

SECTOR 3 NORTH OF TE MOANA ROAD

NZS 6806 – Assessment matrix

Impact key	Potential effects of noise mitigation option
+++	significant positive effects
++	moderate positive effects
+	minor positive effects
0	insignificant (no effects)
-	minor adverse effects
--	moderate adverse effects
---	significant adverse effects

A brief description of the basis for each rating should be added in the spaces below the ratings.

Assessment Criteria	Responsible	Option 1	Option 2	Option 3	Issues/Risks
Compliance with NZS 6806 noise criteria, and requirement for building-modification measures	Acoustics	+1	+1	+1	
		9 in Cat A, 4 each in Cat B and C	9 in Cat A, 8 in Cat B	9 in Cat A, 8 in Cat B	
Effect of changes to the existing noise environment	Acoustics	-2	-2	0	Note use of road surface material for MO 2 and 3
		Average increase of 6 dB, highest 12 dB	Average increase of 4 dB, highest 11 dB	Similar to existing, average 2 dB, highest increase 7 dB	
Achievement of the NZS 6806 structural mitigation performance standards	Acoustics	-3	-1	+1	
		0.2 dB average structural mitigation	2 dB average structural mitigation (Use Asphalt on Te Moana Rd)	4 dB average structural mitigation (Use OGPA on Te Moana Rd)	
Value for money, including	Acoustics	-3	+3	+3	

Assessment Criteria	Responsible	Option 1	Option 2	Option 3	Issues/Risks
maintenance costs and consideration of benefit cost analysis		BCR 0.2	BCR 2.0	BCR 3.0	
Difference in cost compared to Transit's Guidelines (criteria for NZTA internal monitoring purposes)	Acoustics	+3	+1	N/A	
		-47% compared with Transit Guidelines	-20% compared with Transit Guidelines		
Compliance with relevant safety standards and guidelines	Roothing	0	0	0	
		OK for safety.	OK for safety.	OK for safety.	
Constructability/technical feasibility	Roothing	0	0	0	
		Buildable.	Buildable.	Buildable.	
	Structures	0	0	0	
Construction	0	0	0		
Availability of sufficient land for construction and maintenance and the extent to which NZTA would need to acquire land, or interests in land	NZTA	0	0	0	
Potential effects on known heritage or cultural values	Cultural	0	0	0	
The extent to which the mitigation option promotes integration and	Visual / landscape	0	0	0	

Assessment Criteria	Responsible	Option 1	Option 2	Option 3	Issues/Risks
establishes visual coherence and continuity in form, scale and appearance of structures and landscape proposals along the route					
Road users' views to the surrounding landscape and key features/ locations in particular	Visual / landscape	0	0	0	
Maintenance or enhancement of visual amenity for surrounding residents	Visual / landscape	0	0	0	
Utilisation of materials that reflect the character of the location	Visual / landscape	0	0	0	
Maintenance or enhancement of the convenience and attractiveness of pedestrian and cycle networks	Urban design	0	0	0	
Maintenance or enhancement of safe routes to school	Urban design	0	0	0	
Impacts (land take, amenity and usability) on community facilities (reserve, school, playground, playing field, etc)	Urban design	0	0	0	
Public access to the coastal marine area, rivers, or lakes	Urban design	0	0	0	
Public safety and security	Urban design	0	0	0	
Potential effects on areas of significant	Ecology	0	0	0	

