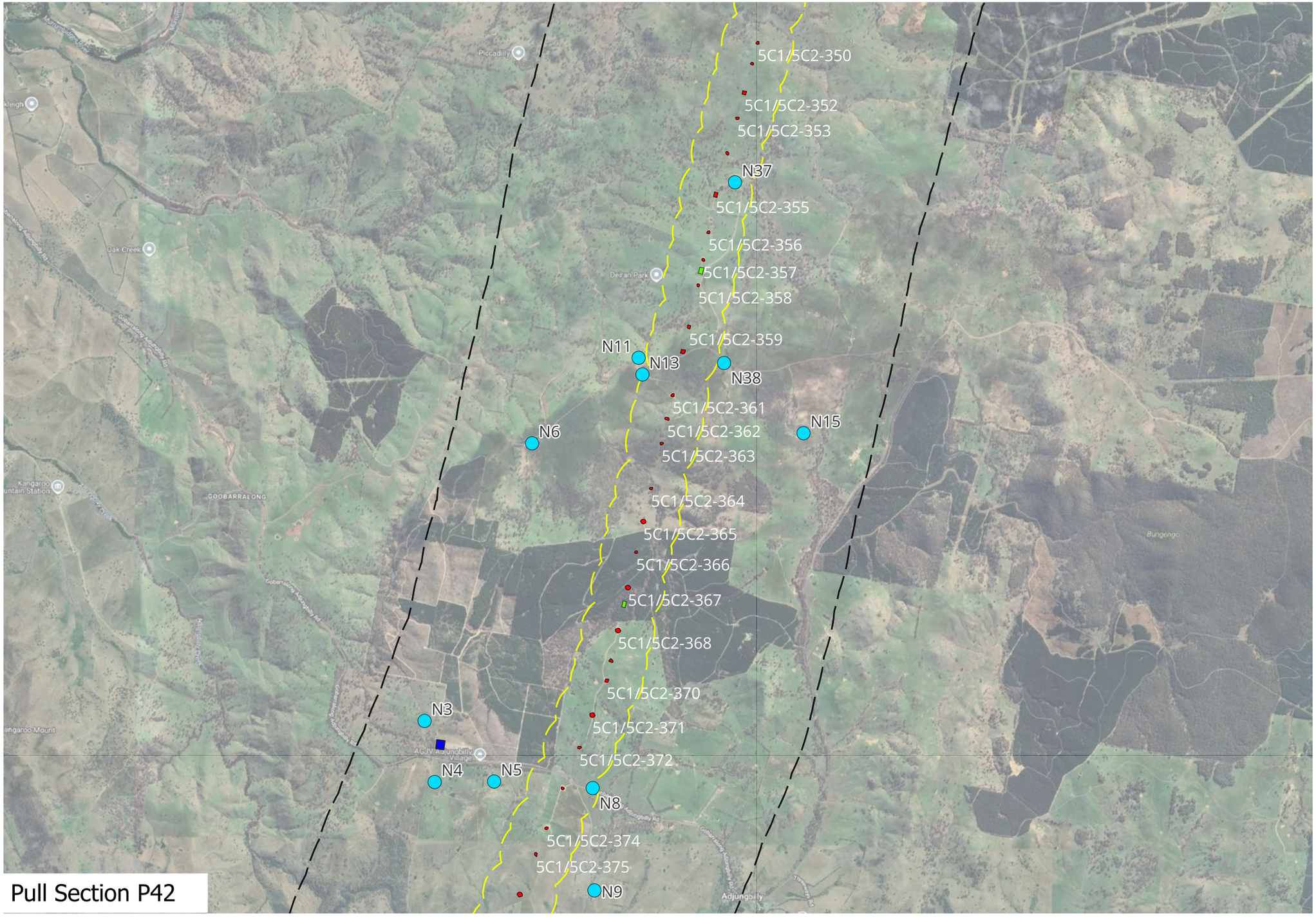
Legend

- Receivers
- Calculation Area (3km radius)
- Tower Stringing/Mat Transport (Tower Pad sites)
- Landing Areas (Camp Sites)
- Landing Areas (Break & Winch Sites)
- Flyover/Inspection Radius (500m)

0 0.5 1 km



Pull Section P41



HLE - Helicopter Operations

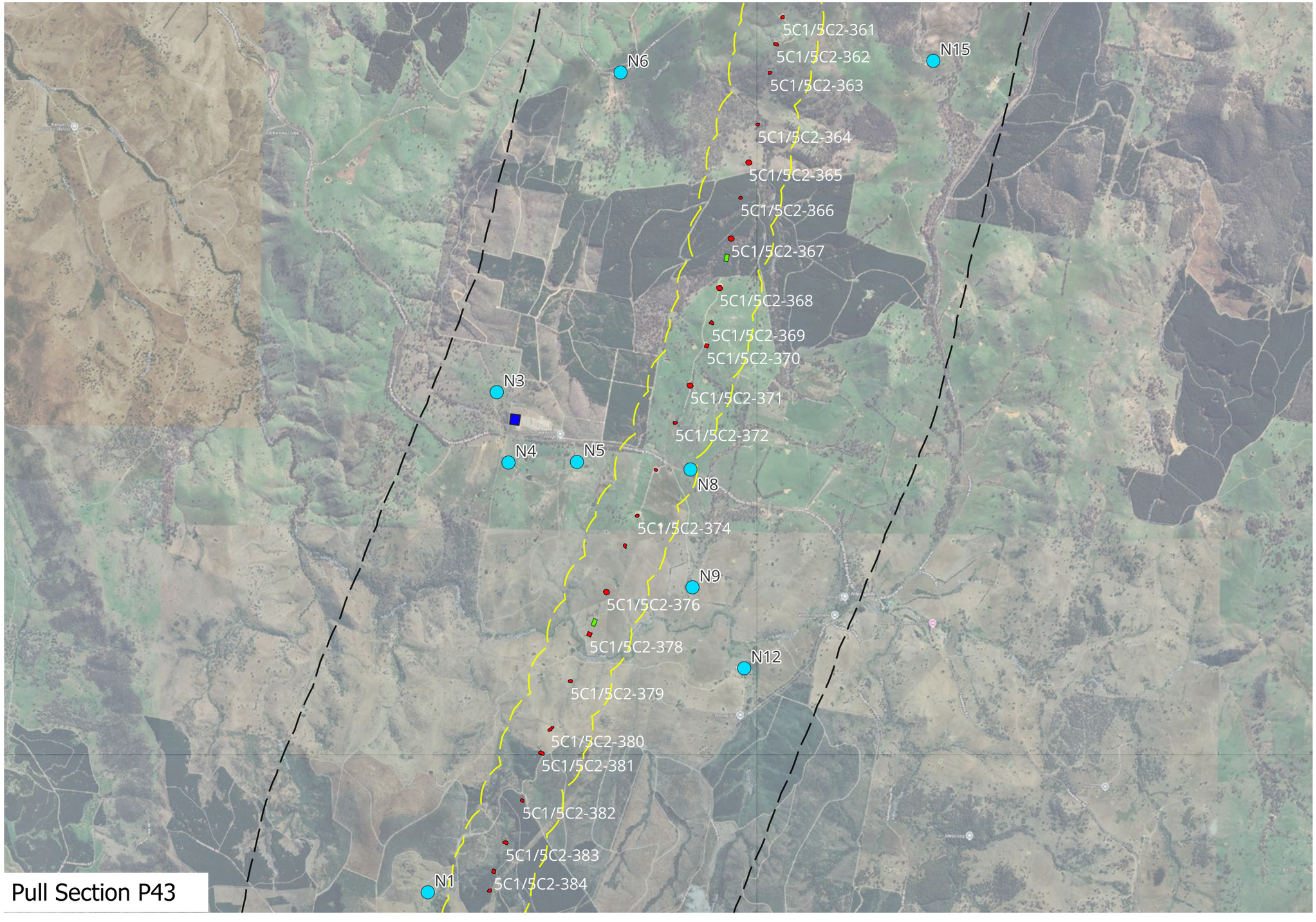
Noise Model Inputs

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- Tower Stringing/Mat Transport (Tower Pad sites)
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- Landing Areas (Break & Winch Sites)
- Flyover/Inspection Radius (500m)

0 0.5 1 km





HLE - Helicopter Operations

Noise Model Inputs

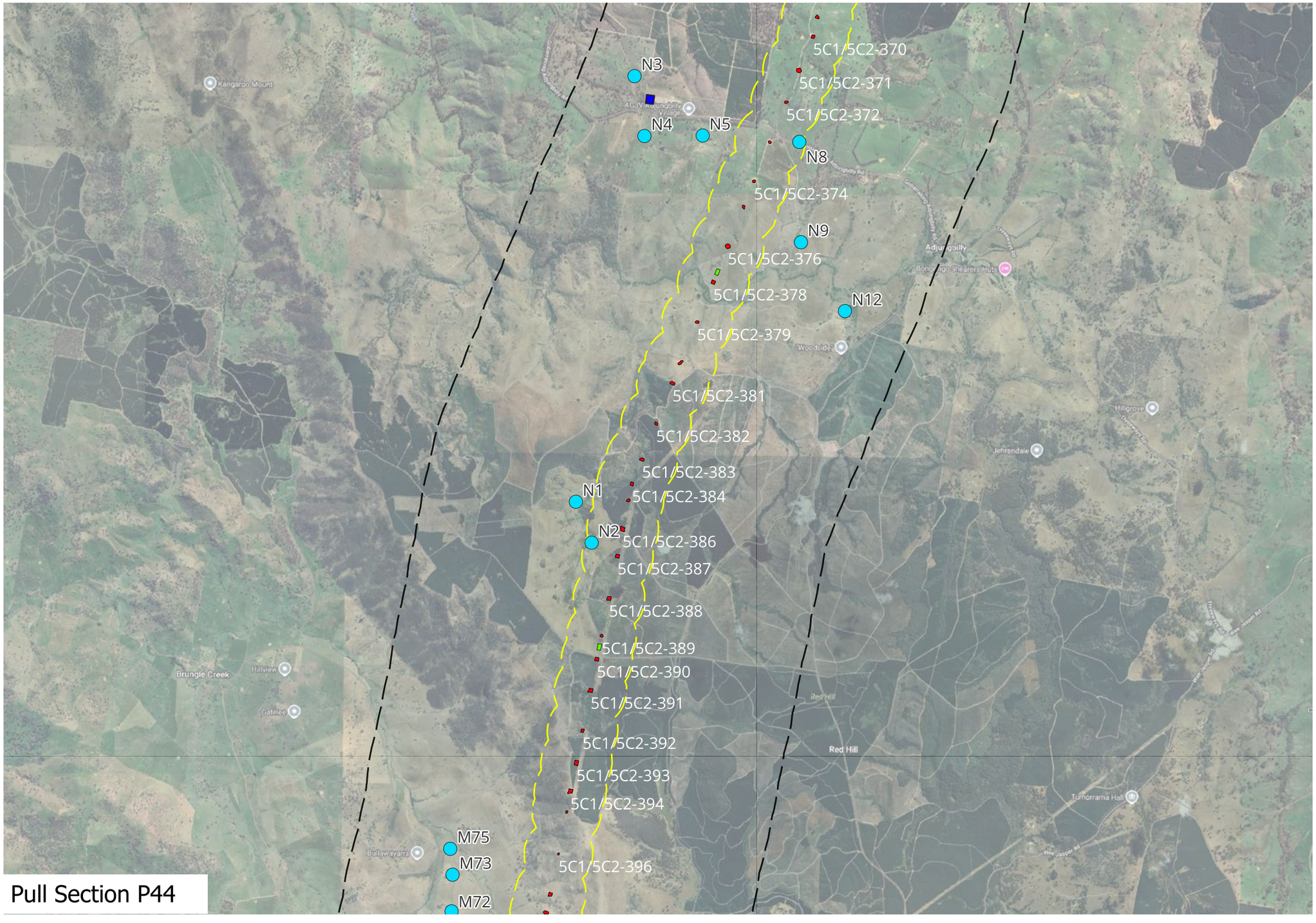
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- Tower Stringing/Mat Transport (Tower Pad sites)
- Landing Areas (Camp Sites)
- Landing Areas (Break & Winch Sites)
- Flyover/Inspection Radius (500m)

0 0.5 1 km



Pull Section P43



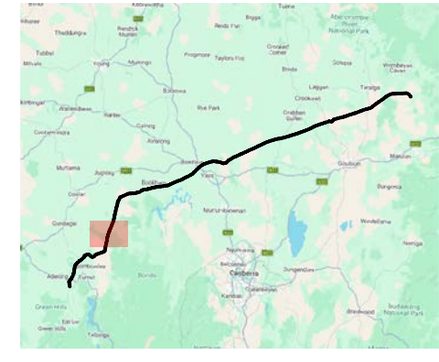
HLE - Helicopter Operations

Noise Model Inputs

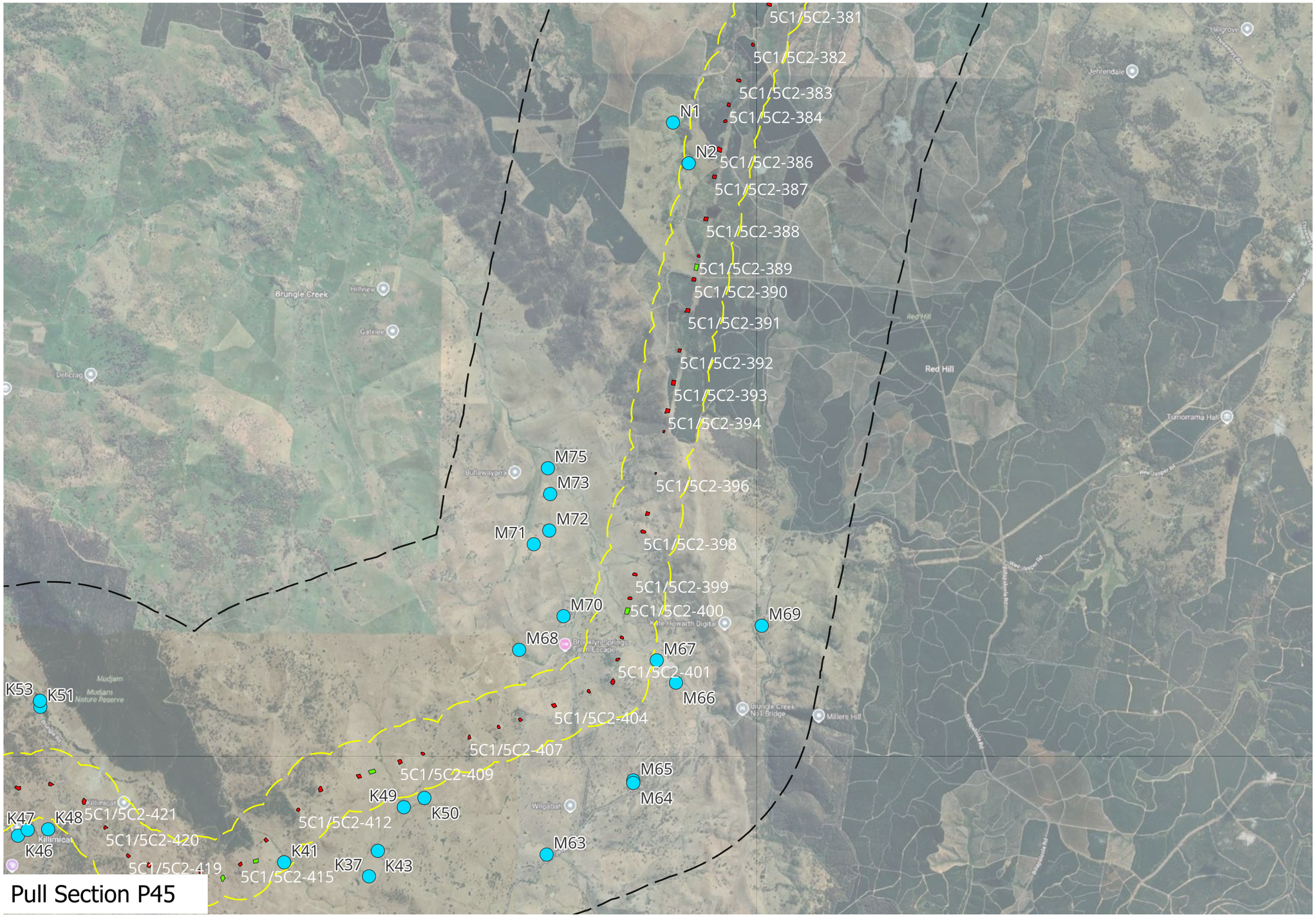
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- Tower Stringing/Mat Transport (Tower Pad sites)
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- Landing Areas (Break & Winch Sites)
- Flyover/Inspection Radius (500m)