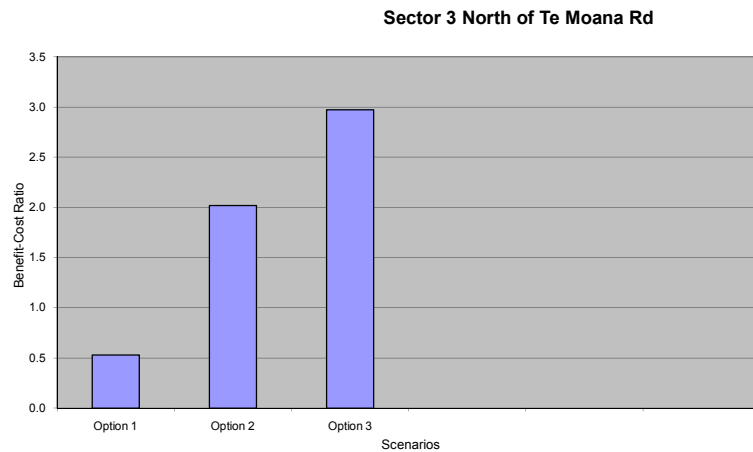
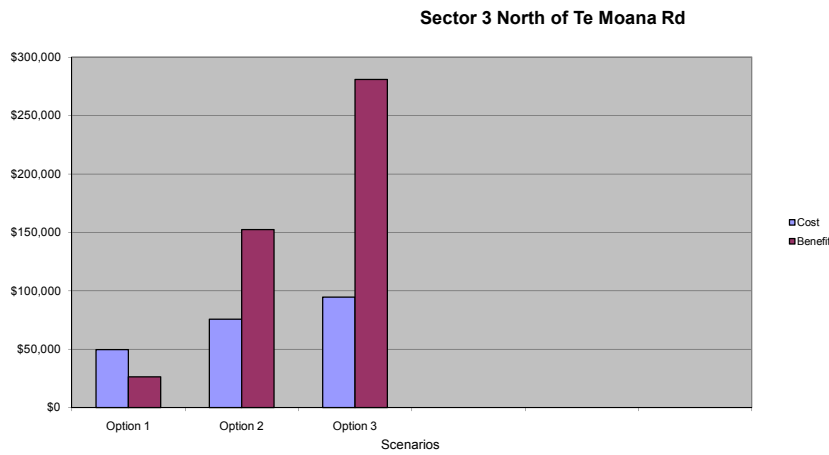
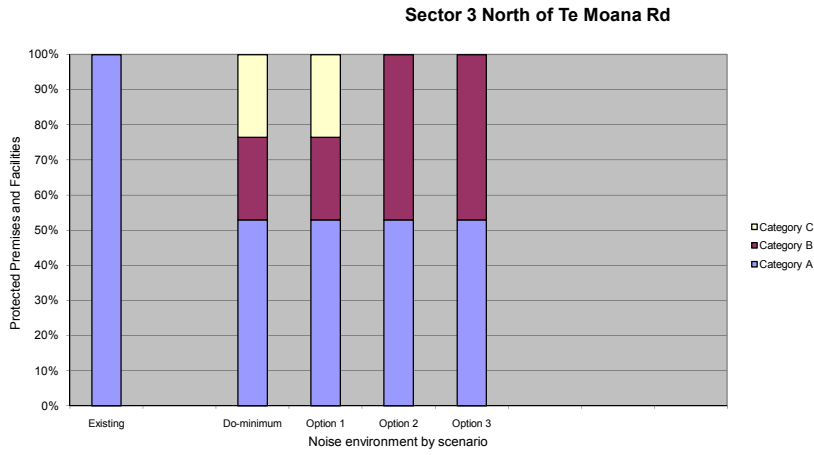
Assessment Criteria	Responsible	Option 1	Option 2	Option 3	Issues/Risks
indigenous vegetation and significant habitats of indigenous fauna					
Natural character of the coastal environment, wetlands, lakes, rivers, and their margins	Ecology	0	0	0	
	Visual / landscape	0	0	0	
Potential effects on coastal processes	Hydrology	0	0	0	
Potential flooding effects	Hydrology	0	0	0	
Resource efficiency (including avoidance of waste)	Sustainability	0	0	0	
Potential effects on greenhouse gas emissions	Sustainability	0	0	0	
Other:		0	0	0	

Final Comments: Explore extending asphalt from the interchange (or other surface options to reduce noise) back down Te Moana Road in the vicinity of the residential properties (note: Te Moana Rd is the noise source).

Preferred: Option 3. Good noise mitigation, no visual impact.

Project					
M2PP					
Sector 3 North of Te Moana Rd					
Protected Premises and Facilities					
	Existing	Do-minimum	Option 1	Option 2	Option 3
Category A	17	9	9	9	9
Category B	0	4	4	8	8
Category C	0	4	4	0	0
Total	17	17	17	17	17
Benefit-Cost Ratio					
		Option 1	Option 2	Option 3	
Cost		\$49,700	\$75,600	\$94,500	
Benefit		\$26,273	\$152,471	\$280,823	
BCR		0.53	2.02	2.97	
Transit		-47%	-20%	0%	
Structural		0.2 dB	2.1 dB	4.1 dB	