0 0.5 1 km



Pull Section P44



Pull Section P45

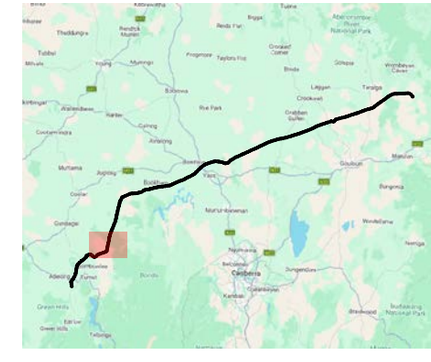
HLE - Helicopter Operations

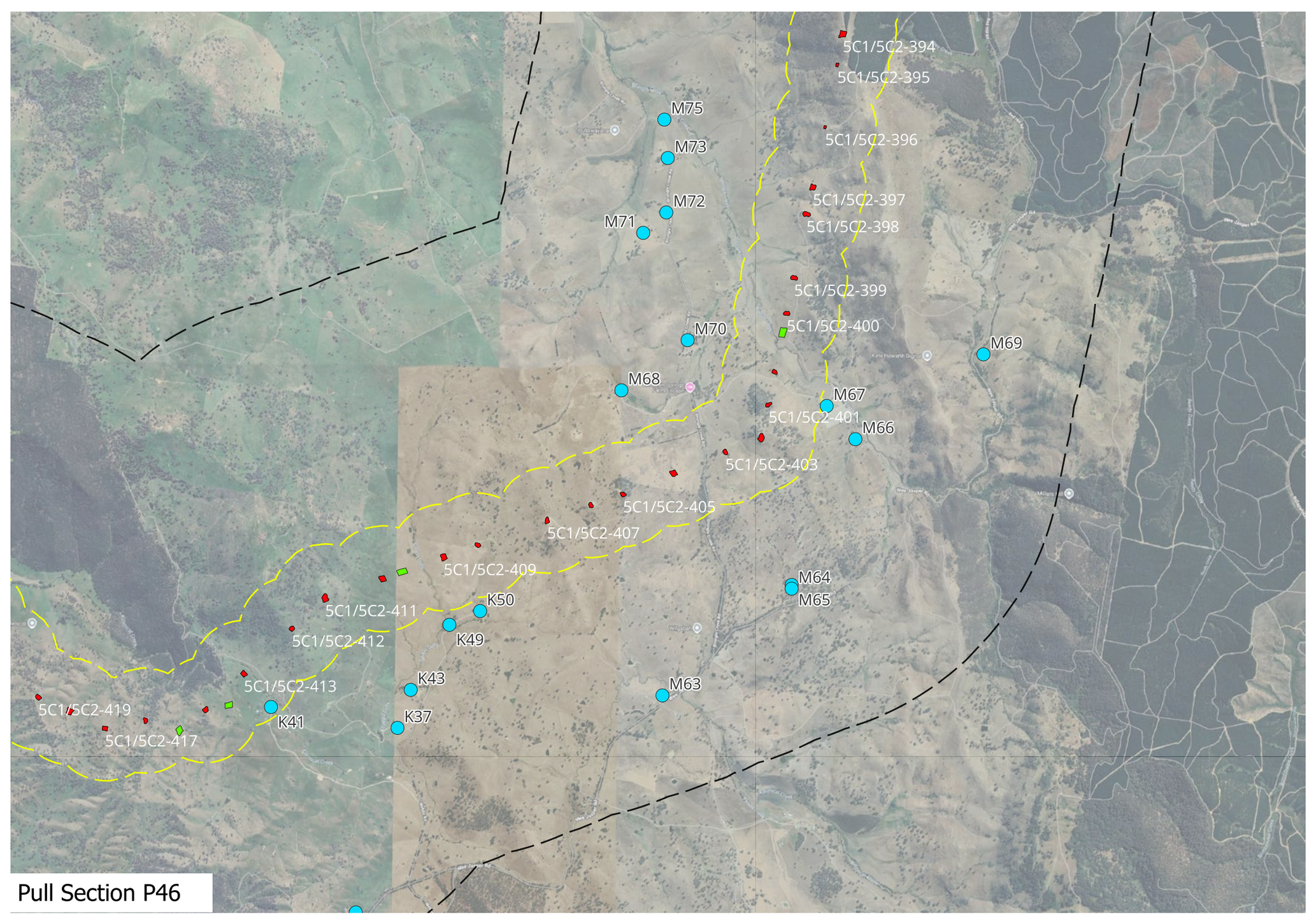
Noise Model Inputs

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- Receivers
- Calculation Area (3km radius)
- Tower Stringing/Mat Transport (Tower Pad sites)
- Landing Areas (Camp Sites)
- Landing Areas (Break & Winch Sites)
- Flyover/Inspection Radius (500m)

0 0.5 1 km





HLE - Helicopter Operations

Noise Model Inputs

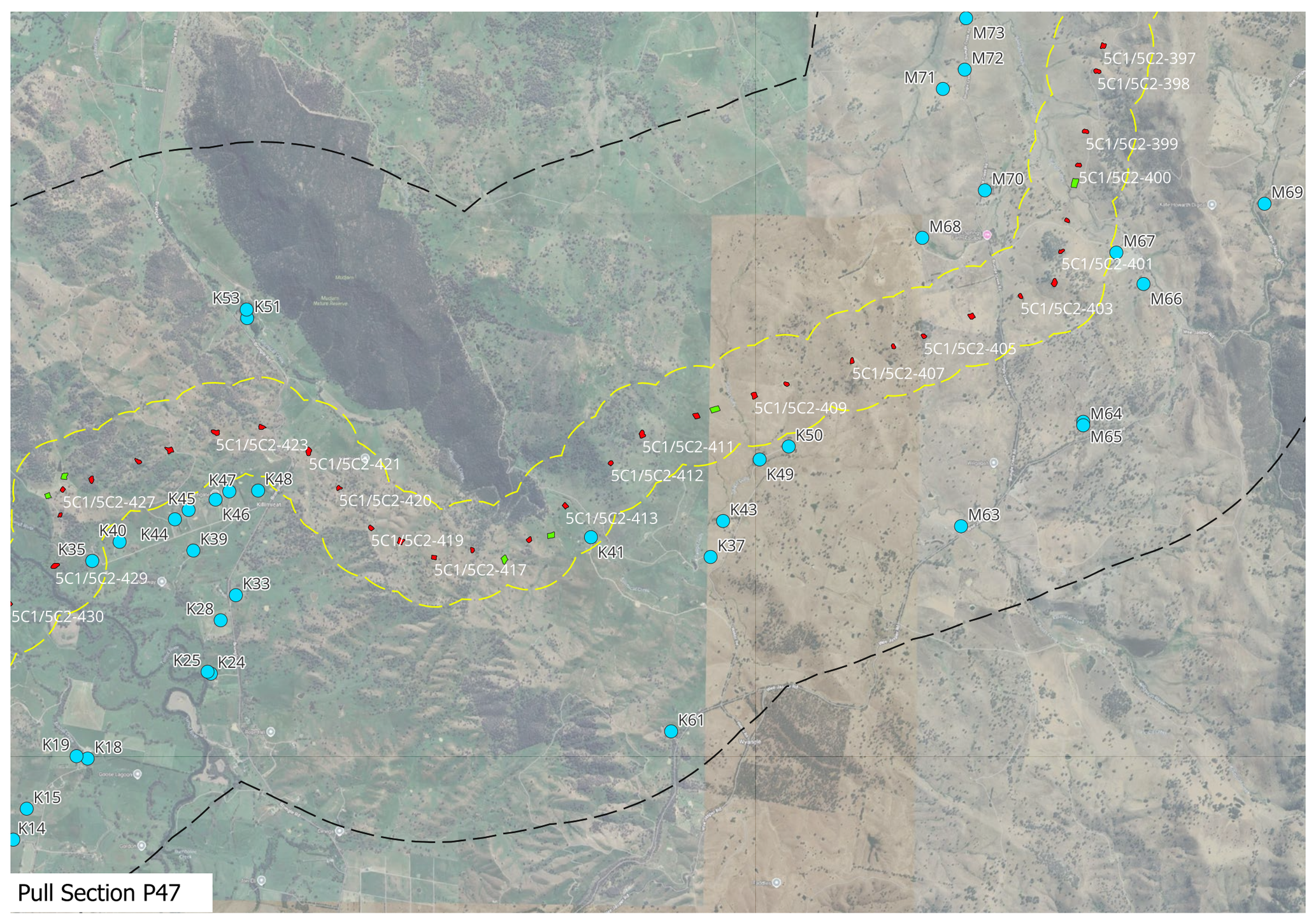
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- Receivers
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- Tower Stringing/Mat Transport (Tower Pad sites)
- Landing Areas (Camp Sites)
- Landing Areas (Break & Winch Sites)
- Flyover/Inspection Radius (500m)

0 0.5 1 km



Pull Section P46



HLE - Helicopter Operations

Noise Model Inputs

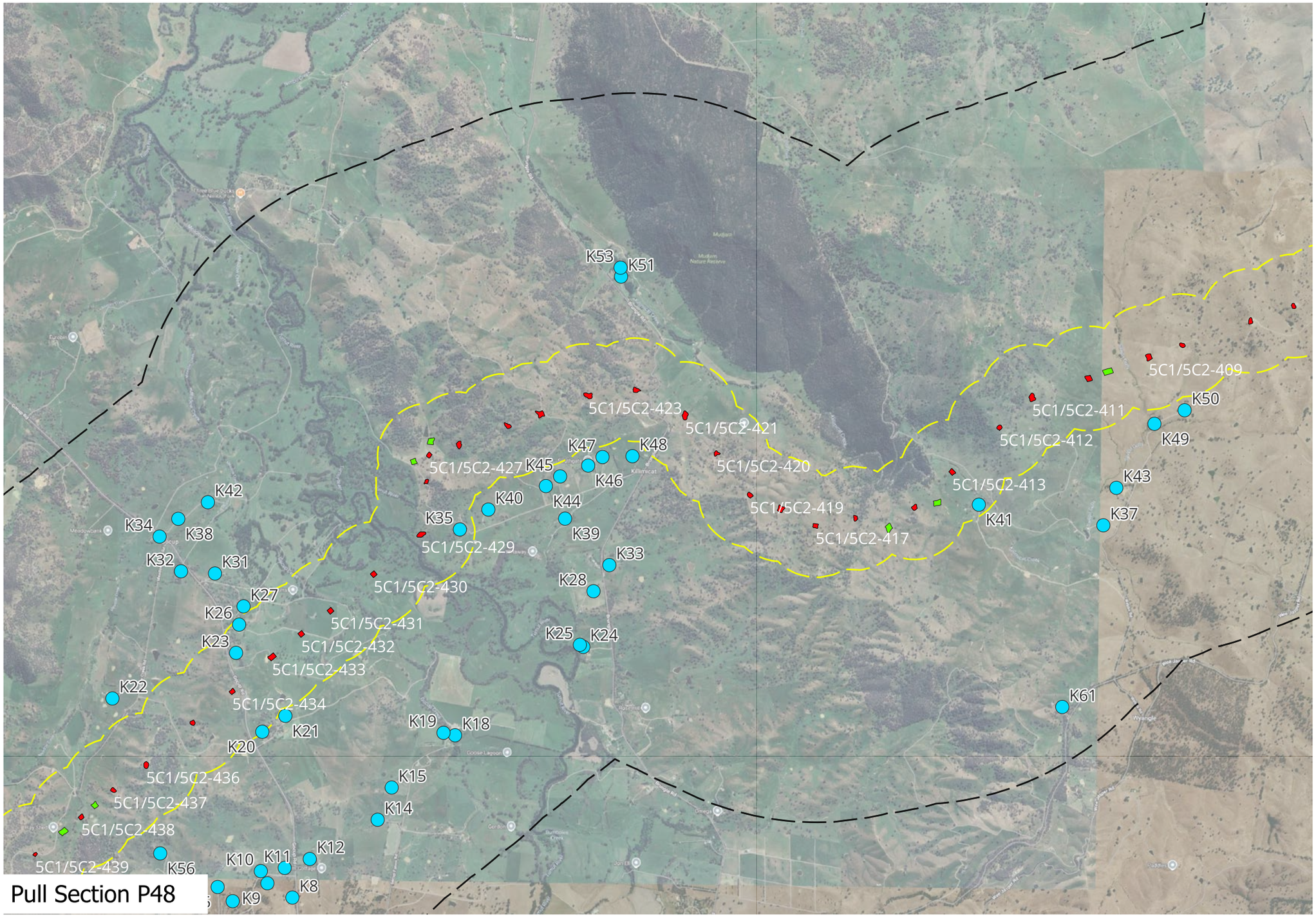
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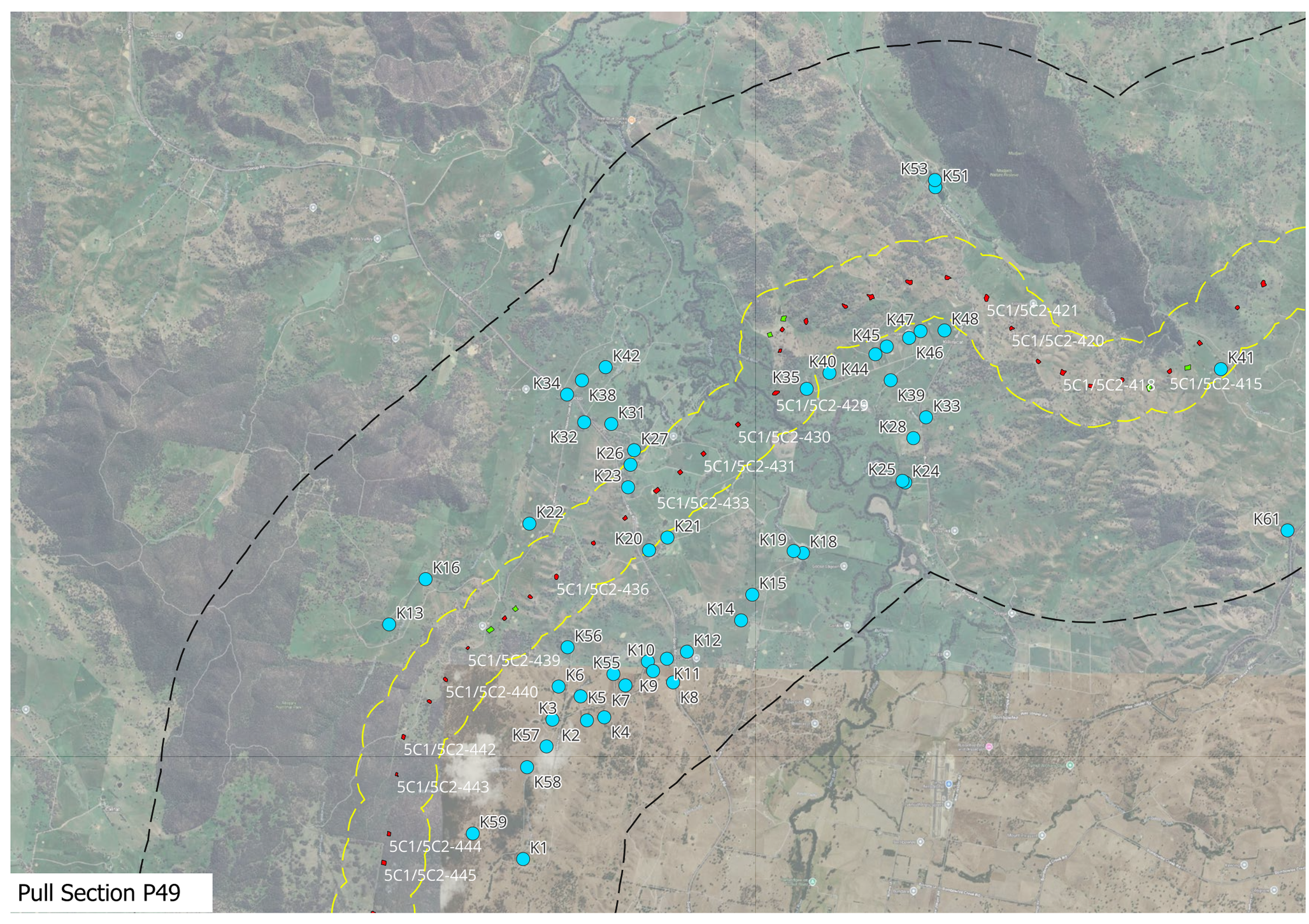
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- Calculation Area (3km radius)
- Tower Stringing/Mat Transport (Tower Pad sites)
- Landing Areas (Camp Sites)
- Landing Areas (Break & Winch Sites)
- Flyover/Inspection Radius (500m)

0 0.5 1 km



Pull Section P47


K53
K51
5C1/5C2-423
5C1/5C2-421
5C1/5C2-409
K50
5C1/5C2-411
K49
5C1/5C2-412
K47
K48
5C1/5C2-427
K45
K46
5C1/5C2-420
K43
5C1/5C2-413
K42
K40
K44
5C1/5C2-419
K41
K37
K34
K38
K35
5C1/5C2-429
K39
5C1/5C2-417
K32
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K33
K28
5C1/5C2-430
K27
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K18
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K15
5C1/5C2-437
K14
5C1/5C2-438
K12
K10
K11
5C1/5C2-439
K56
K8
K9
Pull Section P48
HLE - Helicopter Operations
Noise Model Inputs
Legend
Receivers
Calculation Area (3km radius)
Tower Stringing/Mat Transport (Tower Pad sites)
Landing Areas (Camp Sites)
Landing Areas (Break & Winch Sites)
Flyover/Inspection Radius (500m)
0
0.5
1 km