Graphs



Project: M2PP
Area: Sector 3 North of Te Moana Rd
AADT: 2,000 to 75,000 vehicles per day
 More than 75,000 vehicles per day
Transit: Option 3 (option to comply with Transit's Guidelines)

Reformat
 New
 Altered

Preferred Mitigation Option

Protected Premises and Facilities		New or Altered	Existing L _{Aeq(24h)} dB	Do–minimum L _{Aeq(24h)} dB	Option 1 L _{Aeq(24h)} dB	Option 2 L _{Aeq(24h)} dB	Option 3 L _{Aeq(24h)} dB
Street address	Floor						
Te Moana Rd 145/145A	1. Floor	New	53	66	66	63	60
Te Moana Rd 147/147A	1. Floor	New	51	56	56	55	54
Te Moana Rd 149/149A	1. Floor	New	50	52	51	50	50
Te Moana Rd 151	1. Floor	New	53	64	64	61	58
Te Moana Rd 153	1. Floor	New	53	65	65	62	59
Te Moana Rd 155	1. Floor	New	50	51	51	50	49
Te Moana Rd 157	1. Floor	New	49	50	50	49	48
Te Moana Rd 159	1. Floor	New	53	65	65	62	59
Te Moana Rd 161	1. Floor	New	53	64	64	61	58
Te Moana Rd 163	1. Floor	New	50	51	51	50	49
Te Moana Rd 165	1. Floor	New	49	50	50	49	48
Te Moana Rd 167	1. Floor	New	53	67	66	64	60
Te Moana Rd 167A	1. Floor	New	52	54	53	52	50
Te Moana Rd 169A	1. Floor	New	53	64	64	62	58
Te Moana Rd 169B	1. Floor	New	50	53	52	50	49
Te Moana Rd 171	1. Floor	New	51	53	53	51	50
Te Moana Rd 175	1. Floor	New	53	64	64	61	58

Noise level
dB LAeq(24h)

- ≤ 57 Category A
- 57 < ≤ 64 Category B
- 64 < Category C

Legend

- Cadastral bdy
- Traffic line
- Road surface
- Bridge
- Bridge barrier
- Bund crown
- Noise barrier



Initials: SW
Date: 18/8/2011
Calculation No: 341



MACKAYS TO PEKA PEKA EXPRESSWAY
Sector 3
North of Te Moana Road
Do-minimum Scenario

NOISE PREDICTION
SCENARIOS
SHEET 59 OF 75

Document Set:
M2PP-AEE-DWG

Drawing No.:
EN-NV-078

A3 Scale 1:2500
0 12.5 25 50 75 100 m

Noise level
dB LAeq(24h)

- ≤ 57 Category A
- 57 < ≤ 64 Category B
- 64 < Category C

Legend

- Cadastral bdy
- Traffic line
- Road surface
- Bridge
- Bridge barrier
- Bund crown
- Noise barrier



Initials: SW
Date: 18/8/2011
Calculation No: 342

MARSHALL DAY 
Acoustics

 **Mackays to Peka Peka**

MACKAYS TO PEKA PEKA EXPRESSWAY Sector 3 North of Te Moana Road Mitigation Option 1

NOISE PREDICTION
SCENARIOS
SHEET 60 OF 75

Document Set:
M2PP-AEE-DWG

Drawing No.:
EN-NV-079

A3 Scale 1:2500
0 12.5 25 50 75 100 m

Noise level
dB LAeq(24h)

- <= 57 Category A
- 57 < <= 64 Category B
- 64 < Category C

Legend

- Cadastral bdy
- Traffic line
- Road surface
- Bridge
- Bridge barrier
- Bund crown
- Noise barrier



Initials: SW
Date: 18/8/2011
Calculation No: 343

MARSHALL DAY
Acoustics



MACKAYS TO PEKA PEKA EXPRESSWAY
Sector 3
North of Te Moana Road
Mitigation Option 2