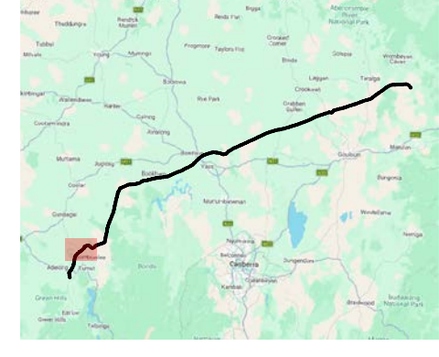
HLE - Helicopter Operations

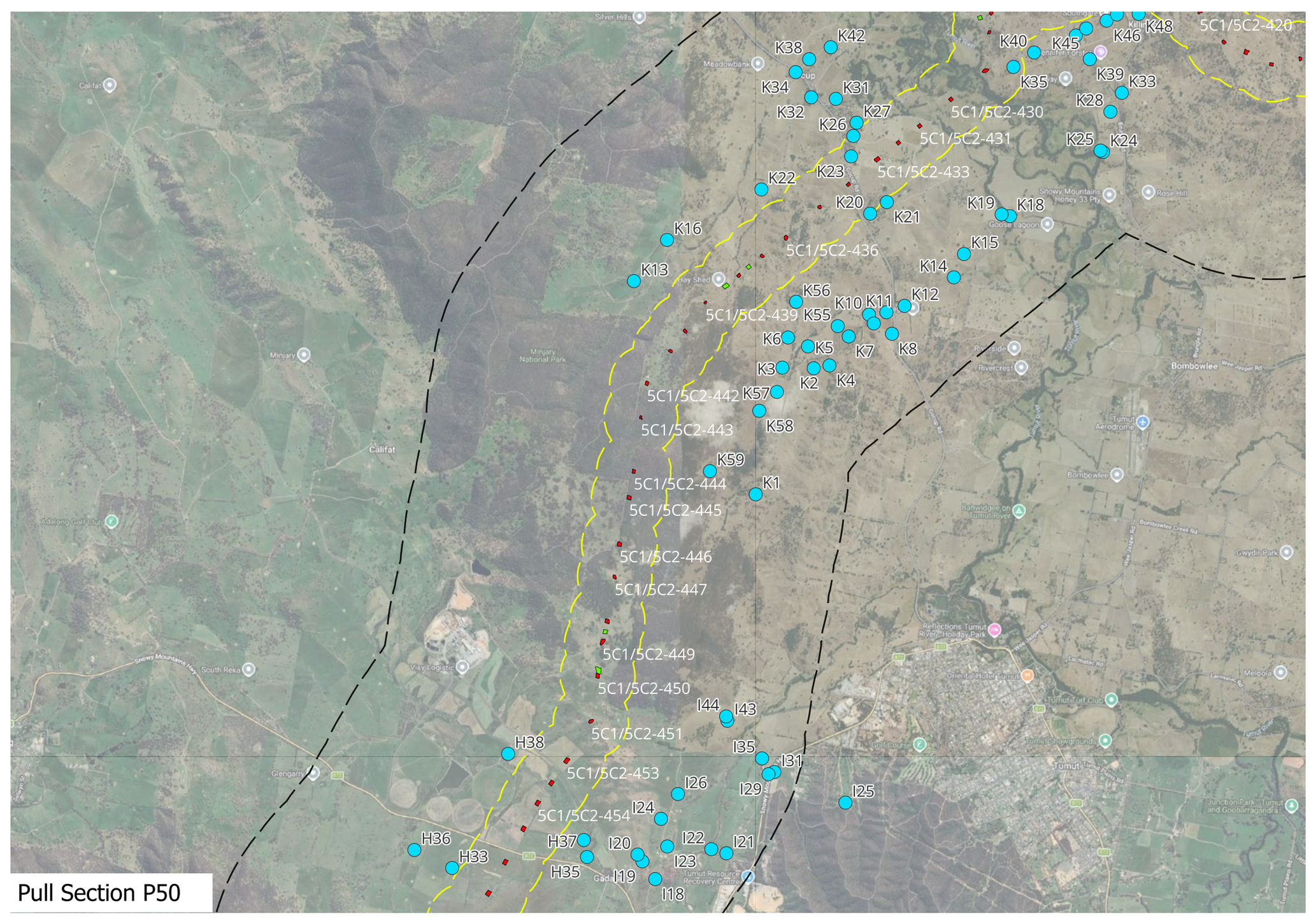
Noise Model Inputs

Legend

- Receivers
- Calculation Area (3km radius)
- Tower Stringing/Mat Transport (Tower Pad sites)
- Landing Areas (Camp Sites)
- Landing Areas (Break & Winch Sites)
- Flyover/Inspection Radius (500m)

0 0.5 1 km





HLE - Helicopter Operations

Noise Model Inputs

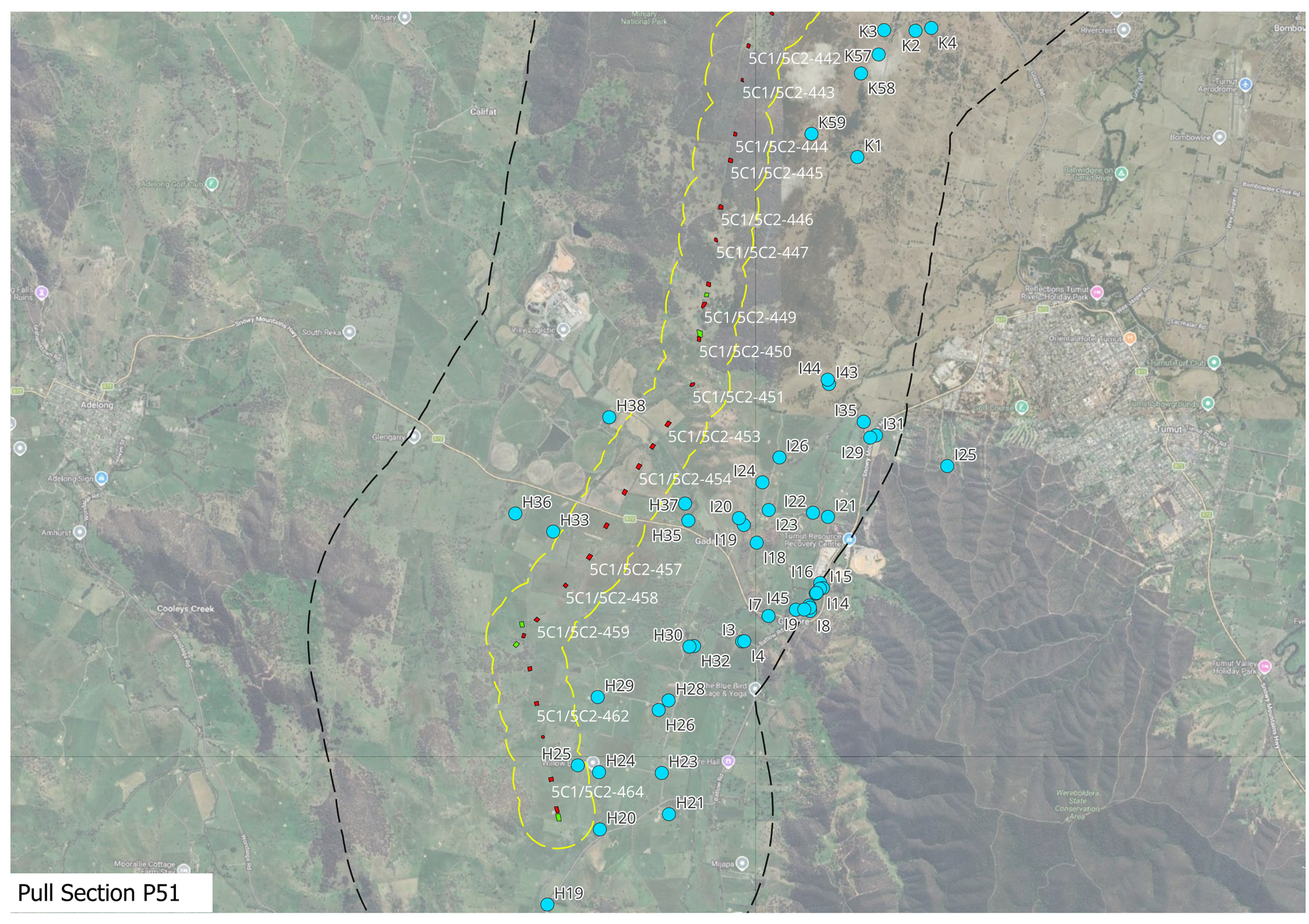
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- Receivers
- Calculation Area (3km radius)
- Tower Stringing/Mat Transport (Tower Pad sites)
- Landing Areas (Camp Sites)
- Landing Areas (Break & Winch Sites)
- Flyover/Inspection Radius (500m)

0 0.5 1 km



Pull Section P50



HLE - Helicopter Operations

Noise Model Inputs

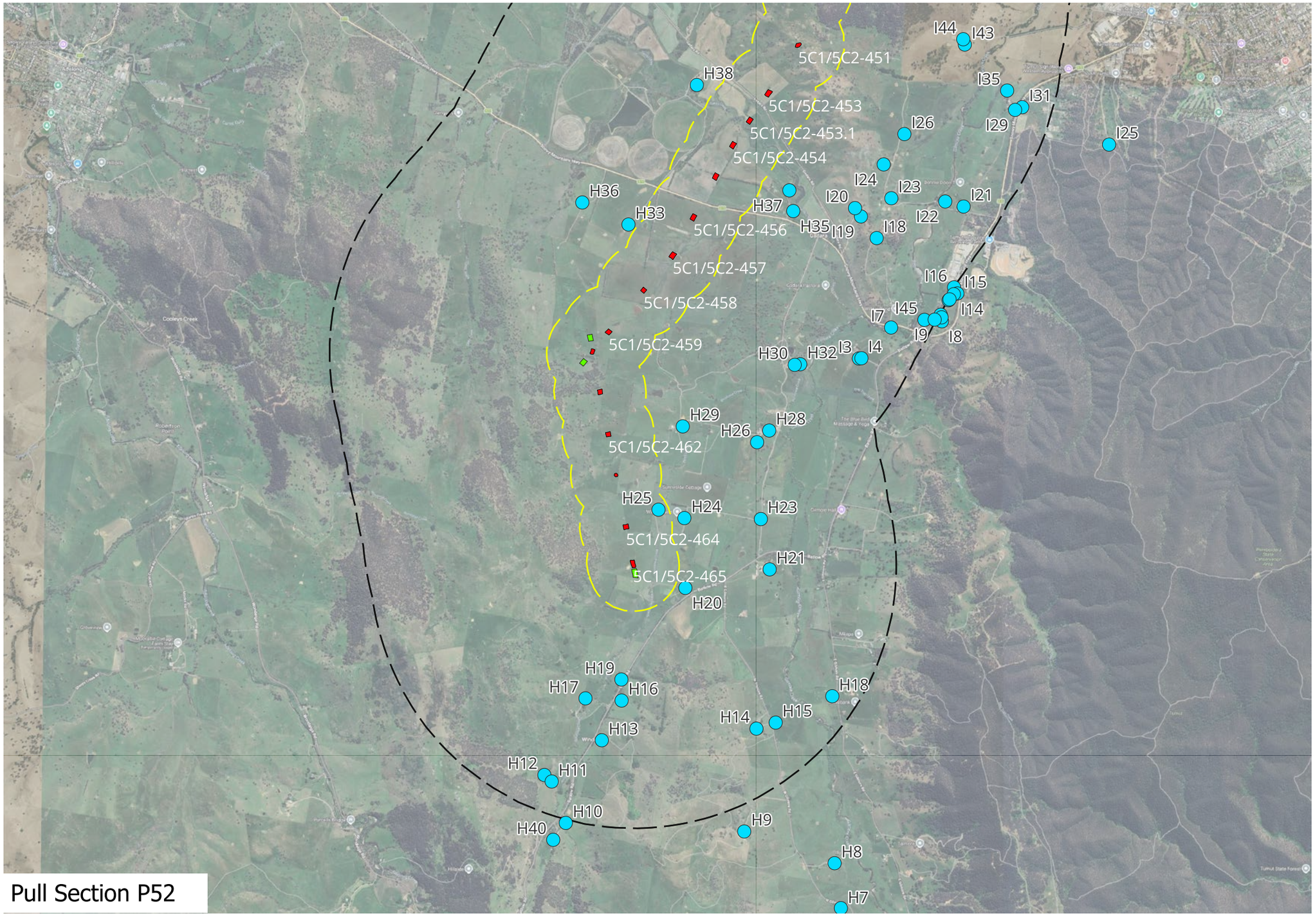
Legend

- Receivers
- Calculation Area (3km radius)
- Tower Stringing/Mat Transport (Tower Pad sites)
- Landing Areas (Camp Sites)
- Landing Areas (Break & Winch Sites)
- Flyover/Inspection Radius (500m)

0 0.5 1 km



Pull Section P51



HLE - Helicopter Operations

Noise Model Inputs

Legend

- Receivers
- Calculation Area (3km radius)
- Tower Stringing/Mat Transport (Tower Pad sites)
- Landing Areas (Camp Sites)
- Landing Areas (Break & Winch Sites)
- Flyover/Inspection Radius (500m)

0 0.5 1 km

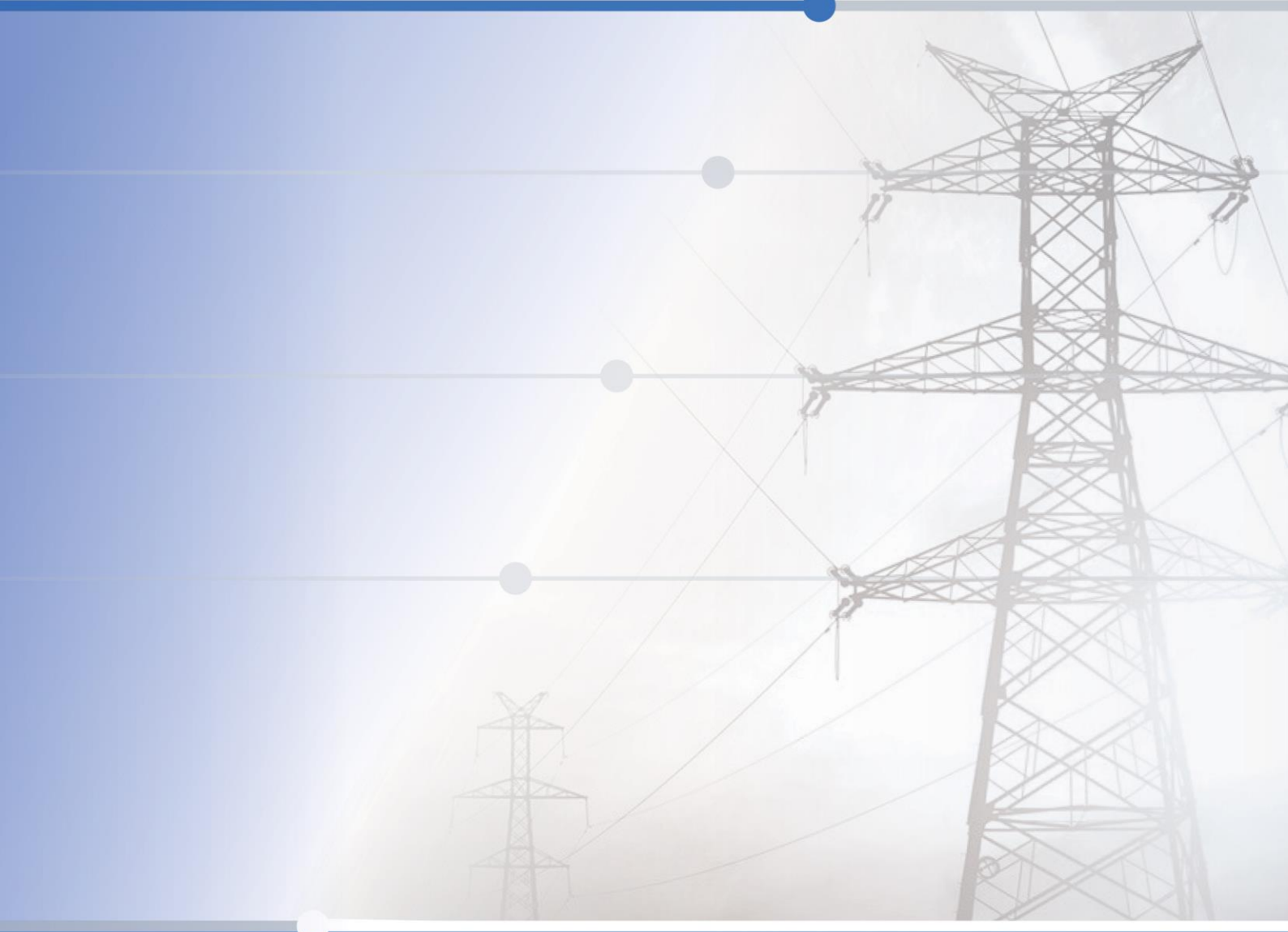


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APPENDIX D: OUT OF HOURS HELICOPTER WORKS PROCESS

Refer to document number: HLE-AGJ-ENV-ALE-PRD-0000-00009

HumeLink East



Helicopter Works Extended Hours

Out of Hours Helicopter Works Process

August 2026

HLE-AGJ-ENV-ALE-PRD-0000-00009

Revision E

CONTENTS

1. INTRODUCTION 4

2. PROPOSED CHANGE 4

3. OUT OF HOURS HELICOPTER WORKS JUSTIFICATION 4

4. HELICOPTER NOISE ASSESSMENT 4

5. OUT OF HOURS HELICOPTER WORKS PERMIT PROCESS 5

5.1 Out of Hours Helicopter Works Permit 5

5.2 Out of Hours Helicopter Works Approval PROCESS AND Pathways 5

5.3 Mitigation Measures 7

5.4 Community Consultation 8

5.5 Commencement of Works 9

5.6 Noise Verification and Monitoring 9

6. CONCLUSION 9

TABLES

Table 1. OOHHW approval pathways 6

Table 2. Additional OOHHW noise mitigation measures. 8

APPENDICES

Appendix A – Community Consultations/ Notifications

DOCUMENT CONTROL – REVISION HISTORY

Rev	Date	Pages	Revised By	Description
A	16/06/2026	All	[redacted]	Initial – Issued for Review
B	09/06/2026	All	[redacted]	Updated to address ER comments
C	22/07/2026	All	[redacted]	Updated to address ER comments
D	04/08/2026	Table 1	[redacted]	Updated to address ER comment
E	14/08/2026	Various	[redacted]	Updated to remove Helicopter CNVIS and draft permit template as appendices

1. INTRODUCTION

In accordance with Infrastructure Approval (SSI 36656827), helicopter use associated with the HumeLink East Project ("the Project") may only be carried out in accordance with Condition of Approval (CoA) B4:

B4. Helicopter use associated with the development may only be carried out:

a) between 9 am to 5 pm Monday to Friday;
b) between 9 am to 1 pm on Saturday; and
c) no helicopter use is allowed on Sunday or NSW public holidays;

unless different hours are permitted or required under an EPL in force in respect of the CSSI or the Planning Secretary agrees otherwise.

This Out-of-hours Helicopter Works Process (hereafter referred to as the OOHHW Process) has been prepared in support of a request for the Planning Secretary's agreement to vary the permitted helicopter use hours.

OOHHW have the potential to exceed relevant noise management levels (NMLs) determined in accordance with the approach outlined in the Interim Construction Noise Guidelines (DECC, 2009) (ICNG). As OOHHW has the potential to impact on the amenity of adjacent sensitive receivers, these works require assessment and approval prior to commencement.

This OOHHW Process is applicable only to helicopter use that is proposed outside the hours defined in CoA B4. Helicopter use that complies with the hours defined in CoA B4 is not required to be undertaken in accordance with the processes outlined in this OOHHW Process.

This OOHHW Process includes an assessment of potential impacts and provides justification for the request to vary the permitted helicopter use hours.

2. PROPOSED CHANGE

Acciona Genus Joint Venture (AGJV) proposes to extend the allowable hours for helicopter use associated with the Project as follows:

a) *between 7 am to 6 pm Monday to Saturday*
b) *between 8 am to 6 pm Sundays and NSW public holidays.*
c) *between 6pm to 7am Monday to Sunday and NSW Public Holidays*.*

These extended hours are sought to support project delivery requirements, operational efficiency, and schedule certainty.

***Extended hours in c) above only apply to requests from network, road or rail authorities for safety or operational reasons.**

3. OUT OF HOURS HELICOPTER WORKS JUSTIFICATION

Extended hours of helicopter use would allow schedule certainty in stringing by consolidating activities into one coherent operating window, reducing start-stop inefficiencies, variable time mobilisations and standby times. The extended flexibility of helicopter use times would reduce the helicopter stringing program by providing flexibility and greater flight time.

The Project is requesting to use helicopters outside of approved helicopter use hours as described in Section 2. The proposed extended periods will allow earlier for start (e.g., 2 hours in morning) and later finish (e.g., 1 hour in afternoon) to allow flexibility and increased length of duration of flight times during the day in lieu of weather variability conditions, flight pre-starts and safety checks. The helicopter programming flexibility and increased flight period may reduce overall helicopter program works and will therefore reduce the noise impacts and disturbance to the local community.

4. HELICOPTER NOISE ASSESSMENT

A helicopter construction noise and vibration impact statement (CNVIS) that provides a detailed assessment of helicopter use associated with the Project has been prepared by the Project's acoustic consultant, Hutchison Weller. The noise assessment scenarios used in modelling are based on the

typical helicopter usage factors associated with tower stringing, take-off, landing, loading/ un-loading/ hovering, and aerial inspections/ flyovers.