NOISE PREDICTION
SCENARIOS
SHEET 61 OF 75

Document Set:
M2PP-AEE-DWG

Drawing No.:
EN-NV-080

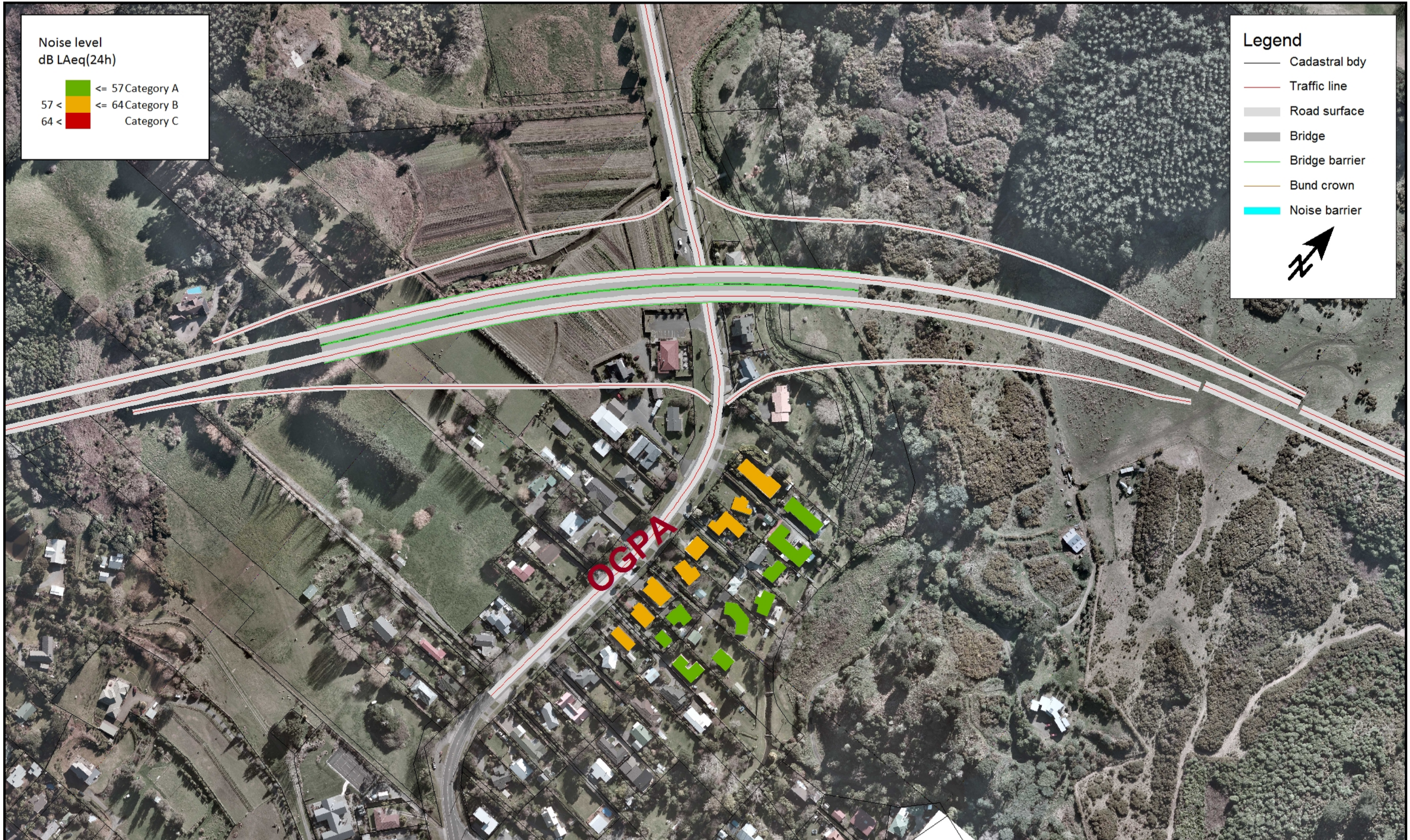
A3 Scale 1:2500
0 12.5 25 50 75 100 m

Noise level
dB LAeq(24h)

- ≤ 57 Category A
- 57 < ≤ 64 Category B
- 64 < Category C

Legend

- Cadastral bdy
- Traffic line
- Road surface
- Bridge
- Bridge barrier
- Bund crown
- Noise barrier



Initials: SW
Date: 18/8/2011
Calculation No: 344

MARSHALL DAY
Acoustics



MACKAYS TO PEKA PEKA EXPRESSWAY
Sector 3
North of Te Moana Road
Mitigation Option 3 (Noise Guidelines)

NOISE PREDICTION
SCENARIOS
SHEET 62 OF 75

Document Set:
M2PP-AEE-DWG

Drawing No.:
EN-NV-081

A3 Scale 1:2500
0 12.5 25 50 75 100 m