OOHHW periods are as follows:

OOHHW Period 1:

- Monday to Friday: 7am – 9am and 5pm - 6pm (i.e., ICNG standard construction hours)
- Saturday: 8am – 9am (i.e., ICNG standard construction hours).

OOHHW Period 2:

- Saturday: 7am to 8am, 1pm to 6pm (i.e., ICNG daytime OOHW period)
- Sunday and Public Holidays: 8am to 6pm (i.e., ICNG daytime OOHW period).

OOHHW Period 3*:

- Monday to Sunday (including Public Holidays): 6pm to 10pm (i.e., NPfI evening OOHW period)
- Monday to Saturday:10pm to 7am (i.e., NPfI nighttime OOHW period)
- Sunday into Monday (including Public Holidays): 10pm to 8am (i.e., NPfI nighttime OOHW period)

The Helicopter Operations CNVIS determined that impacts would be consistent with those assessed in the EIS.

***Extended hours as per OOHHW Period 3 only applies to requests from public, road or rail authorities for safety or operational reasons. Assessment for OOHHW Period 3 will be undertaken on a case-by-case basis when a request is received and appended to the OOHHW Permit.**

5. OUT OF HOURS HELICOPTER WORKS PERMIT PROCESS

CoA B6 requires that any noise generated by construction activities, including helicopter use, is to be managed in accordance with the requirements outlined in the Interim Construction Noise Guideline (DECC, 2009).

For any planned OOHHW, the Noise and Vibration Management Sub-plan (NVMP) and the OOHHW processes described below will be followed:

5.1 OUT OF HOURS HELICOPTER WORKS PERMIT

An Out of Hours Helicopter Works Permit (OOHHW Permit) that summarises the out-of-hours helicopter use for a particular location and duration will be prepared. The OOHHW permit requires a detailed justification for the out-of-hours works supported by reasonable and feasible mitigation measures, and the required community notifications.

The Helicopter Operations CNVIS will be used to assess the level of risk associated with the OOHHW and identify the appropriate mitigation measures for inclusion in the Permit. Based on the risk level, the OOHHW Permit will also determine the relevant approval pathway as outlined in Section 5.2 below.

5.2 OUT OF HOURS HELICOPTER WORKS APPROVAL PROCESS AND PATHWAYS

The OOHHW Approval pathways are outline in Table 1 below, and identifies the following risk categories for OOHHW:

- Permitted
- Negligible Risk
- Low Risk
- High Risk.

The risk categories, and relevant approval authority for each risk category, are outlined in Table 1.

Once the risk level has been determined, based on the Helicopter CNVIS, the OOHHW Permit and supporting documentation will be provided to the relevant authority for approval. Following approval, the OOHHW Permit will be provided to the construction team by the Environmental Manager.

The notification and consultation requirements are outlined in Table 1 and further detailed in Section 5.4.

Table 1. OOHHW approval pathways

Risk Level	Approval Authority	OOHHW Type	OOHHW Period	Activities or circumstances
Activities <u>subject</u> to the OOHHW Process as follows:				
Permitted	Environmental Manager (EM)	1a	OOHHW Periods 1 and 2	The below activities are subject to EM approval - • Helicopter use carried out during extended hours in accordance with the hours and noise limits specified in any negotiated agreements with sensitive receivers (owners and occupiers), provided the **negotiated agreements** are in writing and finalised before the commencement of works for the **substantial majority** (>75%) of affected receivers impacted by >5 dBA above NML. • Helicopter use that do not result in noise affected sensitive receivers, as defined in Interim Construction Noise Guidelines (DECC, 2009) (or its latest version). **Note:** ER, DPHI and noise affected receivers are to be notified 14 days prior to works commencing (emergencies excepted).
Permitted	Environmental Manager (EM)	1b	OOHHW Periods 1 - 3	The below activities are subject to EM approval - Helicopter use carried out during extended hours in accordance with: • A request from network operator, road or rail authority (eg TfNSW, ARTC, Essential Energy) for safety or operational reasons (eg where a network outage on another utility distribution or transmission network is required and the operator of the network requires works to be undertaken outside of B4 helicopter hours), provided the request is in writing and received before the commencement of works. • Emergency work to avoid the loss of life, property or prevent material harm to the environment may be carried out outside the hours specified in B4. **Note**: ER, DPHI and noise affected receivers are to be notified 14 days prior to works commencing (emergencies excepted).
Negligible <10dBA above RBL (i.e.: <5dBA above NML)	Environmental Manager (EM)	2	OOHHW Periods 1 and 2	The below activities are subject to EM approval - Helicopter use which results in negligible noise levels <10dBA above RBL (i.e., <5dBA above NML).
Low 5dBA up to 15dBA above NML (i.e.: clearly audible)	Environmental Representative (ER)	3	OOHHW Periods 1 and 2	The below activities are subject to ER approval - • Helicopter use carried out during extended hours in accordance with the hours and noise limits specified in any negotiated agreements with sensitive receivers (owners and occupiers), provided the **negotiated agreements** are in writing and finalised before the commencement of works for the **lesser majority** (50 - 75%) of affected receivers impacted by 5 dBA up to 15dBA above NML, unless **Permitted** (see above). **Notes:** DPHI and noise affected receivers are to be notified 14 days prior to works commencing (emergencies excepted). Completed permit to be provided to ER at least 4 weeks prior to planned OOHHW.
Activities <u>not subject</u> to the OOHHW Process as follows:				
High >15dBA above NML (i.e.: moderately	N/A	N/A	N/A	Helicopter use which results in moderately and highly intrusive noise impacts >15 dBA above NML are not allowed as OOHHW, unless **Permitted** (see above).

Risk Level	Approval Authority	OOHHW Type	OOHHW Period	Activities or circumstances
intrusive and above)				

5.3 MITIGATION MEASURES

A description of the most appropriate reasonable and feasible mitigation and management measures described in the NVMP and ICNG will be implemented based upon risk levels and predicted impacts.

Specifically, in reference to UMM NV10, aircraft management measures will be implemented to minimise helicopter noise at sensitive receivers where practicable and appropriate:

- Notify potentially affected receivers prior to helicopter use, including the expected timing, duration and nature of activity.
- Helicopter use will be planned and undertaken in accordance with Airservices Australia environmental noise management principles and the Helicopter Association International Fly Neighbourly Guide, including minimising unnecessary hovering, repeated overflights of sensitive receivers and low-level flight near sensitive receivers.
- Prioritising the use of potential helipad locations at the construction compounds and combined worker accommodation facilities/construction compounds, with maximum distance offset from sensitive receivers.
- Locate temporary landing, loading and refuelling areas as far as practicable from sensitive receivers. The helicopter sites assessed in HLE Helicopter Operations CNVIS have been selected, where practicable, to maximise separation distances from nearby sensitive receivers and located in accordance with the Project's OOHHW Process Requirements.
- Landing take-off locations to be located at least 1km away from sensitive receivers.
- Where flight paths repeatedly travel directly over a receiver, the helicopter will change its flight path to avoid directly flying over a receiver and reduce potential noise impacts where feasible. Progression of works will naturally result in varying flight paths.
- Maintain the maximum practicable flight height above ground level when operating near sensitive receivers, subject to aviation safety and operational requirements.
- Avoid direct overflight of sensitive receivers where safe and practicable. Flight paths to be planned and adjusted, where feasible, to minimise repeated overflight of sensitive receivers and associated noise impacts, having regard to aviation safety requirements, operational constraints and relevant aircraft noise management guidance.
- Minimise hovering, loading/unloading and repeated passes near sensitive receivers.
- Turn off helicopters when not required for immediate operation, where safe and practicable.
- Undertake attended noise monitoring during initial helicopter use or where complaints are received.
- Review flight paths and work methods where monitoring identifies higher than predicted noise levels.

Additional mitigation measures will be implemented as guided by the Construction Noise and Vibration Guideline (CNVG) in accordance with UMM NV10 for the relevant OOHW / OOHHW Periods as shown in Table 2, where applicable.

Table 2. Additional OOHHW noise mitigation measures.

Predicted airborne $LA_{eq(15min)}$ noise level at receiver		Additional mitigation measures
Perception	**dB(A) above NML**	
ICNG Standard hours (7am – 6pm Monday to Friday; 8am – 1pm Saturday) *OOHHW Period 1 (7am – 9am & 5pm – 6pm Monday - Friday; 7am – 8am Saturday).*		
Clearly audible	<10	-
Moderately intrusive	>10 to 20	V
Highly intrusive	>20	V
NPfI OOHW Period 1 (6pm – 10pm Monday to Friday; 7am – 8am and 6pm – 10pm Saturday; 8am – 6pm Sunday & Public Holiday) *OOHHW Period 2 (7am – 8am Saturday; 8am – 6pm Sunday including Public Holidays) & OOHHW Period 3 (6pm -10pm Monday – Sunday including Public Holidays)*		
Noticeable	<5	N, V
Clearly audible	5-15	N, V
Moderately intrusive	15-25	N, V, R3
Highly intrusive	>25	N, V, R3, DR
NPfI OOHW Period 2 (10pm – 7 am Monday to Saturday; 6pm to 8am Sunday & Public Holiday) *OOHHW Period 3 (10pm – 7am Monday – Saturday; 6pm – 8am Sunday into Monday including Public Holidays)*		
Noticeable	<5	N, V
Clearly audible	5-15	N, V
Moderately intrusive	15-25	N, V, R2, DR
Highly intrusive	>25	N, V, R2, DR, AA

Notes: N = Notification, RO = Short term respite offer, R2 = Respite offered when impacts occur over two or more consecutive nights. R3 = Respite offered when impacts occur over three or more consecutive nights, DR = Duration respite, V = Verification, AA = Alternative accommodation

5.4 COMMUNITY CONSULTATION

Community consultation and notification will be undertaken in accordance with the Community Communication Strategy (HLE-AGJ-SC-ALE-PLN-0000-00003) and Appendix A. Where exceedances of noise management levels are predicted for helicopter use, consultation will be undertaken with affected receivers to understand preferences for mitigation and management measures (in accordance with CoA B9, B10, UMM NV4 and UMM NV10) and to identify any individual circumstances that may be relevant.

5.4.1 NEGOTIATED AGREEMENTS

Where negotiated agreements are sought as an approval mechanism, affected sensitive receivers (owners and occupiers) will be informed and consulted regarding the proposed OOHHW, including the timing of works, agreed mitigation measures, applicable noise limits and approvals process (including required negotiated agreement thresholds).

For OOHHW that are predicted to result in noise levels greater than 5 dB(A) above the applicable Noise Management Level (NML), AGJV will undertake targeted consultation with all affected sensitive receivers and seek written negotiated agreements prior to commencement of works.

To demonstrate compliance with the threshold for negotiated agreements as per Table 1, AGJV will:

1. Use approved helicopter noise modelling and GIS mapping to identify all sensitive receivers predicted to experience noise levels greater than 5 dB(A) above NML.
2. Prepare a permit-specific receiver register identifying:
    a. Sensitive receiver location/reference;
    b. Predicted noise exceedance level;
    c. Predicted duration of impact; and
    d. Consultation and negotiated agreement status.

3. Seek written negotiated agreements with identified affected receivers, documenting agreed work hours, predicted impacts and mitigation measures.
4. Calculate the percentage of affected sensitive receivers that have provided written agreement, based on the total number of receivers predicted to experience noise levels greater than 5 dB(A) above the applicable NML.
5. Provide supporting information with the OOHHW Permit, including:
    a. GIS mapping showing the predicted area of impact and affected sensitive receivers;
    b. A summary of consultation undertaken;
    c. The receiver register; and
    d. Confirmation that written agreement has been obtained from the required percentage of affected sensitive receivers (as per Table 1).

Helicopter use may proceed in accordance with the approved OOHHW permit where the required acceptance threshold has been achieved and negotiated agreements have been finalised prior to commencement of the works.

OOHW notifications will be issued to affected sensitive receivers and relevant councils at least fourteen calendar days prior to the works. Notification will also be provided to the ER and DPHI as per Table 1.

5.5 COMMENCEMENT OF WORKS

Following approval of OOHHW Permit, the activity will be undertaken in accordance with the approved OOHHW Permit.

5.6 NOISE VERIFICATION AND MONITORING

Noise monitoring will be conducted at the commencement of helicopter use where exceedance of an NML is predicted to occur at the nearest sensitive receiver (e.g., ‘noise affected’, RBL +5dBA and above). A complaint-based noise monitoring will be undertaken at receivers where complaints are received as required. Where monitored noise levels obtained are above predictions, the following actions will be undertaken:

- Confirm monitored levels are not being impacted by other noise sources.
- Confirm all mitigation measures required by the OOHHW Permit are implemented.
- Confirm that the modelling reflects the actual activity being undertaken.
- Review whether any additional feasible and reasonable mitigation measures can be applied and implemented, where appropriate.
- Determine if alternative mitigation measures can be adopted for the activity.
- Continue work where impacts can be reduced or if the exceedance is deemed minor i.e. does not trigger additional community mitigation measures to be implemented.
- Refine the noise modelling assessment process based on the learnings. For example, if noise or vibration predictions are lower/higher than expected, noise modelling would take this into consideration to more accurately predict impacts for future works.
- Communicate lessons learnt to relevant personnel.
- Should the permit be deemed insufficient by the investigation, a new permit may be required to be produced and approved, and additional mitigation measures may need to be applied.

The Project will review monitoring data and lessons learnt to help inform future OOHHW activities and mitigation measures and minimise impacts. The outcome of the investigation would be shared with the ER.

6. CONCLUSION

The proposed request for extended helicopter use hours has been assessed and is deemed to have negligible or minor impacts on the environment and community, and is consistent with the HumeLink Environmental Impact Statement (EIS), Amendment Report, Submissions Report and the Conditions of Approval.

Appendix A – Community Consultation and Notifications

STAKEHOLDER COMMUNICATION AND ENGAGEMENT SUMMARY

AGJV has implemented a comprehensive communication and stakeholder engagement program to support helicopter stringing activities associated with the HumeLink East Project, including any approved out of hours operations.

In addition to the requirements outlined in the approved Communication Control Plan, AGJV has implemented a range of enhanced engagement measures as best practice to further minimise potential impacts on landowners, near neighbours and the wider community. These additional measures have been adopted to improve communication, provide greater certainty around helicopter use and ensure stakeholders are well informed throughout the works.

ENHANCED ENGAGEMENT MEASURES

In addition to the approved Communication Control Plan, AGJV has:

- Undertaken proactive face-to-face engagement with directly affected landowners where practicable to discuss helicopter stringing activities and address property-specific concerns.
- Provided tailored notifications and regular updates where construction schedules or flight activities have changed.
- Increased direct communication through phone calls, SMS messages and emails before helicopter use commence.
- Maintained ongoing engagement with landowners throughout the stringing program to respond promptly to enquiries and operational changes.
- Worked collaboratively with landowners to consider property management activities, including livestock movements and sensitive farming operations, where reasonably practicable.
- Continued to provide project updates to councils, community stakeholders and other interested parties throughout the helicopter stringing program.

KEY COMMUNICATION COMMITMENTS

AGJV will continue to:

- Consult directly with affected landowners and near neighbours prior to helicopter stringing activities.
- Issue property-specific notifications at least **14 days** before planned helicopter use where practicable.
- Provide direct phone calls and/or SMS notifications approximately **24 hours prior** to helicopter use, with updates where schedules change due to weather or operational requirements.
- Provide community notifications through project newsletters, construction updates, social media, website updates and local newspaper advertisements.
- Maintain communication with councils, Transgrid, schools, NSW Farmers and other relevant stakeholders where helicopter use may affect their interests.
- Operate the project 1800 community information line and community email to receive and respond to enquiries and complaints.

EXPECTED COMMUNITY IMPACTS

Helicopter stringing significantly reduces the duration of construction activities on individual properties and minimises ground disturbance compared with conventional ground-based stringing methods. Temporary impacts may include:

- Short-term aircraft noise during conductor stringing and spacer installation.
- Localised dust at helicopter landing and refuelling locations.
- Temporary disturbance to livestock during helicopter use.
- Temporary traffic management where helicopter use interfaces with public roads.

MITIGATION MEASURES

To minimise community impacts, AGJV will:

- Continue direct consultation with affected landowners and near neighbours regarding the proposed works and construction program.
- Consider property management activities, including livestock movements, lambing and calving periods, during planning where reasonably practicable.
- Provide advance notification to enable landowners to manage livestock and property operations.
- Develop flight paths in consultation with affected landowners where appropriate.
- Apply dust suppression measures at landing and refuelling areas as required.
- Implement traffic management where helicopter use crosses public roads.
- Monitor and respond promptly to community enquiries and complaints throughout the works.

AGJV will continue to implement this enhanced communication and engagement program throughout the helicopter stringing works, including any approved out of hours activities, to ensure stakeholders remain informed and that concerns are addressed in a timely and collaborative manner.

COMMUNICATION AND ENGAGEMENT SCHEDULE

Timing	Communication Activity	Purpose
Prior to helicopter stringing program	Project information included on the project website, newsletters and construction updates	Inform the broader community of upcoming helicopter stringing activities and project benefits.
At least 14 days prior (where practicable)	Property-specific notification issued to directly affected landowners and near neighbours	Advise of planned helicopter use, indicative timing, expected impacts and project contact details.
Prior to commencement	Direct engagement with affected landowners (face-to-face or telephone, where appropriate);	Discuss property-specific requirements, answer questions, identify sensitive activities (e.g. livestock management) and confirm proposed works.
Prior to commencement	Negotiated agreements finalised (where required)	Obtain written agreement from affected owners and occupiers regarding proposed work hours, predicted noise levels and agreed mitigation measures.
Throughout planning	Consultation with landowners regarding property management activities	Consider livestock movements, lambing/calving periods and other operational constraints where reasonably practicable.
Prior to operations	Stakeholder notifications to councils, schools, NSW Farmers, Transgrid and other relevant stakeholders	Ensure key stakeholders are aware of helicopter use and any potential impacts.
Prior to operations	Local newspaper advertisements, social media updates and website information	Provide advance notice to the wider community of helicopter use.
Approximately 24 hours prior	Direct phone call and/or SMS to affected landowners and near neighbours	Confirm planned helicopter use and provide the latest schedule.

Timing	Communication Activity	Purpose
If program changes	Direct update to affected receivers (Phone call, SMS and/or email updates)	Advise affected stakeholders of any changes due to weather, operational requirements or other unforeseen circumstances.
During helicopter use	Ongoing communication/ liaison with affected landowners and prompt response to enquiries	Maintain communication throughout the works and manage any issues as they arise.
Throughout the works	Project 1800 community information line and community email monitored	Provide accessible channels for enquiries, feedback and complaints.
Following completion (where required)	Follow-up communication with affected stakeholders	Close out any outstanding enquiries or concerns and confirm completion of helicopter use.